Chapter Three:
EXCAVATION AT HOUSE 1

Excavation Methods and Extent

With the exception of two excavation units on the elevated terrace behind the main village area, excavation at Huu7ii was limited to within the outline of House 1, as visible on the site surface. House 1, the largest of the house platforms mapped by Mackie and Williamson (2003) in 1984, was located near the centre of the village (Fig. 1-3). The rear of the house is clearly demarked by the back ridge that extends across the site. Quite pronounced side ridges extend for short distances from the back ridge, marking the rear corners of the house. Much fainter evidence, in the form of a slight drop-off from the flat platform, indicates the position of the house front. This location was confirmed in the field through auger testing. Dimensions of the house, as initially recorded by Mackie and Williamson, are about 35 m in length (parallel to the beach) and 17.5 m in width.

A 0-0 point for the horizontal grid was placed at the rear of the back ridge, just before it drops off to the swampy area behind the site, immediately above where the ridge marking the west wall of the house joins the back ridge. This side ridge is quite substantial where it joins the back ridge, but drops off rapidly as it extends to the north, disappearing after about 8.5 m. Grid north was established as an arbitrary line running down the centre of this side ridge, approximately 26° east of magnetic north. All measurements into the house were then north and east. For the vertical datum, a large spike was driven into a large tree on the back ridge, immediately behind the excavation area. Secondary datum points consisted of wooden posts driven in beside each unit, with the top surveyed to a known depth below the primary datum. All unit depth measurements were taken using string and line levels from the tops of these posts. A contour map prepared in the second field season shows the location of all excavation units, the 0-0 grid point, and the primary vertical datum (Fig. 3-1). The mapping, using compass, tape, and hand level, was done by DRH Consulting, Port Alberni, under contract to the Huu-ay-aht First Nations.

The 2004 excavation was focused on one back corner (the southwestern) and the western wall of the house. In Nuu-chah-nulth households, the corner areas were occupied by higher status individuals, with the house chief and his family residing in the corner at the rear left when entering through the door (Drucker 1951:71; Marshall 1989:19; Sproat 1987:33–34). Without knowing the location of the door, the most highly-ranked area cannot be determined with certainty, but the corner investigated would have been one of the highest-status areas in the house (see Chapter 4). The position of the six 2 x 2 m units was also partially determined by the presence of a few large trees and stumps on the site surface (Fig. 3-2). Two adjacent units at the south of the excavated area (N10-12 E2-4 and E4-6) were laid out so that they cut into the back and side ridge midden deposits as well as extending out onto the house floor, in the hope of exposing the transition from the outside to inside of the house and possibly detecting architectural features. Two additional adjacent units extended to the north (N12-14 E6-8 and N14-16 E6-8). Two separate units to the north (N18-20 E2-4 and N18-20 E6-8) extended past the mid-point of the house, with one along what would have been the west wall. Only the latter unit (N18-20 E2-4) reached the original beach gravel at its base, at a depth of just over 2 m, although all six units were excavated to cultural strata that lay below the house floor. In total, the 2004 House 1 excavation involved about 35.8 m^3 of deposit.

During excavation, all cultural deposits were removed by trowelling in 5 cm levels, taking care to separate materials from differing natural layers. Levels were numbered while natural layers were given alphabetical designations; both were recorded on all bags and forms. Artifacts were recorded in three-dimensional provenience, and faunal remains were placed in bags by quadrant, level, and layer. Standardized forms (based on ones obtained from the Royal B.C. Museum in Victoria) were used to record data concerning artifacts, features, and radiocarbon samples, as well as the notes for each excavated level. All trowelled matrix was screened through ⅛" mesh to recover even small faunal remains. In cases where small fish bones were abundant, or where relatively little went through the screen, the remaining deposit was put back into a bucket and taken to a sorting table, where it could be carefully picked through to recover small remains. Shell was not collected from the trowelled deposits; instead column samples (20 x 10 x 5 cm)

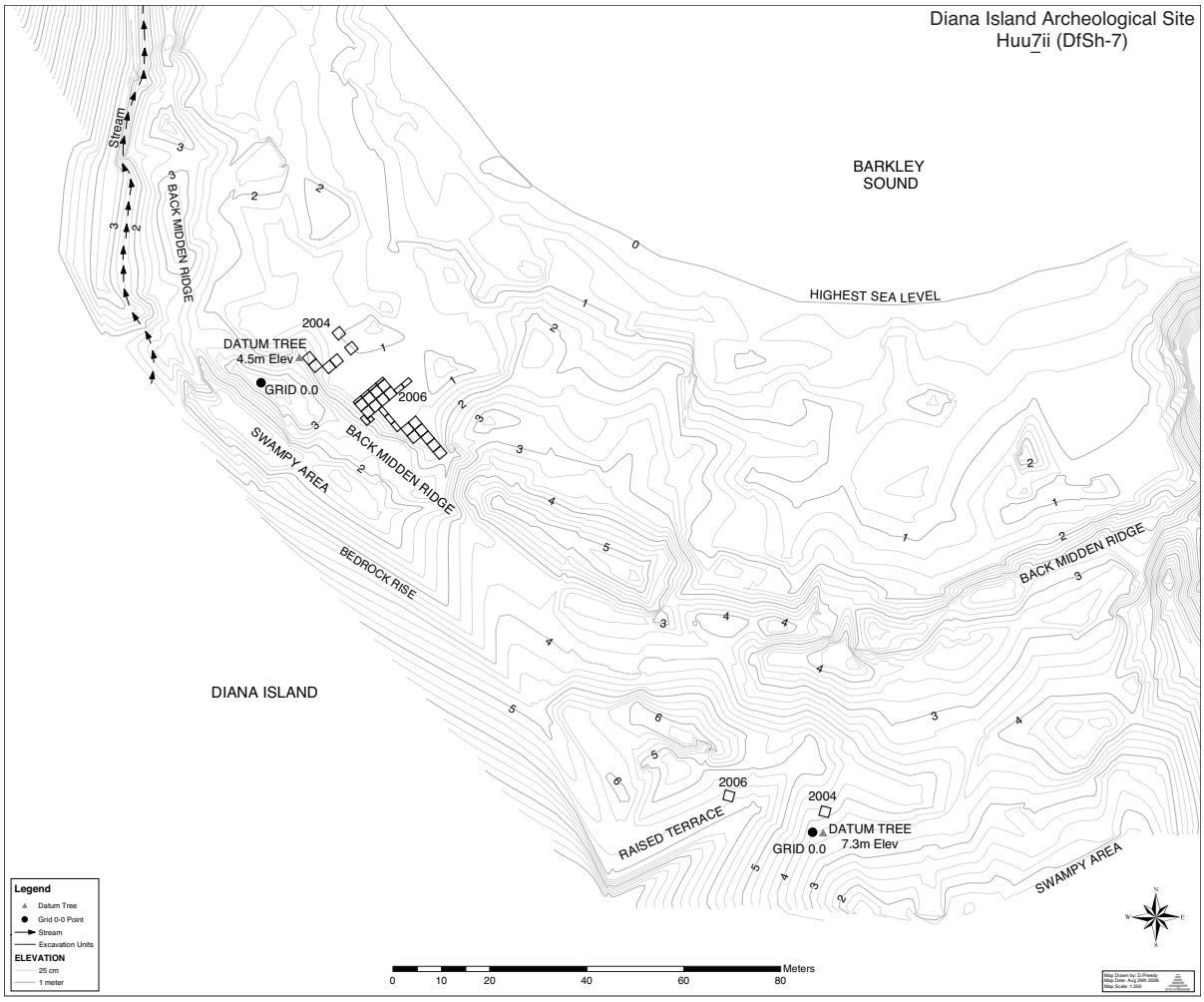

Figure 3-1. Contour map of Huu7ii (DfSh-7), showing locations of excavation units within the House 1 platform, the back midden ridge, and two excavation units on the raised terrace behind the main village, as well as the datum points for the two excavation areas.

were taken from one wall of each unit for later shell and microfaunal analysis. Bulk matrix samples were taken from each hearth or ash deposit for later flotation and archaeobotanical analysis. Any concentrations of charcoal encountered were recorded and collected for possible radiocarbon dating. Profile drawings were made of the stratigraphy from at least two walls of each unit. All units were backfilled at the end of the field season.

The field strategy changed somewhat when excavation resumed in 2006. Instead of excavating in dispersed units and attempting to reach the base of deposits, a horizontal excavation plan was employed, involving exposing a large area of house floor deposits. An initial stratigraphic control trench, 50 cm in width, was laid out at about the middle of the back wall as indicated by the back midden ridge, extending 8 m into the centre of the house. Subsequently, a 4 x 8 m block, with coordinates N12-20 E16-20, was laid out immediately to the east. The eight 2 x 2 m units that made up the block were excavated and recorded as separate units, but were coordinated so that the same level extended across the entire area (Fig. 3-3). After removing the thick layer of humus and rotting wood, the black silt of the house floor (Layer B) was exposed. Most attention focused on recording features and other information within this floor deposit, which was about 50 to 70 cm deep across the central excavation block. When the underlying midden deposit with greater shell content (Layer C) was encountered excavation ceased and all features on the lowest house floor were mapped and photographed.

Excavation methodology in 2006 was much the same as in the previous field season. However,

Figure 3-2. View of the 2004 excavation units, in the southwest corner of the House 1 platform. This photo, looking from the back of the house toward the beach, is taken from atop the back midden ridge, near where it is intersected by a short western side ridge. Five of the six excavation units are visible. The flat platform of House 1 extends across the centre of this picture.

use of ⅛" screen was discontinued on the advice of our faunal analysts. Little additional information had been gained for the extra time invested in fine screening, and in addition we were damaging faunal elements in trying to get sediments through the smaller mesh. As a result, screening in the second season was through ¼" mesh. For the record of small fauna that might be lost through this mesh size, column samples taken from the side walls of completed excavation units and samples taken from each level during excavation were subjected to fine screening. Many of the samples were washed (in a split barrel set up at the top of the beach), dried (on racks set up in a small shed) and sorted in the field. As previously, at the end of the field season all units were backfilled and the site was returned as closely as possible to its appearance prior to excavation.

While the central block was being excavated, other units were established to the east. A unit near the southeastern corner (N18-20 E34-36), as indicated by the intersection of the back ridge and an apparent partial side ridge, was excavated to the sterile gravel at its base, at a depth of just over 2 m. Other units were then laid out between this corner unit and the central block, providing a continuous record of site stratigraphy across the excavation (Fig. 3-1). The eastern units were excavated varying distances into the midden layer below the house floor, but only the corner unit was taken to the bottom of cultural deposits. At the end of the project two small excavation extensions were dug into the shell of the back midden ridge to further expose a rock-filled pit feature at the back of the house. In all, the 2006 excavation area covered 77 m^2. The total volume of matrix excavated in 2006 is approximately 70.3 m^3. With the 35.8 m^3 excavated in 2004, the total amount of matrix examined from within the outline of House 1 is approximately 106.1 m^3.

Figure 3-3. Excavation in progress on the central block of the 2006 excavation. Note the 50 cm test trench to the left of the 4 x 8 m block. Numerous ash patches and FCR concentrations occurred throughout the house floor deposits, as can be seen around the centre of this picture. The photo was taken from standing on the back midden ridge, looking north.

Stratigraphy and Chronology

The upper layer (A) was a thick recent organic deposit of forest debris, roots, and decayed wood. This layer was particularly thick in several places where large trees had fallen onto the house platform, requiring removal of rotten wood to a considerable depth. The impact of fallen trees depressed the underlying deposit, so that the upper surface of Layer B was markedly convoluted in these locations, and the limbs of these fallen trees left deep holes into the house deposit.

Layer B is the house floor deposit, consisting of black silt (Munsell 7.5YR 2/0) with a high organic content. In most areas, shell was absent or occurred only as a trace, particularly toward the bottom of the layer. However, along the southern portion of the platform, thin deposits of concentrated highly crushed shell entered the house from the back ridge. Most hearths and other features that marked household activities were found in this layer, particularly at its base. In the excavated block at the centre of the house platform, Layer B was approximately 50 to 70 cm in depth (Fig. 3-4).

Layer C consists of concentrated crushed shell, particularly mussel, in black silt, with occasional patches of charcoal or fire-cracked rock (FCR). Although the central excavation block was excavated only to the top of this layer, a number of units to the east and west continued into or through this layer.

In the southwest corner of the house, in four units excavated in 2004, the shell deposit was underlain by a thick layer of dusky-red silty clay (Munsell 10R 2.5/2) (Figs. 3-5, 3-6). Upper portions of this layer appeared fibrous and a sample taken for later examination under a microscope exhibited a directional layering, indicating that this stratum consists in part of decayed wood. It may represent a hiatus in occupation, or a period of limited activity. Shell was absent in this matrix, and no artifacts were recorded. Faunal remains were rare but did occur, most notably as a largely complete but poorly preserved dog skeleton in one unit and a large whale vertebra in another. Excavation was terminated in this stratum in all four units in which it occurred. This distinctive layer was absent from the two more northerly 2004 units, which continued to greater depths through layers of black silt and sand.

Only two units, at opposite ends of the house as visible on the surface, were excavated to the base

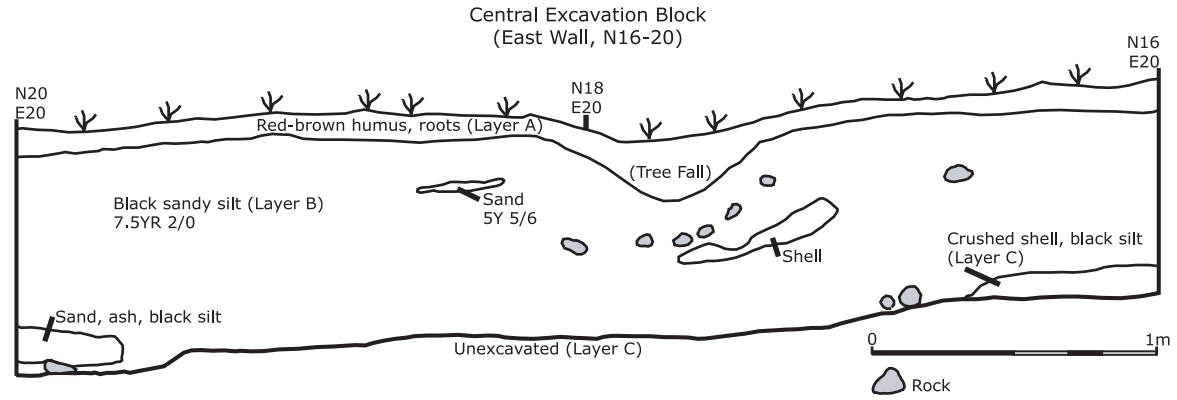

Figure 3-4. Central excavation block profile, showing the house floor deposits (the black silt of Layer B).

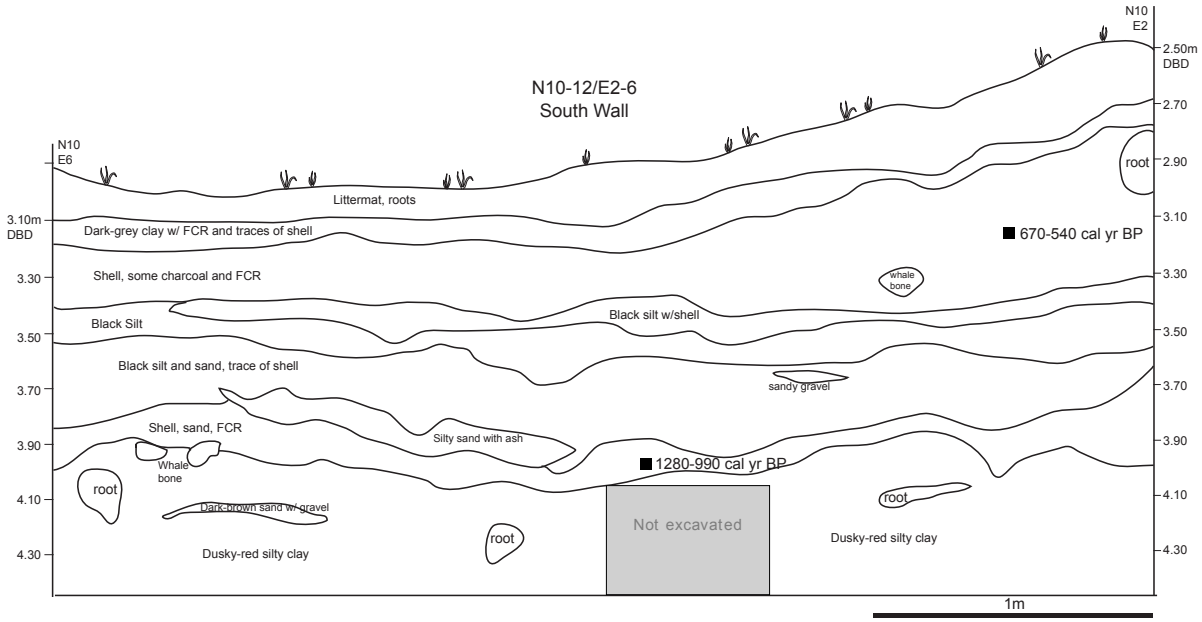

Figure 3-5. Stratigraphic profile of N10-12 E2-6, South Wall, near the southwest corner of House 1, showing location of radiocarbon dates.

of cultural deposits. In the unit along the west wall, the black silt and crushed shell layers were underlain by reddish-brown clay with FCR. This matrix contained abundant faunal remains, including whalebones. Below that was black silt with charcoal and sand lenses. At the base of the deposit, at just over two metres depth, was beach gravel, stained a dark brown (Munsell 10YR 2/1), with clay patches (Fig. 3-7). The unit in the southeast corner also reached a depth of just over two metres. Below the black silt and crushed shell layers was a layer of black silty clay with FCR and charcoal. This was underlain by a thick layer of crushed and burned shell, with some silt, ash, and FCR, then crushed and burned shell with gravel. Below that was a layer of reddish brown stained sand and gravel (Munsell 2.5YR 4/6), before reaching sterile beach sand at the base (Fig. 3-8).

Radiocarbon dates throughout this report are generally given as calibrated age ranges before the present (cal BP), showing the maximum and minimum age estimates at two-sigma standard deviation (95% probability). Nineteen radiocarbon determinations are available from this portion of the site, 18 from within the house outline and one from the base of an auger test toward the beach (north) of House 1 (Table 3-1; see also Fig. 4-4). Of these, twelve date the house deposit while seven are from underlying strata. The earliest date was obtained from the brown sand at the base of a unit

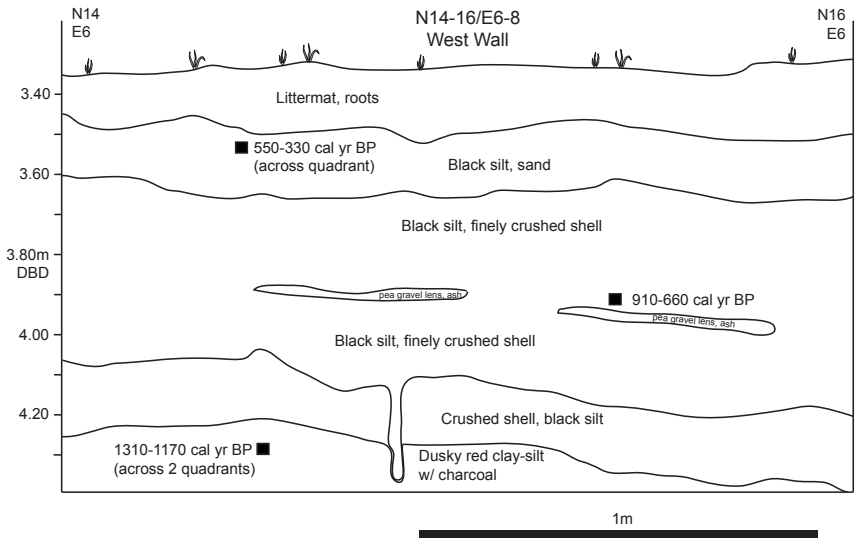

Figure 3-6. Stratigraphic profile of N14-16 E6-8, West wall, showing location of radiocarbon dates.

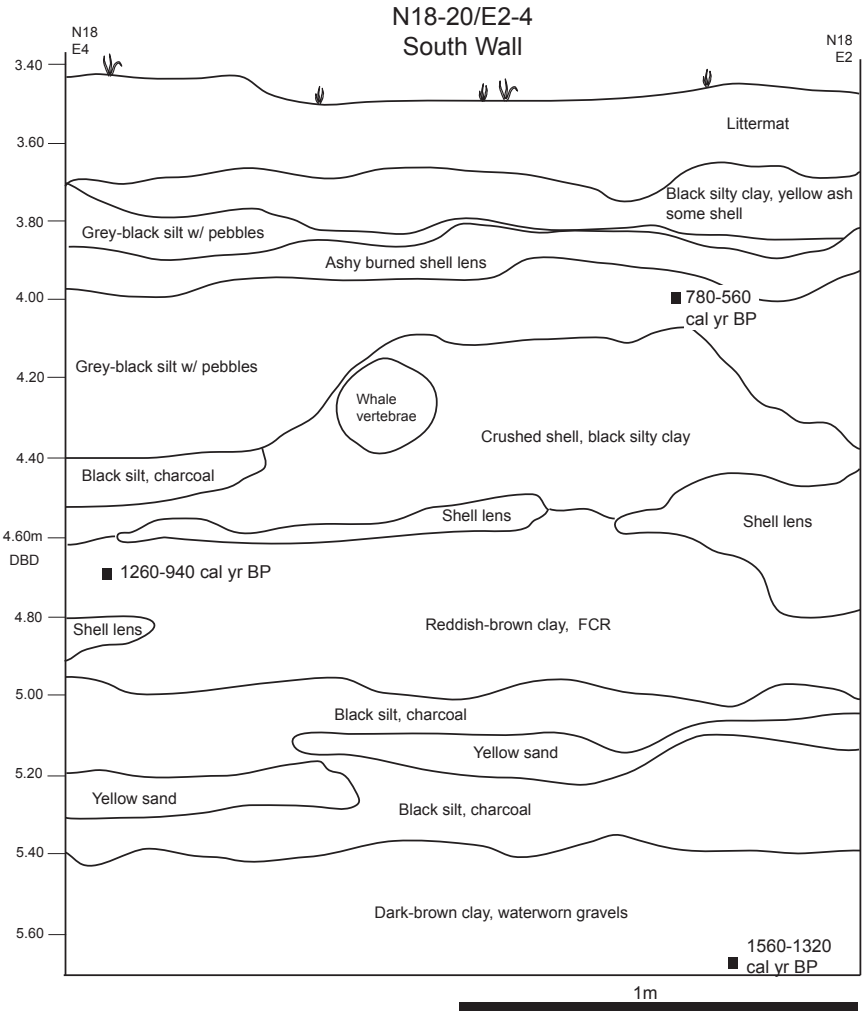

Figure 3-7. Stratigraphic profile of N18-20 E2-4, at the western edge of House 1, showing location of radiocarbon dates.

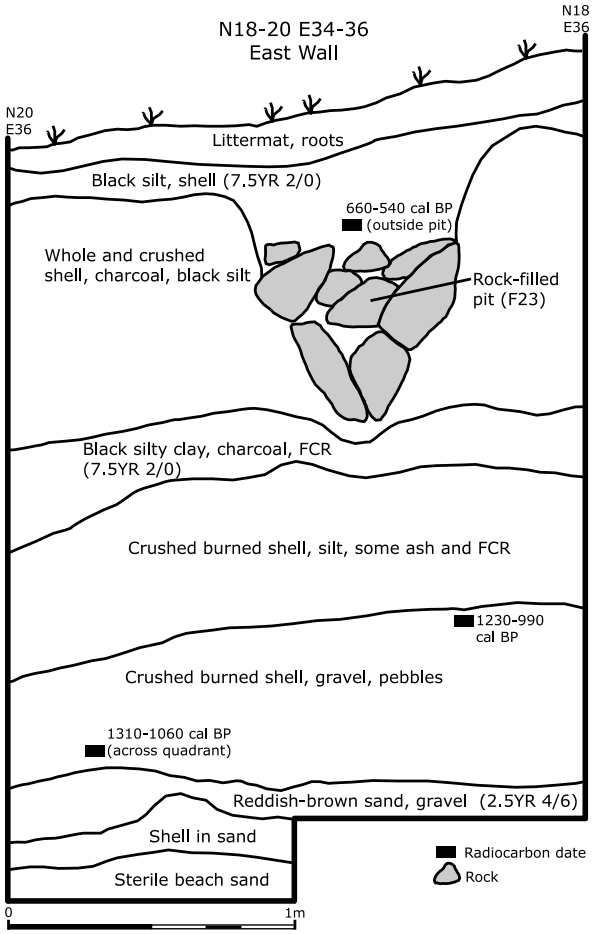

Figure 3-8. Stratigraphic profile of N18-20 E34-36, at the eastern edge of House 1, showing location of radiocarbon dates.

along the west wall (N18-20 E2-4), one of only two units in which the original sterile beach deposits were reached. Calibration of this date provides an estimated age range of 1560 to 1320 cal BP, giving a basal date for this part of the site. The only other date from the underlying beach sands came from the unit in the southeastern corner of the house outline (N18-20 E34-36). Its calibrated age range is slightly later at 1310 to 1060 cal BP. A similar age range, 1310 to 1170 cal BP, came from the dusky-red silty clay matrix found only in units in the southwest portion of the house outline. Three other samples, from the shell layers that underlie the house deposits, yielded similar dates, ranging from about 1280 to 940 cal BP. AMS dating of charcoal from the base of an auger test at N40.5 E8, about 10 m north of House 1, produced an age range of 1060 to 920 cal BP. This is also thought to just predate the construction of House 1, with the concentrated shell of the higher levels representing refuse deposited in front of the house during its occupation.

Twelve results date the house occupation. The earliest, with an age range of 970 to 780 cal BP, comes from the charred wood of a hearth in a shallow pit (F42) at the base of the floor. Two other dates provide similar age ranges (Table 3-1). However, three additional dates from the base of the house floor are more recent and non-overlapping, at around 730 to 550 cal BP. Periodic cleaning of the house floor could result in more recent materials being deposited at the same lower level as those reflecting initial use of the house. The final occupation of House 1 is indicated by three dates taken from at or near the surface of cultural deposits, in one case from a hearth feature (F1) and in another from a concentration of FCR (F19). The three dates are very similar (Table 3-1), with age ranges within 550 to 290 cal BP. These three radiocarbon dates intercept the calibration curve at 460, 490, and 520 BP, indicating that house use may have been during the earlier portion of that age span. Final occupation, therefore, was perhaps sometime just over 400 BP.

This relatively early date for the last use of House 1 is supported by other types of evidence. The absence of artifacts of European manufacture or materials in the archaeological deposits indicates that occupation ended prior to European arrival on the west coast in the late 18th century. Few ethnographic accounts refer to this site, also suggesting considerable time had passed since it had been a major village, and in one of the few cases where Huu7ii is specifically mentioned it is clear that the village was already unoccupied (see Chapter 2). The position of the house row well back from the modern beach, unlike recent village sites elsewhere in Barkley Sound where the houses are located immediately above the high tide line, is likely a result of gradual geological forces that would have taken centuries. The presence of large mature trees on several of the house platforms also suggests that considerable time has elapsed since large houses last stood on the site. Dendrochronological analysis carried out by two students at the Bamfield Marine Sciences Centre involved coring seven of the largest trees on the site (Sookocheff 2004). Two Sitka spruces were the oldest trees in this sample, but the presence of considerable rot at their centres meant that their ages had to be estimated. This analysis indicated that the trees began growth around AD 1600, suggesting that the site was no longer being occupied a minimum of 400 years ago.

Table 3-1. Radiocarbon dates – Huu7ii House 1.

Lab. No.	^{14}C age (Convent.)	Calibrated age range (2 sigma - 95% probability)	$^{13}C/^{12}C$ ratio	Unit	Depth (cm)	Comments
Beta-221952	370±70	530 to 290 BP	–23.7	N16-18 E26-28	25	Surface of cultural, in hearth
Beta-221951	410±70	540 to 300 BP	–25.4	N18-20 E16-18	10–20	Surface of cultural, in FCR
Beta-195635	470±60	550 to 440 and 350 to 330 BP	–25.3	N14-16 E6-8	12	Upper layer, in hearth feature
Beta-221950	610±40	660 to 540 BP	–22.6	N18-20 E34-36	37–44	
Beta-195633	640±50	670 to 540 BP	–26.6	N10-12 E2-4	50	In shell of back ridge - south wall
Beta-221957	670±70	680 to 550 BP	–25.9	N16-18 E16-18	75–80	Bottom of house floor in main block
Beta-221955	710±40	690 to 440 and 580 to 570 BP	–20.4	N18-20 E16-18	45–50	Deep in house floor
Beta-221961	710±60	730 to 550 BP	–23.2	N12-14 E18-20	88–93	Bottom of house floor in main block
Beta-195634	740±70	780 to 630 and 600 to 560 BP	–23.5	N18-20 E2-4	52–55	
Beta-195636	820±60	910 to 660 BP	–24.1	N14-16 E6-8	57	
Beta-236289	920±50	930 to 730 BP	–26.6	N18-20 E6-8	67	
Beta-221959	990±50	970 to 780	–26.4	N18-20 E16-18	65–69	In hearth pit at base of house floor
Beta-236288	1060±40	1060 to 920 BP	–24.3	N40.5 E8	109–125	Base of auger test ca 10 m north of House 1
Beta-195638	1170±70	1260 to 940 BP	–22.3	N18-20 E2-4	120	
Beta-221954	1190±40	1230 to 1210 and 1190 to 990 BP	–20.5	N18-20 E34-36	130–135	Layer F (shell)
Beta-195642	1230±60	1280 to 990 BP	–25.4	N10-12 E2-4	78	In shell
Beta-221956	1290±70	1310 to 1060 BP	–20.9	N18-20 E34-36	195–200	From top of basal sands
Beta-195639	1330±50	1310 to 1170 BP	–24.9	N14-16 E6-8	94	In dusky-red matrix
Beta-195640	1560±60	1560 to 1320 BP	–25.2	N18-20 E2-4	220	In brown sand at base – west wall

Taken together, the evidence indicates that people lived on this portion of the site for roughly a millennium. The initial occupation, which left refuse directly on beach sand, occurred around 1,500 or 1,400 years ago. By about 800 years ago a house had been constructed on top of these earlier midden deposits, although this house may have differed significantly in dimensions and placement from the structure evident through surface features. A large dwelling appears to have stood at this location for almost 400 years, although there is evidence that it was altered and expanded through time. More detailed treatment regarding the construction and occupation of the house is given in Chapter 4. Finally, House 1, the structure corresponding to the surface features, was abandoned just over 400 years ago, well prior to the first appearance of Europeans along the west coast of Vancouver Island.

Artifacts Recovered

In total, 960 artifacts were recovered through excavation within the surface platform of House 1

(Table 3-2). Of these, 748 (77.9%) were excavated in house floor deposits. An additional 58 artifacts (6% of total) came from the shell of the midden ridge that accumulated along the back of the house or shell that had slumped onto the back floor of the house; these artifacts would be contemporaneous with the upper house floor deposits. Artifacts from the strata underlying the house floor totalled 154 (16%). The relative under-representation of these earlier materials can largely be attributed to the more limited excavation in the underlying strata, as many units were discontinued at the base of the house floor.

The great majority of Huu7ii artifacts were manufactured from bone (775 examples; 80.7%). Only 154 (16.0%) of the artifacts are of stone, and these are heavily dominated by a single category (abrasive stones). The remaining raw material categories are minor: 14 artifacts of antler, 11 of tooth, four of shell, and two of wood. Artifacts are described below, classified first by raw material and then by form or presumed function. The number of examples in each category is given after the heading. Wherever possible, some discussion is given of the archaeological distribution of each artifact category and the ethnographic

Table 3-2. Artifacts from Huu7ii – House 1.

Bone	
Large barbed harpoon head	1
Single barb points	9
Larger barbed points	9
Points	243
Abrupt tip (65)	
Gradual taper (43)	
Small tapered (31)	
Fragments (104)	
Bipoints	184
Awls	36
Bone splinter (28)	
Cut limb bone (2)	
Bird bone (4)	
Fish spine (1)	
Composite (1)	
Deer ulna tools	4
Harpoon valves	85
Large slotted (19)	
Small slotted (1)	
Small channelled (30)	
Simple (9)	
Self-armed/ ancillary (10)	
Blank (1)	
Miniature valves (5)	
Fragments (10)	
Fishhook shanks	10
Chisels	16
Pendants	5
Other decorative items	7
Bird bone tubes	11
Polished rectangle	1
Prying tools	2
Foreshafts	3
Bark beaters	2
Whalebone wedges	8
Whalebone stakes	2
Whalebone blanks	18
Modified whale bulla	1
Lance heads	2
Knobbed whalebone club (?)	1
Spatulate whalebone implement	1
Bone continued	
Notched whalebone	1
Misc. worked whalebone	29
Misc. worked bone	84
total bone	***775 (80.7%)***
Antler	
Wedges	2
Worked antler	12
total antler	***14 (1.5%)***
Tooth	
Fishhook shank	1
Shark tooth pendant	1
Worked canines	6
Polished tooth section	1
Beaver incisor tools	2
total tooth	***11 (1.1%)***
Shell	
Mussel shell tools	2
Dentalium shell bead	1
Shell disk bead	1
total shell	***4 (0.4%)***
Wood	
Points	2
total wood	***2 (0.2%)***
Stone	
Stemmed ground slate point	1
Fishhook shanks	4
Celts	2
Net weight	1
Chipped pebble (pièce esquillée)	1
Ground slate knife	1
Ground schist	13
Saw	1
Abrasive stones	100
Large chipped slab	1
Hammerstones	11
Anvil stone	1
Gaming piece (?)	1
Quartz crystal/ calcite manuports	4
Red ochre	12
total stone	***154 (16.0%)***
Artifact total	**960**

use of similar objects within Nuu-chah-nulth territory.

Small bone points and bipoints dominate the assemblage, as is true of almost all excavated Nuu-chah-nulth sites. Although they vary in form and size, suggesting that they served a number of functions, the great majority would have been parts of composite fishing gear of various types. Where wood is preserved, as in the waterlogged deposits at Ozette, similar bone points are found intact as the piercing elements of composite fishing implements that are primarily of wood and bark. Collectively, these implements total 445, representing 57.4% of the bone artifacts and 46.4% of the artifact total. When other fisheries-related objects such as small harpoon valves and fishhook shanks of bone and stone are included, the total jumps to 526, or 54.8% of all artifacts. Clearly, fishing as an activity is well represented in the artifact assemblage.

Artifact density for the excavation within House 1 was 9.0 artifacts per cubic metre of deposit. This figure is well below that at the major village of Yuquot in Nootka Sound, which yielded approximately 17.9 artifacts per m^3, even excluding the numerous artifacts of European materials in the historic component (Dewhirst 1980). Similarly, T'ukw'aa, a major village of the Toquaht people on western Barkley Sound, yielded 13.3 artifacts per m^3, again excluding the relatively numerous historic items of European manufacture (McMillan and St. Claire 1992; McMillan 1999:69). The figure for House 1 at Huu7ii, however, is higher than that at Ch'uumat'a, another major Toquaht site, at 6.5 artifacts per m^3, and Ts'ishaa, the major traditional Tseshaht village not far from Huu7ii in the central sound, at 4.5 artifacts per m^3 (McMillan and St. Claire 2005:45). Part of the difference may be attributable to excavation primarily in a house floor at Huu7ii, whereas a considerable portion of the excavations at Ts'ishaa and Ch'uumat'a was in shell deposits representing "dump" activities.

Artifacts of Bone

Large barbed harpoon head (1)

This large sturdy harpoon head (Fig. 3-9), manufactured from sea mammal bone, is 32.5 cm in length (width at line guard = 2.9 cm; thickness = 1.2 cm). It is complete in length, and is missing only a small portion at the tip of one barb. It is sharply pointed, with three prominent, evenly spaced, barbs along one side. Below the barbs, a semicircular projection (extending 0.6 cm) forms a line guard to hold the attached line. The lower portion is spatulate in form, coming to a wedge base. The faces are flat, with slightly flattened sides, making it a rounded rectangle in cross-section.

This impressive artifact was found in association with Feature 3, a large pit and cobble concentration extending below the house floor in the deep unit excavated along the western edge of the house platform. If this large pit is a post mould for the house, the harpoon head should be contemporaneous with the house floor. A radiocarbon date outside the pit, and somewhat above the artifact, is 780 to 560 cal BP. A date of 1260 to 940 cal BP came from just below, in a different natural layer.

Barbed bone harpoon heads are considered one of the identifying features of the West Coast culture type (Mitchell 1990:356). They are reported, however, only in small numbers, from only a few West Coast sites. The Yuquot assemblage includes several such artifacts; one appears very similar in size and form to the Huu7ii example, but has a drilled hole through the line guard (Dewhirst 1980:291–295). It came from Zone III, dating from 1200 BP to historic contact, which makes it partially contemporaneous with the Huu7ii house. Several bilaterally and unilaterally barbed harpoon points came from relatively late deposits at Ch'uumat'a, but none are as large or similar in form to the Huu7ii example (McMillan and St. Claire 1996:34). Two large examples similar to the Huu7ii artifact also came from the Shoemaker Bay site, at the head of the long Alberni Inlet

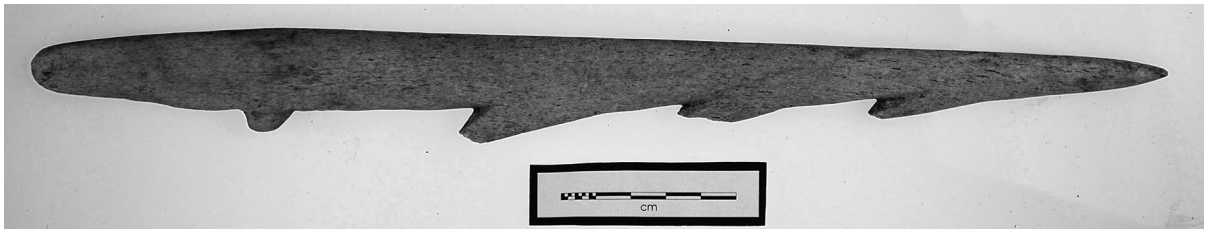

Figure 3-9. Large barbed harpoon head from Huu7ii.

from Barkley Sound (McMillan and St. Claire 1982:100–101).

Single barb points (9)

Nine artifacts are small bone points with a single sharp barb near one end (Fig. 3-10). Seven are complete, ranging between 3.0 and 4.3 cm in length (mean = 3.6; S.D. = 0.43 cm). Of these, two have pointed bases, three have roughly rounded bases, and two have flat bases that are round in cross-section. The remaining two artifacts are largely complete, missing only the basal portion.

Such points likely armed composite fishhooks that had shanks of wood or bone. Drucker (1951:22) describes a hook for catching cod or trolling for salmon as having a point "which was a barbed splinter of hardwood or bone." Jewitt (1967:68), at Nootka Sound from 1803 to 1805, described the fishhooks in use there as "a straight piece of hard wood, in the lower part of which is inserted and well secured, with thread or whale sinew, a bit of bone made very sharp at the point and bearded [barbed]." Similar artifacts have been found at most Nuu-chah-nulth sites, including Yuquot (Dewhirst 1980:178-181) and the contemporaneous Barkley Sound villages of T'ukw'aa, Ch'uumat'a, and Ts'ishaa (McMillan and St. Claire 1992, 1996, 2005). They are considered to be one of the characteristic artifacts of the West Coast culture type (Mitchell 1990:356).

Larger barbed points (9)

Artifacts in this category appear to have been fixed barbed points, all manufactured from polished segments of land mammal bone (Fig. 3-11). One, complete at 9.2 cm in length (width = 1.2 cm; thickness = 0.5 cm), has two shallow barbs near its tip and a pointed base. Two large tip fragments each have one pronounced barb remaining. Another, also missing its base, has two rounded barbs on one side and a possible barb remnant on the other; if so, this is the only bilaterally barbed point from Huu7ii. Three basal fragments are sharply pointed. Two have only one shallow barb remaining, whereas another has three; that example has been cut and snapped across at the distal end, rendering it non-functional. The final two examples are similar. One is complete at 8.6 cm in length (width = 1.0; thickness = 0.5 cm), with a blunt tip and a roughly pointed base. One side has one low enclosed barb, with four shallowly incised notches along the barb and three below. A vertical line incised into both faces runs parallel with the edge just in from the angular notch that forms the barb, extending for much of the length of the object. A fragment of a similar artifact has a rounded base, with a very shallow barb and a small notch below it close to the basal end; a vertical line incised on each face just in from the barb extends from the base to well above the barb.

Unilaterally barbed fixed bone points are a characteristic feature of the West Coast culture type (Mitchell 1990:356). They are reported for almost all major excavated Nuu-chah-nulth sites, including the Barkley Sound villages of T'ukw'aa, Ch'uumat'a, and Ts'ishaa (McMillan and St. Claire 1992, 1996, 2005). They were relatively common at Yuquot, where Dewhirst (1980:279) suggests that they armed arrows. They have also been found at the Makah sites of Ozette (McKenzie 1974:97) and Hoko River Rockshelter (Croes 2005:152). Their identification as arrow points is confirmed through the Ozette wet site excavations, where barbed bone points were occasionally found hafted

Figure 3-10. Single barb bone points.

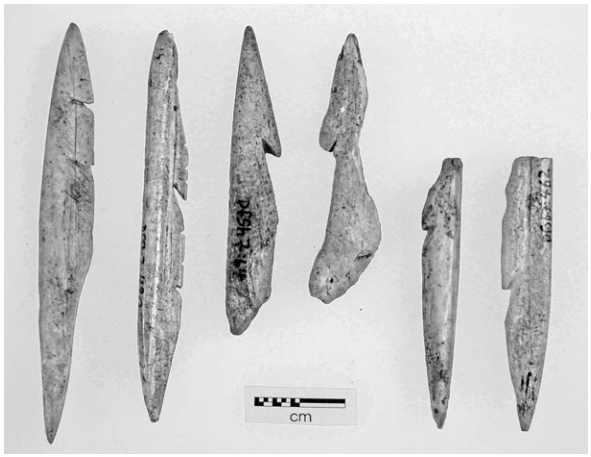

Figure 3-11. Barbed fixed bone points.

on arrow shafts, although the great majority of arrow points were of wood (Croes 2005:153).

Points (243)

Three distinct categories of relatively small, unbarbed bone points can be discerned: "abrupt tip," "gradual taper," and "small tapered." Many others, however, can be classified only as "fragments."

Abrupt tip points are characterized by having their greatest width near the tip and sides that gradually taper to the base (Fig. 3-12). This is the largest category, with 65 examples. Such points tend to be quite stout, and range from rectangular to circular in cross-section. Bases take a variety of forms: some of the stout examples have flat bases, while others are rounded, pointed, or wedge-shaped. Some of the stout examples have quite blunt tips, although others are sharply pointed. Most have been fashioned from sections of hard land mammal limb bone. Size varies considerably; measurements are summarized in Table 3-3. Although the variability in form and size suggest the possibility of several different functions, most would have served as the arming points in composite toggling harpoon heads. Many fit comfortably into the excavated toggling harpoon valves from the site, although a few seem rather stout and bluntly pointed for this function. The shape of these points, with greatest width near the tip, may have been designed to withstand breakage upon impact. Nine examples show extensive impact damage at the tip, often destroying much of that end of the artifact. King (2007:41–43) found even higher levels of tip damage at T'ukw'aa and Ts'ishaa, also attributing this to their use in harpoon heads. Similarly, Dewhirst (1980:262) noted "blunting and breakage of tips" among the Yuquot artifacts classified as harpoon arming points. One thin, sharply pointed example from Huu7ii was found intact as part of a three-piece harpoon head, with its pointed base fitting into the narrow channels of the two valves. Croes (2005) also found several such points intact in their valves at the Hoko Rockshelter site. Such artifacts are common at excavated Nuu-chah-nulth and Makah sites, attesting to the importance of the harpoon technology in fishing and hunting. This is discussed further in the section on harpoon valves.

Table 3-3. Bone points – abrupt tip.

Attribute	Range (cm)	Mean (cm)	S.D. (cm)	Number
length	0.4 to 6.6	3.9	0.7	46
width	0.4 to 1.0	0.7	0.2	61
thickness	0.3 to 0.8	0.5	0.1	62

A category of "gradually tapering" points, with greatest width at or below the centre of the object, contains 43 examples (Fig. 3-13). Most correspond to Dewhirst's (1980) "spindle-shaped" category from Yuquot. This is a considerably more variable category than abrupt tip points. They range from fairly small and slender points to much larger and stouter objects. Measurements are given in Table 3-4. A bluntly pointed base is common, but some have rounded or flat bases. A few fairly rough examples could be classified as bone splinter awls, although their bases are more finished than arti-

Figure 3-12. Abrupt tip bone points.

Figure 3-13. Tapering bone points.

Table 3-4. Bone points – gradual taper.

Attribute	Range (cm)	Mean (cm)	S.D. (cm)	Number
length	3.5 to 9.3	5.4	1.1	19
width	0.4 to 1.2	0.7	0.2	35
thickness	0.3 to 0.9	0.7	0.1	42

facts in that category. Almost all are based on segments of hard land mammal limb bone, although one has been formed from a complete limb bone of a small mammal. Most in this category would have functioned as barbs on composite fishing hooks of various sizes. The variability in this category means that smaller divisions could be established (see King 2007), and additional functions (such as teeth on herring rakes, for example) are likely.

A category of "small tapered" points, with 31 examples, has been distinguished from the larger objects. Most are very slender (although a few are more robust), well-made artifacts of land mammal bone. Most taper to a narrow rounded base, although a few are wedge-based and one has a flat rectangular base. All are complete or nearly so, with lengths ranging from 1.4 to 4.1 cm (mean = 2.7 cm; S.D. = 0.5). These probably served as barbs on small composite fishhooks.

An additional 104 artifacts are fragments of bone points that are too incomplete to categorize further. With the exception of a very small number of sea mammal bone, all are manufactured from splinters of land mammal bone. Several are blackened by fire. Tips, midsections, and bases are all represented. Some of the tips could possibly have come from other pointed tool types, such as awls. A wide range of sizes is represented, from very slender to robust; a few would clearly have been from quite large implements.

Bipoints (184)

Bone bipoints, splinters of bone with both ends ground to sharp points, are among the most common artifacts at Huu7ii (Fig. 3-14). Of the total of 184 bipoints, 171 are slender objects with their greatest width near their centre. Splinters of bird bone are the most common raw material, although some have been fashioned from land mammal bone. Seventy-four are complete, ranging from tiny points to elongated slender objects. Lengths range from 2.0 to 6.2 cm, with a mean of 4.3 cm (S.D. = 0.6 cm). The 97 fragmentary examples are sufficiently complete to suggest that they belong to this category, although some may be from other slender sharply-pointed artifact types.

Two additional bipoints, both of land mammal bone, are markedly stouter. Both are complete. One is the largest of the bone bipoints at 7.4 x 0.5 x 0.5 cm, while the other is 3.9 x 0.5 x 0.3 cm.

An additional 11 bipoints are markedly asymmetrical, taking the form of an elongated scalene

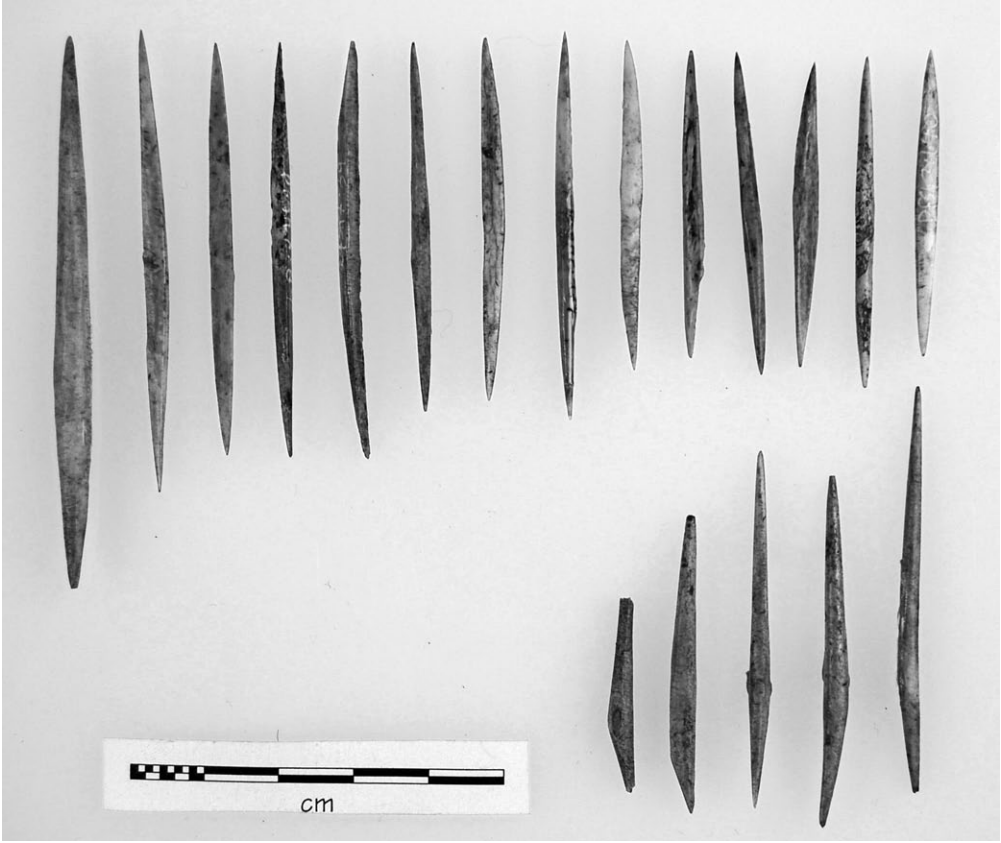

Figure 3-14. Bone bipoints (scalene examples on lower row).

triangle (Fig. 3-14, lower row). Seven scalene examples are complete, ranging in length from 3.2 to 5.4 cm (mean = 4.4 cm; S.D. = 0.6).

Bone bipoints may have served in several types of fishing gear. Many would have been used as gorge hooks. Ethnographically, such objects were baited and tied, and used not only for taking fish but also aquatic birds. Drucker (1951:34) describes a trap used by the Nuu-chah-nulth for catching diving waterfowl as consisting of many baited bone gorges tied to an anchored pole. Dewhirst's (1980:210–211) Nuu-chah-nulth consultants at Nootka Sound also confirmed the use of such artifacts to take both fish and birds. However, only one fragmentary example shows evidence of a central indentation for holding the line. The slender scalene examples, although also serviceable as gorge hooks, more likely functioned as arming points for small fishhooks. Although many fishhook shanks would have been of wood, the few bone fishhook shanks recovered have very narrow point beds that would take only very thin arming points such as the scalene bipoints.

Bone bipoints are common at all excavated Nuu-chah-nulth sites. For Yuquot, Dewhirst (1980:210–222) reports several varieties of "gorges," including the scalene form. Their high frequency at Huu7ii (19.2% of the artifact total) is similar to that at other excavated sites in Barkley Sound (Ts'ishaa: 25.9%; T'ukw'aa: 24.5%; Ch'uumat'a: 14%) (McMillan 1999:172; McMillan and St. Claire 1992, 1996, 2005).

Awls (36)

Several distinct categories of awls are present, although most (28; 77.8%) can be classified as bone splinter awls (Fig. 3-15). These are splinters of land mammal limb bone that have been sharpened to a point at one end while the bases have been left rough and irregular. Sharpened bone splinters could also have served as barbs on composite fishhooks, but the bases of such implements are usually more extensively modified for hafting; the rough or irregular bases of these examples, along with the sharp points, are the defining features of this category.

One large splinter awl, 13.8 cm in length, is missing only a small portion of the tip. It is based on a large flat bone section, and has the distal end worked to a sturdy point that is round in cross-sec-

Figure 3-15. Bone awls (left and top row: bone splinter awls; right: bird bone awls; bottom: fish spine awl, composite awl).

tion. Another large example, 11.3 cm in length, is based on a more slender flattened bone splinter; it is worked to a rather blunt point at one edge of the distal end. Several smaller awls have stout rounded points, although most are more slender sharpened splinters and two have narrow chisel-like tips. The 16 examples that appear to be complete or nearly so, although the rough bases preclude certainly in assessing completeness, range from 3.3 cm to 13.8 cm in length (mean = 7.4; S.D. = 1.8).

Bone splinter awls are commonly reported for Nuu-chah-nulth sites. They are considered one of the characteristic artifacts of the West Coast culture type (Mitchell 1990:356). Their frequency in the Huu7ii assemblage (3.6% of total bone artifacts) is similar to that at the other major excavated Barkley Sound villages (T'ukw'aa: 2.1%, Ch'uumat'a: 5.3%, and Ts'ishaa: 2.2%; McMillan and St. Claire 1992, 1996, 2005).

Four awls are made from bird limb bones (Fig. 3-15, right). The shafts are intact, but have been cut at an angle and polished to produce a sharp point. One, complete at 9.8 cm in length, retains the intact articular end of the bone at its base, allowing identification as the right radius of a loon (*Gavia stellata* or *G. pacifica*). Another, 8.9 cm in length, also is complete but no longer has the natural articular surface at the proximal end; nevertheless it can be identified as the right radius shaft of a cormorant (*Phalacrocorax* sp.). A larger example, 13.0 cm in length, also appears to be complete, but consists of the sharpened shaft only. The fourth is a smaller fragment, with its sharp tip produced in the same fashion as the three complete examples. Although such implements are usually classified as awls, Dewhirst (1980:190) considers similar slender examples from Yuquot to have been arming points on composite fishhooks. The presence of the complete articular end of the bone on one example, however, would support identification as an awl.

Two examples are based on mammal limb bones. One awl tip fragment resembles the above category in that the intact bone shaft has been cut at an angle to produce a point. However, this example was manufactured from the limb bone of a small mammal, and is considerably stouter than the bird bone awls. The second artifact is based on

the fibula of a small sea mammal. Much of one articular end is intact, while the other end comes to a blunt point; polish is evident over much of the shaft. This object is complete at 13.1 cm in length.

An additional awl is based on a large fish spine that has been further sharpened. It is 5.5 cm in length. Although such artifacts are not common, they have also been reported for T'ukw'aa (McMillan and St. Claire 1992).

The final bone awl is an unusual composite tool. A small sharp bone splinter has been set an unknown distance into a bird bone shaft as a handle (Fig. 3-15, lower row). The shaft can be identified as the left ulna of a Western Grebe (*Aechmophorus occidentalis*). The complete artifact is 6.6 cm in length; only 0.4 cm of the bone point protrudes beyond the end of the shaft.

Deer ulna tools (4)

Deer (*Odocoileus hemionus*) ulnae were commonly used in tool manufacture. The irregular articular end served as a handle while the narrow shaft could be sharpened to a point or bevelled to a cutting edge, making it serviceable as an awl or knife. Deer ulna tools occur at most excavated Nuu-chah-nulth sites and are a characteristic artifact of the West Coast culture type (Mitchell 1990:356).

Two examples are complete, at 9.5 and 10.8 cm in length (Fig. 3-16). Both have been worked to a sharp point that is oval in cross-section. The largest is highly polished along most of the distal end and has considerable polish on the high points of the base where it was held. Several shallow worn grooves are evident near the tip on one side and one face. Such distinctive wear reflects use, possibly as a weaving implement. Deer ulna tools with similar wear have been reported from Ts'ishaa (McMillan and St. Claire 2005:50), Yuquot (Dewhirst 1980:143–145), Hesquiat Village (Haggarty 1982:125), and Shoemaker Bay (McMillan and St. Claire 1982:105). The second complete example is very similar, but lacks worn grooves at its tip; it is slightly shorter as the ulna is from an immature deer and it is missing the epiphysis at its base. A third object is a tip fragment, classified here due to its resemblance to the complete examples. This fragment is almost rectangular in cross-section near the tip and there is one worn notch on one side almost at the tip.

Figure 3-16. Deer ulna tools.

The fourth example may also be complete, although some of the base has broken away (Fig. 3-16, right). It was possibly still used after that time, as slight polish is evident over the broken lower surface. It is 7.6 cm in length. The shaft has been worked to a narrow, flat, spatulate end, which would be more serviceable as a knife than an awl. Ethnographically, such tools are best known as fish knives, particularly for herring (Drucker 1951:91; Koppert 1930:39). At Hesquiat Village, two ulna tools were recovered with fish scales still adhering to their surfaces (Haggarty 1982:127), confirming their identity as fish knives.

Harpoon valves (85)

All are parts of composite harpoon heads. A wide range of valve types and sizes is evident in the collection. Valves are classified primarily by their provision for an arming point or cutting blade. Valve categories are: *large slotted* (19), characterized by having a slot to take a broad cutting blade and a size sufficiently large for hunting sea mammals; *small slotted* (1), as above but of a size more suited to taking fish such as salmon; *channelled* (30), the characteristic Nuu-chah-nulth salmon harpoon type, with a channel to hold a rounded bone point; *simple* (9), lacking either a channel or slot, but with a gradually sloping surface to hold a wedge-based bone point, and *self-armed* or *ancillary* valves (10). In addition, the collection contains one unfinished example or "blank," ten fragments that are too incomplete to further classify, and five miniature examples. Five discoveries were made of paired valves: two large slotted pairs and three channelled pairs. In one case, two channelled valves still held their rounded arming point.

The 19 valves classified as *large slotted* (Figs. 3-17 and 3-18) all appear to be manufactured from sea mammal bone. All are sufficiently large

Figure 3-17. Large slotted harpoon valves (dorsal surfaces).

Figure 3-18. Large slotted harpoon valves (ventral surfaces).

that they were likely employed in hunting marine mammals. Most resemble those used ethnographically for taking whales, although some may have been used for smaller marine mammals. Eleven examples are complete, with lengths ranging from 8.3 to 13.9 cm (mean = 10.4 cm; S.D. = 1.2), widths from 1.4 to 3.0 cm (mean = 2.2 cm; S.D. = 0.4 cm), and thicknesses from 0.8 to 1.6 cm (mean = 1.2 cm; S.D. = 0.2 cm). On the ventral faces, the upper (distal) portion on each valve is a recessed flat platform; when paired with a matching valve this creates an open slot for the insertion of a flat cutting blade, ethnographically of large mussel shell (Fig. 3-19). A ridge on the upper dorsal portion of the valve, formed by cutting away the bone surface below the slot on the opposite face, served to hold the lashing that secured the cutting blade. The central portion of the ventral face is ground flat to

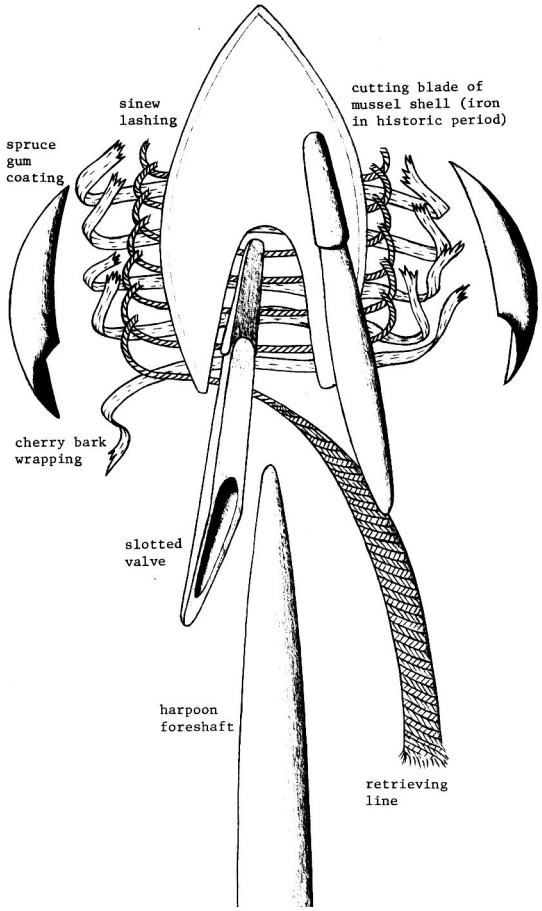

Figure 3-19. Drawing of a composite harpoon head, with two slotted valves, used for sea mammal hunting (Source: The Yuquot Project, Vol.1: The Indigenous Archaeology of Yuquot, a Nootkan Outside Village, p. 304, John Dewhirst, Parks Canada, 1980. Reproduced with permission of the Minister of Public Works and Government Services).

fit against its companion valve. The lower (proximal) portion of the ventral face has a marked oval channel or depression to create a socket for the insertion of the harpoon foreshaft when paired with a matching valve. The ventral face flares out from just below the widest point on the valve, coming to a blunt point at the proximal end. Two examples are unfinished; however, their large size (one is the largest of the complete valves) and presence of a slot and lashing ridge at the distal end place them in this category.

Two pairs of matching valves are included in this category, although neither was found with its arming blade (Fig. 3-20). These consist of the two smallest valves in the category and two valves of medium size. The former were not found in

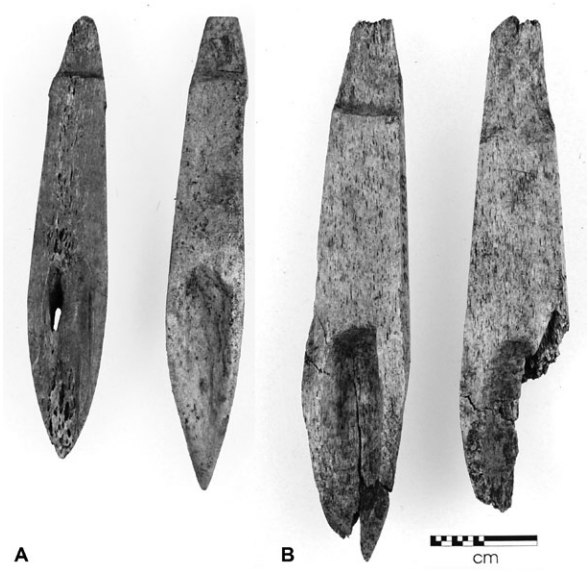

Figure 3-20. Two paired sets of large slotted harpoon valves found in the house floor deposits.

direct association, although they came from the same depth in the same excavation unit, but are so similar and fit so perfectly together that they are almost certainly a pair. One valve is slightly longer than the other, suggesting the ethnographic distinction between the "male" and "female" valves, as described by Drucker (1951:28).

These large slotted valves closely resemble those used ethnographically for hunting whales and other marine mammals. Whaling harpoon heads consisted of two paired valves of bone or antler tipped with a broad cutting blade of ground mussel shell, later replaced with metal; these parts were lashed together with strips of cherry bark and secured with spruce gum (Drucker 1951:28; Koppert 1930:60; Waterman 1967:30–31). The mussel shell blade sliced through flesh and allowed the harpoon head to penetrate the animal's body, while the valves (or "barbs") secured the harpoon head in the whale. The valves were often decorated with incised designs on their outer surface, in some cases in zigzag patterns representing the Lightning Serpent, which was associated with the Thunderbird in its whaling pursuits (Sapir 1922:314). Drucker (1951:28) comments that such designs were thought to have "magical virtue," enhancing the power of the harpoon.

None of the Huu7ii valves exhibit incised designs on their outer surface. However, one valve has a series of roughly-made parallel grooves running horizontally across the lower third of the dorsal surface. These may be intended as decorative, al-

though they are so roughly done that it is possible that they are remnants of the manufacturing process. Another valve exhibits a series of deep angular cuts, also along the proximal third of the dorsal surface. Elsewhere, punctate zigzags and other incised designs were noted on valves excavated from Yuquot (Dewhirst 1980:301), Ts'ishaa (McMillan and St. Claire 2005:52), Toquaht territory (McMillan 1999:133–134; 2000:238), and the Makah sites of Ozette (McKenzie 1974:85) and Hoko Rockshelter (Croes 2005:141).

One *small slotted* valve is placed in a separate category due to its size (Fig. 3-21, lower left). It is complete, measuring 4.1 x 1.0 x 0.6 cm. Like the larger valves described above, much of the upper ventral surface has been cut away to produce a broad slot when paired with a similar valve. Unlike the larger valves, no ridge or other means of securing the lashing is evident on the dorsal surface. In size, this valve resembles the small channelled valves described below, which served ethnographically as parts of salmon harpoon heads. Small slotted valves were the most common valve type at Shoemaker Bay (McMillan and St. Claire 1982:84, 110), where two pairs of such valves were found with their wedge-based bone points still in place (McMillan and St. Claire 1982:81). Such valves are less common in West Coast sites, but are reported for Ts'ishaa (McMillan and St. Claire 2005:50–51).

Channelled valves, with 30 examples, make up the largest valve category (Fig. 3-21, top row). A rounded channel on the upper ventral surface characterizes such valves. Lashing to a similar companion valve results in a harpoon head with a rounded open socket at the distal end to hold a bone arming point that is round in cross-section (Fig. 3-22). The channels on the lower ventral faces formed a socket for insertion of the harpoon foreshaft. Although many of the valves in this category are fragmentary, they still display evidence of both channels. All are of a relatively small size, suggesting that they were parts of harpoons used in fishing. Measurements are summarized in Table 3-5. In seven cases (five complete), the dorsal face has been roughened and indented from slightly below the midpoint to the

Figure 3-21. Harpoon valves (upper row: small channelled valves; lower row: a small slotted valve, three simple valves, and three self-armed valves).

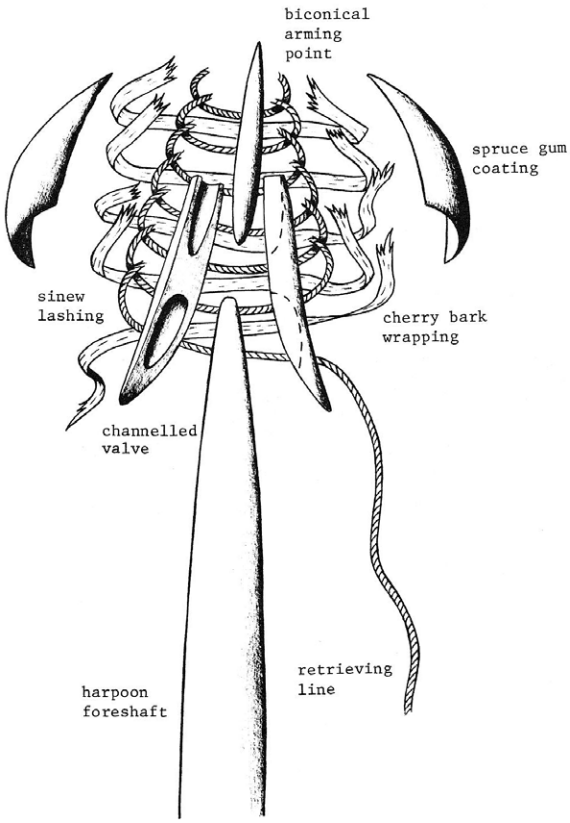

Figure 3-22. Drawing of a composite harpoon head with two channelled valves, a type used ethnographically for taking salmon (Source: The Yuquot Project, Vol.1: The Indigenous Archaeology of Yuquot, a Nootkan Outside Village, p. 232, John Dewhirst, Parks Canada, 1980. Reproduced with permission of the Minister of Public Works and Government Services).

distal end. Most of these show clear whittle marks where a portion of the surface has been cut away, presumably to facilitate lashing to the companion valves.

Three pairs of channelled valves were found together, in one case with the rounded arming point in place (Fig. 3-23). The valves in the smallest pair, each 3.4 cm in length, are complete. Both the other pairs are broken, but would clearly have been larger. The two long and thin valves in the complete three-piece harpoon head, at 4.5 and 4.9 cm length, are each missing only a small bit of the proximal end. The intact point, 4.6 cm in length, gradually tapers from an abrupt tip to a nearly pointed proximal end, where it is rounded and slender to fit into the narrow channels of the valves.

Harpoon heads with two channelled valves and a rounded point armed the typical Nuu-chah-nulth salmon harpoons described and illustrated by Drucker (1951:19–20). Although such harpoon heads were used for salmon and other fish, it is also possible that they were employed in hunting smaller sea mammals. Croes (2005:138) reports that the Makah took fur seals using two-pronged harpoons with similar heads. The components of such harpoon heads are commonly found in Nuu-chah-nulth sites. Channelled valves become the dominant form in the upper zones at Yuquot, replacing self-armed valves that characterized the earlier periods (Dewhirst 1980: 231, 258–259). Channelled valves are also the most common type in the Barkley Sound sites of T'ukw'aa (McMillan and St. Claire 1992:46–47), Ch'uumat'a (McMillan and St. Claire 1996:37), and Ts'ishaa (McMillan and St. Claire 2005:50–52). Most valves from the Makah-area site of Hoko Rockshelter were the channelled variety, including three harpoon heads, in two cases still with their rounded arming points, found in a cache at the back of the shelter (Croes 2005:132–136).

Table 3-5. Channelled Harpoon Valves.

Attribute	Range (cm)	Mean (cm)	S.D. (cm)	Number
length	3.1 to 6.0	4.7	0.8	12
width	0.7 to 1.2	1.0	0.2	27
thickness	0.4 to 0.9	0.6	0.1	29

Figure 3-23. Complete three-piece composite harpoon head with channelled valves immediately after discovery.

Simple valves lack the well-prepared channel or point bed on the distal ventral face (Fig. 3-21, lower row centre; Fig. 3-24). In other features, they resemble valves in the categories above. Among the Huu7ii valves, in five cases the distal ventral face has been ground flat; when lashed to a similar valve it would hold a wedge-based arming point. Four smaller examples range from 3.6 to 5.3 cm in length (mean = 4.2 cm), 0.7 to 1.0 cm in width (mean = 0.9 cm), and 0.4 to 0.5 cm in thickness

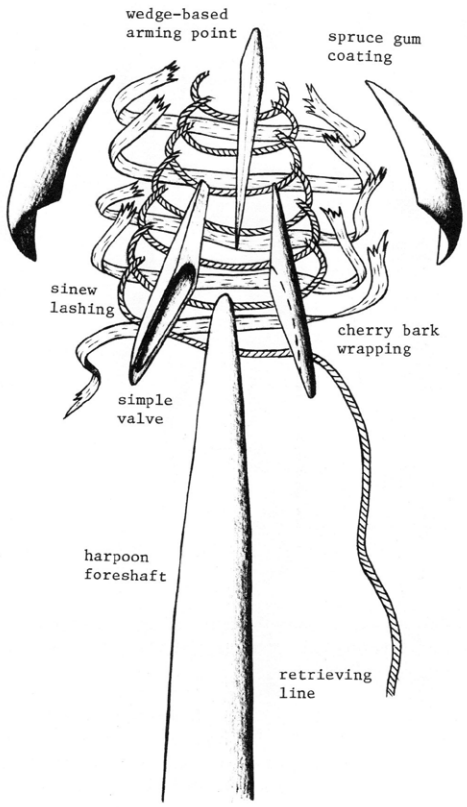

Figure 3-24. Drawing of a composite harpoon head with simple valves and a wedge-based arming point (Source: The Yuquot Project, Vol.1: The Indigenous Archaeology of Yuquot, a Nootkan Outside Village, p. 231, John Dewhirst, Parks Canada, 1980. Reproduced with permission of the Minister of Public Works and Government Services).

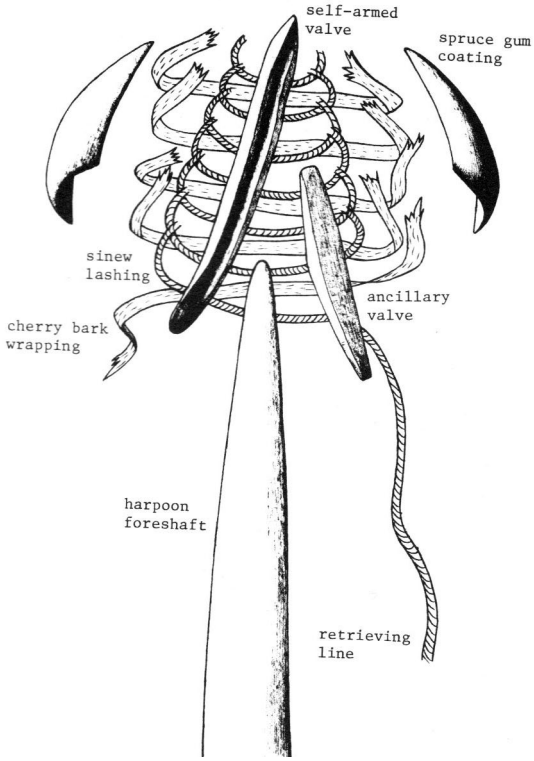

Figure 3-25. Drawing of a composite harpoon head with a self-armed valve (Source: The Yuquot Project, Vol.1: The Indigenous Archaeology of Yuquot, a Nootkan Outside Village, p. 230, John Dewhirst, Parks Canada, 1980. Reproduced with permission of the Minister of Public Works and Government Services).

(mean = 0.5 cm). A considerably larger example, at 9.0 x 1.8 x 1.1 cm, may have held a thin broad arming point, in a manner similar to the large slotted valves. Four additional valves are considered "simple" as they have not been carefully channelled or slotted at the distal end; instead the marrow cavity of the original land mammal bone runs the length of the ventral face. When paired, these open cavities would hold a bone arming point, of substantial size in two cases. None are complete, but the largest fragment (5.9+ cm in length) is clearly from a fairly large valve. Similar valves are reported for Yuquot (Dewhirst 1980:249–251). Two pairs were found intact with their wedge-base bone points in a cache at the back of the Hoko River rockshelter (Croes 2005:135, 136, 143).

Self-armed valves come to a point at the distal end and do not require a separate bone arming point. They may have been used with *ancillary* valves, which are shorter and not pointed at the distal end, to form a two-piece harpoon head (Fig. 3-25). They possibly also functioned as single-piece heads, with the lashing of the retrieving line forming a socket for the foreshaft (Dewhirst 1980:230). Three classic examples of this type are complete (Fig. 3-21, lower right). Each has a small channel at the proximal end of the ventral face to form a socket for the foreshaft when paired with an ancillary valve. On the dorsal surface, the proximal end flares out in typical valve fashion, coming to a blunt point. The widest part of the artifact is near the proximal end. Above the flared proximal portion, the artifact abruptly narrows; it is markedly indented around the centre of the largest example, presumably for holding the lashing to attach the companion valve. The distal end

is rounded in cross-section and comes to a sturdy point. Measurements are 7.0 x 0.9 x 0.6 cm, 6.1 x 0.8 x 0.6 cm, and 5.3 x 0.9 x 0.4 cm. Two additional examples could be described as simple self-armed valves. They are flattened sections of bone with the original marrow channel running the length of the ventral face. Each comes to a flattened point at the distal end and flares out to a blunt point at the proximal end, with its greatest width near the latter. The largest is waisted near the distal tip, presumably to secure lashing. Both are complete, with measurements of 6.5 x 1.1 x 0.5 and 5.7 x 1.4 x 0.6 cm.

Only one ancillary valve was identified. It is complete at 5.0 x 0.8 x 0.6 cm. It is simple in form, with the marrow channel running the length of the ventral face. At the proximal end it flares out slightly to a rounded tip. It has been cut flat and bevelled across the distal end, leading to its identification as an ancillary valve.

Four slender artifacts are somewhat different in form and are only tentatively placed in this category. All have a very similar proximal end, characterized by a small channel from the base of the flat ventral face and a small flange, presumably to hold lashing, around the rounded dorsal face at the bottom. They do not flare out to a rounded point at the proximal end, as do other valves. Two are complete, while two others consist only of the proximal portion. Both complete examples have straight sides gradually converging from the flat proximal end to a slender point at the distal end. The largest, measuring 5.1 x 0.6 x 0.4 cm, is indented at both sides near the middle, presumably to secure lashing. The other, with measurements of 3.9 x 0.5 x 0.3 cm, is highly eroded.

Self-armed and ancillary valves were relatively common at Yuquot (Dewhirst 1980:230–248), where they formed the dominant type in earlier levels but were gradually superseded by channelled valves. They are also reported for Hesquiaht Village (Haggarty 1982:124). Small numbers of self-armed and ancillary valves have also come from the Barkley Sound sites of Ts'ishaa (McMillan and St. Claire 2005:51) and Ch'uumat'a (McMillan and St. Claire 1996:37). Mitchell (1990:356) specifically mentions self-armed and ancillary valves as characteristics of the West Coast culture type.

One small *blank* or unfinished valve is complete, measuring 3.7 x 1.0 x 0.6 cm. It has been roughed out to the characteristic shape, with a flat ventral face flaring out from the proximal end. It is still rough on the rounded dorsal surface and lacks any channels or slot on the ventral face.

Five *miniature valves* resemble the full-sized objects in form. Two have the appearance of simple valves, with small channels on the lower ventral faces and flat upper ventral faces. The one complete example measures only 1.6 x 0.6 x 0.3 cm. Three others (all complete, at 3.2 x 0.4 x 0.3 cm, 2.5 x 0.4 x 0.2 cm, and 2.4 x 0.6 x 0.3 cm) have the characteristic shape of self-armed valves. Only one has a shallow channel on the proximal portion of the ventral face, but all three have the characteristic flat upper ventral face, flared-out and roughly pointed proximal end, and pointed distal end. Such tiny valves could not have served any real function, but perhaps were parts of children's toys.

Ten *fragments* can be identified as valves but are too incomplete to place in a specific type. Most are small portions of the easily recognized proximal end, with part of a channel on the lower ventral face. Most closely resemble the small channelled valves that form the dominant valve type.

Fishhook shanks (10)

Four small, slender, rather delicate, bone fishhook shanks are complete (Fig. 3-26). Lengths range from 4.9 to 5.9 cm (mean = 5.4); maximum thickness ranges between 0.3 and 0.4 cm. All are very similar in shape. Notches from each side just below the flattened proximal end would have served for line attachment. The slightly curving shafts have flattened faces, with nearly rectangular cross-sections. The distal portions have the characteristic shape of these implements. One side of the flat rectangular base has a notch and pronounced lashing spur in three cases, only the notch in the fourth. The other side of the base flares out, with a very narrow point bed running the length of the

Figure 3-26. Bone fishhook shanks.

edge. These could have held only quite narrow and delicate arming points.

Four examples are fragmentary. One is similar to the complete artifacts but is missing a small portion at the proximal end; no provision for line attachment remains (Fig. 3-26, right). The flaring distal portion has a narrow point bed along one edge and two notches, rather than a lashing spur, at the other. It is 6.2 cm in length and 0.4 cm in greatest thickness. Three others are less complete distal fragments. One slender fragment, 0.3 cm thick, closely resembles the complete shanks. Another, 0.4 cm in thickness, is slightly larger, again with a well-defined lashing spur and very narrow point bed. The remaining distal fragment is considerably larger (1.3 cm wide and 0.7 cm thick) and less carefully made. Only a narrow incision is in the location for the point bed, which does not appear to have been completed, and an angular cut at the opposite edge serves to hold the lashing.

The remaining two artifacts in this category are blanks for fishhook shanks. Both are complete and have been fashioned from sea mammal bone (unlike all others in this category, which are of land mammal bone). Both are in a very preliminary stage of manufacture, having been roughed out to shape only, and lack point beds, lashing spurs, and notches for line attachment. Only the step on one side to form the base indicates the intended function. One (6.0 x 1.6 x 0.6 cm) would have produced a shank in the same size range as the intact examples. The other (10.3 x 2.7 x 1.0 cm) appears to have been intended as a larger, more robust shank.

Ethnographically, such objects were parts of composite fishhooks used for trolling. Most, however, were of wood, a fact confirmed through the wet site excavation at Ozette. Bone and stone fishhook shanks are commonly reported for Nuuchah-nulth sites, and they are considered characteristic of the West Coast culture type (Mitchell 1990:356). In Barkley Sound, similar bone shanks were recovered from T'ukw'aa and Ch'uumat'a (McMillan and St. Claire 1992, 1996), but are surprisingly absent in the substantial assemblage from Ts'ishaa (McMillan and St. Claire 2005). Similarly, only stone fishhook shanks are reported from the Hoko River Rockshelter (Croes 2005) and the Ozette midden trench (McKenzie 1974).

Chisels (16)

Eight examples retain much or all of the natural end of the bone, allowing identification as wapiti (elk; *Cervus elaphus*) metapodials. Eight smaller fragments are very similar in thickness and density, suggesting that all have been manufactured from the same hard bone. In each case, the metapodial has been split lengthwise and ground to shape along the edges, bit and poll (Fig. 3-27). Some examples are highly polished over much of their surface. These hard bone implements would have been effective woodworking tools, either as chisels or small wedges.

Four examples are complete. The largest, measuring 10.8 x 4.1 x 2.0 cm, is highly polished over all surfaces. A large fragment has split off from the curving bit along one side but enough of the bit remains that it would still be serviceable. The poll has been ground flat. Two others (measuring 7.6 x 3.4 x 1.7 and 7.1 x 3.2 x 1.6 cm) are similar. In both cases, the poll has been ground flat and the bit has been worked to an almost pointed form. The fourth example has been highly worked to a short stubby shape, measuring 6.5 x 4.9 x 1.8 cm, with a flat poll and a straight angled bit.

Four others are poll fragments. The one example intact in width is 3.8 cm wide and 2.9 cm thick. Three have broken lengthwise, as well as being incomplete in length. In all four cases the poll has been ground flat. In addition, two bit fragments are roughly pointed in form. The remaining six fragments consist of five with part of the bit remaining and one fragment from the side of the implement.

Similar implements manufactured from split and ground wapiti metapodials have been found at the major Barkley Sound villages of T'ukw'aa (McMillan and St. Claire 1992) and Ts'ishaa (McMillan and St. Claire 2005). Such woodworking tools are also reported from the Makah-area sites of Ozette (McKenzie 1974:37; Gleeson 2005:248) and Hoko River Rockshelter (Croes 2005:167).

Figure 3-27. Bone chisels.

Pendants (5)

One finely carved bone object is particularly impressive (Figs. 3-28, 3-29). This item, made from a flat piece of hard land mammal limb bone, is 8.6 cm in length (maximum width = 3.1 cm; thickness = 0.5 cm). It has been incised on only one side; the other shows only the polished natural surface of the bone. A groove at one end is presumably for line attachment to allow suspension as a pendant. The incised imagery is complex. Two circular eyes appear to have been drilled with a tube, leaving steep sides and a flat bottom. The two circles are the same size, 0.7 cm in outer diameter, and may have been formed with the same tubular drill. A central drilled hole within each circle, 0.2 cm in diameter, does not extend through the bone. Looking at the design one way, the upper eye is that of the Thunderbird, with its downturned beak extending to the right. An incised line separates the upper and lower beak. Looking another way, the lower eye belongs to a whale, with its head to the left. An incised line defines the mouth. The whale's dorsal fin is also the crest on the head of the Thunderbird, and its tail is the Thunderbird's beak. Incised parallel lines of short dashes are evident along the upper and lower surfaces.

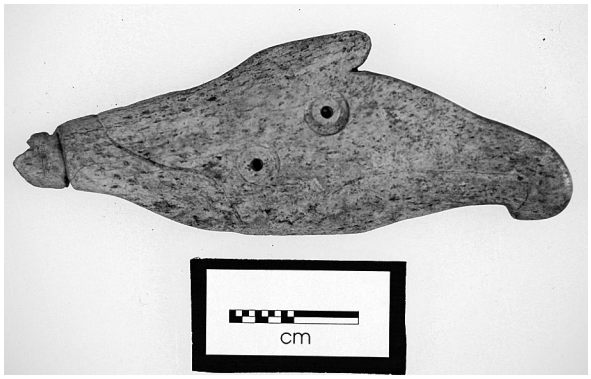

Figure 3-28. Bone pendant depicting Thunderbird and whale.

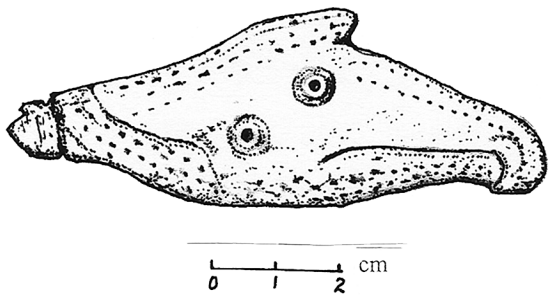

Fig. 3-29. Drawing of Thunderbird and whale pendant. The Thunderbird's head with its downturned beak extends to the right. The whale's snout, with an incised mouth line, is to the left, while its dorsal fin doubles as the crest on the head of the Thunderbird.

This beautifully carved pendant illustrates the vital importance of the Thunderbird and whale in Nuu-chah-nulth art and thought. The Thunderbird was the whaler of the supernatural realm, just as the Nuu-chah-nulth people were the whalers of the natural world. Nuu-chah-nulth oral traditions are replete with stories of these supernatural whalers and their prey, and both appear frequently in ethnographic artworks of all types from this region. Images of the Thunderbird and whale are ancient in Nuu-chah-nulth art, with some archaeological examples extending back perhaps as much as two millennia (McMillan 2000). This object also illustrates a common feature of Northwest Coast art known as "visual punning," by which elements of the design may have several meanings (such as the Thunderbird's beak also being the whale's tail).

This Thunderbird pendant came from the southwest corner of House 1, in an area of transition between the inside back corner and the shell deposit of the midden ridge. It is difficult to determine if it was deposited in the corner of the house, or was in the midden built up along the side, near the back wall. An age estimate of 1280 to 990 cal BP was obtained on the midden deposit, slightly deeper in the same natural stratum. However, materials of different ages could be incorporated in the midden ridge and the pendant likely dates to a somewhat later period during the house occupation.

Another artifact in this category is a highly polished stout object of land mammal bone, 3.7 cm in length and 0.7 cm in greatest width and thickness (Fig. 3-30, fourth from right). The bone has been ground away at the proximal end to form a 'neck' with a pronounced conical 'knob,' presumably for suspension, at the tip. The distal end is a curving wedge shape. It resembles a very small fishhook shank but has no provision for attaching a point. Classification as a pendant is somewhat conjectural.

The final three possible pendants are fragments from the proximal end (Fig. 3-30, right). Two are small, slender, flat bone sections that are notched on each side near the end to produce a knob, presumably for suspension. The third is a larger, slightly curving, flat section of sea mammal

Figure 3-30. Small decorated bone objects (left: incised objects; right: possible pendants).

bone, 1.5 cm wide at the break, with a small hole, 0.2 cm in diameter, drilled from each face near the rounded intact end. Similar small flat bone objects that have been notched or drilled for suspension came from the nearby sites of T'ukw'aa (McMillan and St. Claire 1992:52) and Ts'ishaa (McMillan and St. Claire 2005:54).

Other decorative items (7)

A tiny sculpture in sea mammal bone takes the form of a whale's tail (Fig. 3-31). The carving shows the graceful curve of the whale's flukes, with the central notch between them, although one fluke has partially broken away. Another break occurs across the narrow portion of the artifact, just below the flukes. As the depiction of the whale's tail would have been symmetrical, and over half remains, the total width across the tail of the complete object can be estimated at 1.2 cm.

The whale's tail is an ancient motif in Northwest Coast art (McMillan and Nelson 1989). In the Strait of Georgia region, cut-out bone figures in this shape have been recovered from Locarno Beach deposits, dating to about 2500 BP (Borden 1983:141). Images related to whales and whaling are relatively common in the sparse collection of decorated artifacts from excavated Nuu-chah-nulth sites (McMillan 2000). A large sea mammal bone cut-out figure in the form of the whale's tail came from the Barkley Sound village of T'ukw'aa (McMillan and St. Claire 1992:49).

Other decorative items include a small slender tapering bone object has been incised with numerous short diagonal lines, forming a herringbone pattern over all surfaces (Fig. 3-30, second from left). It is incomplete in length, having broken at the wider end; the remaining portion is 3.6 cm long. A second object is a thin flat piece of bone, probably scapula, that has been deeply notched around two of the three intact edges (Fig. 3-30, fourth from left). Its dimensions are 2.9 x 1.4 x 0.1 cm. The remaining four artifacts are characterized by incised parallel lines that encircle the object's width (Fig. 3-30). The stoutest consists only of one rounded end and a short section of the expanding sides, with two deeply carved grooves still remaining around the object. Another is a short curved bone segment, round in cross-section, that has two sets of three equally spaced parallel lines encircling the object. It has been cut at one end but is broken at the other; the fragment is 4.5 cm long and 0.6 cm in diameter. Another small split fragment also exhibits three equally spaced parallel lines across its width. The final object in this cat-

Figure 3-31. Small bone sculpture of a whale's tail.

egory is an elongated flattened piece of bone with parallel sides for much of its length, one bluntly pointed end, and one flattened end, although part of the latter has broken away. This artifact is 3.7 cm long and 0.7 cm wide. Three sets of four parallel incised lines encircle the artifact, with an additional two at the flattened end. No evident function can be discerned for any of these objects.

Bird bone tubes (11)

Eleven segments of bird limb bone show evidence of polish or wear at one end. In ten cases the wear is across a broken end that was snapped perpendicular to the long axis of the bone; only one example shows wear along an angular break. The diameter of the hollow tube at the worn end ranges from 0.4 to 0.7 cm, although two examples that have broken lengthwise would clearly have had larger diameters. Four bone segments could be identified to species and element: the right ulna of a Pelagic Cormorant (*Phalacrocorax pelagicus*), a gull (*Larus* sp.) ulna, a gull left humerus, and a goose (*Branta* sp.) radius.

Ethnographically, hollow bird bone tubes served a number of functions, including as drinking tubes and as drills. Sproat's (1987:63) observations of the Barkley Sound Nuu-chah-nulth in the 1860s included reference to use of a drill bit of hollow bird bone, a trait later confirmed by Drucker's (1951:79) informants at Alberni. What appears to be wear, rather than intentional fashioning, on these examples may support the idea that they were used as drills.

Polished rectangle (1)

A polished elongated bar of land mammal bone is complete, with measurements of 9.5 x 2.6 x 0.6 cm (Fig. 3-32, upper). All faces, sides and ends have been ground flat and straight, giving the object a rectangular outline and cross-section. It was found extending vertically from the house floor deposit.

Although the function of this object is uncertain, similar bone rectangles have been interpreted as net gauges (Stewart 1973:123). Dewhirst (1980:166-167) reports several polished bone rectangles from Yuquot, and tentatively suggests that some may have served as net gauges. A very similar artifact came from Ch'uumat'a (McMillan and St. Claire 1996:40, 42). Although Drucker's (1951:25) Nuu-chah-nulth informants denied the use of a gauge in net-making, such tools may have been employed in earlier times.

Prying tools (?) (2)

Two bone implements may have served as small tools for prying or a similar function (Fig. 3-32, centre and lower). One is a polished elongated rod of land mammal bone that has parallel sides and is oval in cross-section throughout its length. One end has been cut at an angle to produce a narrow, rounded, spatulate bit that exhibits considerable polish. The proximal end is rougher and appears to have been broken. This object measures 11.5 x 0.8 x 0.6 cm. The second artifact, based on a curving section of sea mammal bone, has flat faces and flattened sides that gradually converge to a rounded blunt point. This object has been ground to shape over its entire surface. Its dimensions are 11.3 x 2.5 x 0.3 cm.

Foreshafts (3)

All three artifacts in this category are fragmentary tapering segments of polished sea mammal bone (Fig. 3-33, lower). They have straight, gradually converging sides and are round to oval in cross-section. The largest comes to a blunt rounded tip at its intact end and is round in cross-section. It is broken at its base, but the fragment is 17.3 cm long and 1.7 cm in diameter near the base, although it is still expanding at the break. The second is a similar but smaller fragment from very near the tip end. It is oval in cross-section and is 1.6 cm in maximum width, although it is still expanding at that point. The third is a medial fragment of a larger and stouter example. It is oval in cross-section, with a maximum width of 2.1 cm.

Such implements were used as foreshafts on sealing or fishing harpoons. Although many ethnographic examples are of hardwood (Drucker 1951:19, 26; Koppert 1930:65), foreshafts of sea

Figure 3-32. Three miscellaneous bone tools (upper: bone rectangle; centre and lower: possible bone prying tools).

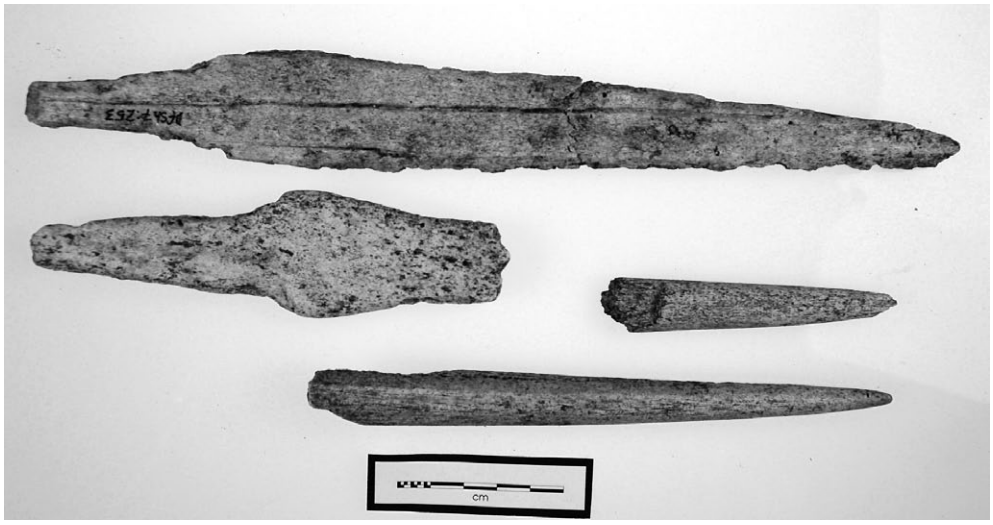

Figure 3-33. Whalebone tools (top: two possible lance heads; bottom: two foreshaft fragments).

mammal bone are found at most excavated Nuu-chah-nulth sites and are considered one of the identifying features of the West Coast culture type (Mitchell 1990:356). In Barkley Sound, similar artifacts came from Ts'ishaa (McMillan and St. Claire 2005:52) and a complete example, 35 cm in length, was found as a grave inclusion at Ch'uumat'a (McMillan and St. Claire 1996:23).

Bark beaters (2)

Both are fragmentary, consisting of the rectangular grooved striking surfaces of whalebone bark beaters (Fig. 3-34). One is intact at one end and both sides. It measures 8.8 x 3.8 x 2.8 cm. Six ridges formed by five deeply incised grooves run its length. The other is similar, but is intact only along one side, so is incomplete in both length and width. Three deeply incised grooves remain along the length of this fragment.

Figure 3-34. Whalebone bark beater fragments.

Whalebone bark beaters are one of the characteristic traits of the West Coast culture type (Mitchell 1990:356). A complete example, with a long handle ending in a rounded knob, came from T'ukw'aa (McMillan and St. Claire 1992:51–52; McMillan 1999:174) and two fragments of the grooved striking surfaces came from Yuquot (Dewhirst 1980:163). Ethnographically, such tools were used to pound cedar bark in order to soften and separate the fibrous strips in preparation for weaving into such items as robes, capes and hats. Drucker (1951:94) and Koppert (1930:42–43) describe their use by the Nuu-chah-nulth.

Whalebone wedges (8)

All artifacts in this category appear to be based on split sections of whale ribs, resulting in a curved outer surface and a flat inner face (Fig. 3-35). Six are complete, whereas one is split in width and missing its bit and the shortest is missing a portion of the proximal end. The sides are roughly straight and parallel for most of the object's length. Although several show adze or chisel scars along the sides, others have relatively little modification from the split rib. Most have rounded bits, which tend to be quite thick. In two cases, segments of the bit have been split off through use, although the object remained functional. Evidence of battering is visible on the proximal ends of most examples. Lengths of the complete wedges range from 16.0

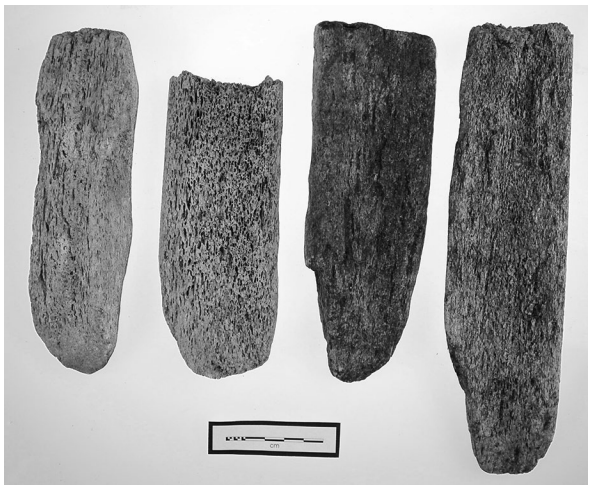

Figure 3-35. Whalebone wedges.

to 23.2 cm (mean = 19.0; S.D. = 2.73); widths are between 4.7 and 7.3 cm (mean = 5.9; S.D. = 0.53) and thicknesses between 1.8 and 2.7 cm (mean = 2.3; S.D. = 0.32).

Wedges played a vital role in the woodworking technology of all ethnographic groups along the Northwest Coast. Bone and antler examples are found at most archaeological sites in this region. Most wedges, however, would have been of wood, which has disappeared from the archaeological record at the vast majority of sites. Wedges were vital components of the Nuu-chah-nulth carpentry kit, but ethnographic sources describe them as made from hardwood such as yew (Drucker 1951:78; Koppert 1930:37). The predominance of wood is confirmed from the waterlogged deposits at Ozette, where wedges were one of the most common tool types recovered; wooden wedges were by far the most abundant, followed by whalebone, then by antler (Gleeson 2005:257). The whalebone wedges from Huu7ii resemble the Ozette examples (Gleeson 2005:258). Such implements are also found in other Nuu-chah-nulth sites, including the Barkley Sound village of Ts'ishaa (McMillan and St. Claire 2005:55).

Whalebone stakes (2)

One long, relatively slender, complete implement of whalebone is classified as a stake rather than a wedge as it comes to a thick blunt point at one end (Fig. 3-36, upper). The sides are nearly straight and show evidence of having been worked to shape. Small indentations from each side at the butt end possibly served to hold a tied grommet of bark or root. Evidence of battering is visible on the butt end. This object's dimensions are 27.1 x 5.1 x 2.5 cm.

A smaller whalebone object has relatively straight sides gradually converging to a rounded tip, with a flat butt end (Fig. 3-36, lower). It is complete, with dimensions of 15.7 x 3.4 x 2.0 cm. Its use as a stake is evident from its context, as it was found in the house floor in a vertical position with the bluntly pointed end down.

Whalebone blanks (18)

Ten whalebone blanks of similar size were found in the house floor deposit in a concentrated cluster, with some stacked on others and the long axes of most oriented in the same direction. This concentration was exposed and recorded in the field as a feature (F51; see Fig. 4-8); each object was then given a separate artifact number as it was removed. Although some of the blanks were in poor condition as found, laboratory stabilization and repair has meant that most are complete or nearly so, and that measurements in three dimensions can be obtained for each object. All retain the curved outer surface of the whalebone on the dorsal face. The most fully formed are rectangular bars, although others are more irregular in shape (Fig. 3-37). Six are constricted in width at one or both ends. Evidence of adzing to shape is visible on the sides or

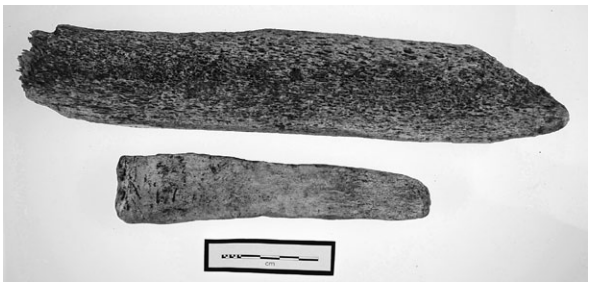

Figure 3-36. Whalebone stakes.

Figure 3-37. Whalebone blanks.

ends of most examples. Their similar size, as well as their occurrence together, suggests that all were intended for the same purpose. Lengths range from 11.9 to 15.6 cm (mean = 13.7; S.D. = 0.89), widths from 3.2 to 5.5 cm (mean = 4.2; S.D. = 0.51), and thicknesses from 1.6 to 3.0 cm (mean = 2.3; S.D. = 0.35).

The remaining eight blanks, found separately across the house floor excavation, are more variable but resemble those described above. Three complete examples (measuring 21.8 x 5.1 x 1.8, 13.2 x 2.6 x 0.9 and 13.8 x 4.2 x 1.8 cm) are well-shaped elongated rectangular bars in form. Three others are similar but incomplete. Two additional complete blanks (21.6 x 6.3 x 2.0 and 12.0 x 3.9 x 1.2 cm) have marked constrictions in width at one end.

The artifacts in this category reflect the importance of whalebone as a raw material in the technology. These prepared preforms were ready for further work to turn them into a variety of functional objects. Many (such as the ten blanks found together) are of suitable size for such tools as the large slotted harpoon valves used in sea mammal hunting.

Modified whale bulla (1)

One whale bulla (the dense bone of the inner ear in cetaceans) appears to have been modified. The thinner outer surface has been chipped away, leaving only the hard, dense bone at its centre. A series of apparent flake scars runs along the ridge where the thinner bone was removed, although this could possibly result from natural damage. This object could have served as a crude scraping tool. Its dense base fits nicely in the palm of the hand and provides weight for heavy use.

Very similar implements were found in some number at Ozette, where it was first suggested that these were crude scraping tools (Fisken 1994:375–376). In Barkley Sound, nearly identical artifacts came from the adjacent sites of Ts'ishaa and Himayis (McMillan and St. Claire 2005:56–57, 99).

Lance heads (2)

Two large whalebone artifacts have long, straight, gradually converging sides, a slight shoulder on each side toward the base, and a long tapering tang or stem (Fig. 3-33, upper). One complete example is 28.1 cm long, 3.5 cm in greatest width (just above the tapering stem), and 1.0 cm thick. The faces are flat, with slight bevelling to the sides. The sides are roughly formed, with chop marks still evident along one long side and the tang. The second object, consisting of the basal portion along with intact shoulders and part of the shaft, is very similar except for somewhat more pronounced shoulders above the basal tang. On the dorsal face of the complete artifact a deeply incised straight line runs almost the full length, from the middle of the base to near the tip, where it goes off one side. Another incised line extends for a shorter distance near one side. Perhaps this object was being sectioned into a narrower implement at one point.

Classification as lance heads is speculative. Two similar implements came from Ts'ishaa, where they were described as "roughed out preforms for large harpoon or lance heads" (McMillan and St. Claire 2005:56).

Knobbed whalebone club (1)

This roughly-made whalebone object is 27.4 cm in length, 5.9 cm in maximum width, and 2.0 cm in maximum thickness (Fig. 3-38). It appears to be complete; although much of one side has split away, this may have occurred prior to the production of this rough implement. Deeply carved grooves along one edge for about two-thirds of its length have produced four pronounced rounded knobs on one side. The lower third has been shaped to make a serviceable grip area. This presumably is a simple club, although it seems rather thin and fragile for such a purpose.

Spatulate whalebone implement (1)

An elongated section of whalebone cortex has roughly-shaped, straight, parallel sides and one fairly rough end. The other end has been worked to a smooth, curving, spatulate surface (giving the object the appearance of a large tongue depressor). Its dimensions are 16.0 x 3.9 x 0.7 cm.

Notched whalebone (1)

A thin fragment of sea mammal bone has been ground flat across what remains of both faces. One edge has also been ground flat. The other edge, which curves markedly, has seven closely spaced

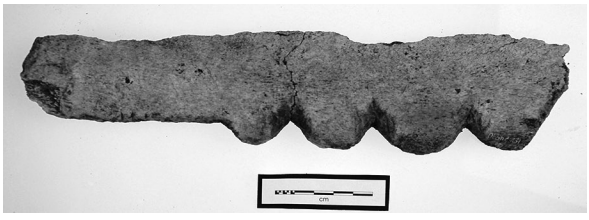

Figure 3-38. Knobbed whalebone club.

incised notches along part of its length. Below the notches and extending to the break, the object has been bevelled from both faces to produce a knife-like edge. It is too incomplete to assess function.

Miscellaneous worked whalebone (29)
Three sections of whale ribs retain the natural articular surface at one end but have been adzed at the other to reduce the thickness sufficiently so the bone could be snapped. In one case deeply incised lines extend at an angle across the bone at the opposite end as the adzing but were not cut through; numerous deep cut marks are evident across the surface of another. Two smaller segments of whale rib also show evidence of chop marks at one end, where they were snapped. All appear to be waste products from a preliminary stage in artifact manufacture. An additional rib fragment has cuts and abrasion along one edge, while two others show cut marks and some grinding to shape. A very large slab of unidentified whalebone appears to have been worked to produce a smooth curving end, but is too incomplete to assess further.

A large segment of whale vertebral disk has been ground on its porous inner surface, producing a bevelled knife-like edge around the curved outer surface. A small fragment of vertebral epiphysis has been ground flat around its curved outer edge. No function is evident for these objects.

The remaining 18 objects are flat segments of large sea mammal bone. Most are elongated bars of bone cortex that show some evidence of sectioning or other intentional shaping. Most would represent preliminary stages in artifact manufacture.

Miscellaneous worked bone (84)
A large wapiti (elk; *Cervus elaphus*) metapodial has been deeply sawn around the bone near its distal end and then snapped. A similar example is from the proximal end of a smaller wapiti metapodial. A considerably smaller third example is the cut end of a deer (*Odocoileus hemionus*) metapodial. In all three cases, only the cut articular end, which was probably discarded during the process of manufacturing an artifact from the bone shaft, remains. Ungulate metapodials were favoured raw materials for the production of small woodworking tools such as chisels.

The remaining objects are fragments. Most are segments of land mammal bone, although a few are sea mammal and one is bird. All show some evidence of grinding and polishing, cutting, or other modification. Many are fragments of artifacts that are too incomplete to classify further. Others, including a few quite large bone segments, appear to be unfinished or preliminary stages in tool manufacture.

Artifacts of Antler

Wedges (2)
A deer antler beam section appears to have been cut at an angle at one end to form a small wedge. Although damage has removed most of the bit, the artifact is otherwise complete (length = 12.9; width = 2.6; thickness = 1.9 cm). The second example, a bit fragment, is based on a section of split antler. The object has broken lengthwise and is also incomplete in length, but a portion of one straight side and most of a curving bit remain. Although only a small portion is present, it seems large enough to have come from an elk rather than deer.

Worked antler (12)
Although none in this category are finished artifacts, all appear to be the result of artifact manufacture. Two beam sections have been sawn from both sides along their length and then snapped, leaving about half the original width of the antler. One has also been sawn and snapped to length, while the other shows shallow incised lines running its length on the outer surface, presumably as preliminary steps in further sectioning the object. A smaller fragment also shows evidence of sawing from each side and snapping. Seven other artifacts are sections of antler cortex that have been worked into "blanks" for artifact manufacture. Two tines, one quite large and one just the tip, have been cut and snapped off; presumably this was done during artifact manufacture and these are the discarded ends. All antler pieces are relatively small and appear to have come from deer.

Artifacts of Tooth

Fishhook shank (1)
A finely-made fishhook shank preform, complete at 7.5 cm in length (width at base = 1.6 cm; thickness = 0.5 cm), has been carefully shaped from a large tooth, most likely sea lion (Fig. 3-39). A small amount of enamel is still visible at the proximal end. The object has been extensively worked, with grinding striations and polish covering all surfaces. The sides are flattened and the shank is rectangular in cross-section. One side projects out at the base, providing an area for a sharp narrow bone point to be tied and baited. A shallow notch near the base of the opposite side provides a slight lashing

Figure 3-39. Fishhook shank of large tooth.

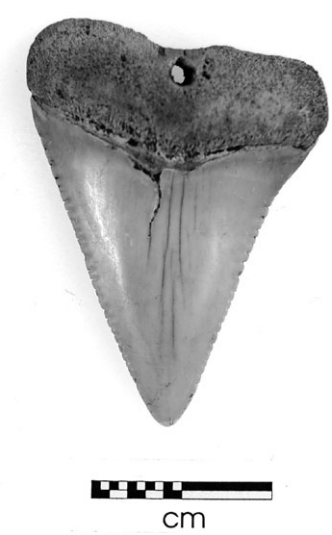

Figure 3-40. Shark tooth pendant.

spur. The shank is fully formed, except for carving out the groove of the point bed and any provision for line attachment at the proximal end. Fishhook shanks of bone and stone are relatively common in Nuu-chah-nulth sites, although this large example of tooth appears to be unique.

Shark tooth pendant (1)

A tooth from a great white shark (*Carcharodon carcharias*) has been drilled to create a pendant, possibly as an ear ornament (Fig. 3-40). The tooth is 3.3 cm across its top and 4.2 cm from top to tip. It is triangular in shape, with natural serrations along each sharp side. The only modification is the drilled hole, ca. 2 mm in diameter, through the root near the upper surface. It was found in the lower house floor deposits, in the central portion of the house near a large hearth feature.

No similar artifacts have been reported for Nuu-chah-nulth sites. Nor does Drucker (1951), in his classic ethnography of the Nuu-chah-nulth, mention the use of shark teeth. However, Cook (1784:299), at Nootka Sound in 1778, inferred the presence of large sharks in the sound, "for the natives have some of their teeth in their possession." In his Culture Element Distribution study, Drucker (1950:190) lists shark tooth pendants worn as ear ornaments for only the northern Northwest Coast groups (the Tlingit, Haida, Tsimshian, and Haisla). Perhaps the most complete ethnographic account is provided by Emmons (1991) for the Tlingit. Emmons describes such objects as "the most highly valued earring, possessed only by chiefs" (p. 243), although elsewhere (pp. 244, 315) he refers to women wearing shark tooth earrings. His drawing of a shark tooth pendant (p. 243) is almost identical to the HuuZii specimen. These items were in such demand that the characteristic shape was sometime copied in other materials (Emmons 1991:173). Emmons (1991:243) states that such objects, like other decorative materials such as dentalium and abalone shell, were "procured in trade from the south, at great cost."

White sharks are found along the Pacific coast as far north as the islands of southeast Alaska (Hart 1973:33; Castro 1983:89). They frequently venture into shallow water close to land (Castro 1983:89). The Nuu-chah-nulth were well aware of the great sharks that came into their waters. Enormous sharks, capable of devouring men and canoes, were thought to live in deep water locations such as at the base of cliffs, and aspiring war chiefs sought out such places for bathing rituals (Drucker 1951:154, 170). A shark tooth pendant of this size would have been a potent symbol of power.

Worked canines (6)

Two canines may have served as pendants. A large sea lion canine has been extensively modified, with grinding striations covering its entire surface (Fig. 3-41). The most extensive modification is at the root end, where it has been deeply constricted to produce a pronounced knob, presumably for suspension. It is 5.5 cm in length. The second example is a dog canine tooth that has been gouged out on one side at the tip end, near the base of the enamel. This damage may have occurred during the life of the animal, or it may be a deliberate

Figure 3-41. Sea lion canine pendant.

Figure 3-42. Split canine teeth.

modification for suspension as a pendant. It is 3.6 cm in length.

The remaining four canines have all been split lengthwise, from the root almost to the enamel tip, which curves away from the split (Fig. 3-42). In two cases, the split surface has been ground and polished; on one of these the grinding extends to the outer surface as well. All four are roughly the same size, ranging from 2.8 to 3.4 cm in length. However, they come from different species: two are dog, one is harbour seal, and one is fur seal. Similar split and ground canine teeth came from T'ukw'aa and Ch'uumat'a (McMillan and St. Claire 1992:51; 1996:43), as well as Yuquot (Dewhirst 1980:314-316). Their function is not evident, although they may be at an early stage of manufacture and would eventually have been perforated as pendants.

Polished tooth section (1)

A small polished disk appears to be from a section of tooth. Although only a portion remains, it appears to have been circular or oval in shape. The top and bottom surfaces are flat and highly polished, whereas the curving edge has been ground and polished in facets. Based on the extant portion, the diameter of the object was about 1.7 cm; the thickness is 0.4 cm.

Beaver incisor tools (2)

One beaver (*Castor canadensis*) incisor is missing the root end, which has been snapped off, while the distal end has been ground to a flat surface. This segment is 3.2 cm in length. Another is a small segment of beaver incisor that has been split lengthwise. Although beaver are available on the Vancouver Island mainland, they are not found in the islands of Barkley Sound, indicating that these objects had to have been brought into the site, presumably for use as tools. The complete artifact is typical of examples found at the Ozette site, which were snapped, the root end discarded, and the occlusal surface ground flat (Gleeson 2005:287). They were then hafted as small woodworking implements.

Drucker (1951) does not mention beaver tooth knives in his ethnography of the Nuu-chah-nulth, and specifically denies them for the Nuu-chah-nulth in his Culture Element Distribution study (1950:183). However, beaver incisor tools have been found in small numbers at most excavated Nuu-chah-nulth sites, such as Yuquot (Dewhirst 1980:133), Hesquiat Village (Haggarty 1982:122), T'ukw'aa (McMillan and St. Claire 1992:51), and Ts'ishaa (McMillan and St. Claire 2005:65–66). Two beaver tooth knives were found intact in their wooden hafts in the preserved house deposits at Ozette (Gleeson 2005:288), demonstrating Makah use of such woodworking tools in the late prehistoric or protohistoric period.

Artifacts of Shell

Mussel shell tools (2)

A small nearly complete mussel shell celt is missing only part of one side (Fig. 3-43). The slightly curving bit has been bevelled by grinding from the ventral face only. The poll has been ground flat. The dorsal surface of the shell also shows evidence of grinding. The length from bit to poll is 5.0 cm; 4.0 cm remains of its width but the original implement would have been somewhat wider. It would have been serviceable as a small woodworking tool, such

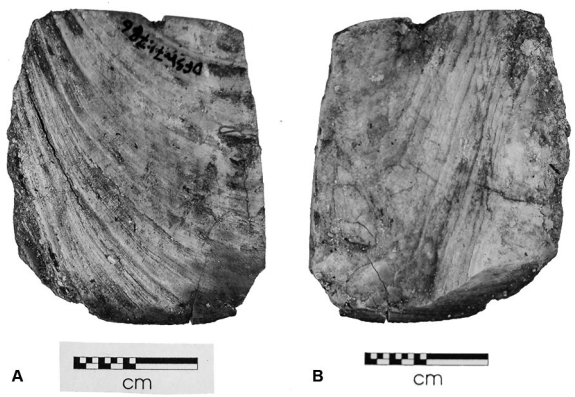

Figure 3-43. Mussel shell celt (dorsal and ventral faces)

as a chisel. The second artifact, a fragment of mussel shell that has been ground flat along one edge, is too incomplete for any function to be evident.

Ethnographically, the widespread availability of large mussel shells made them a favoured raw material for a variety of tools, particularly knives and celts. Sproat (1987:63) describes the use of sharpened mussel shells as woodworking tools by the Nuu-chah-nulth of Barkley Sound, as does Swan (1870:36) for the Makah. Mussel shell celts and knives are among the defining features of the West Coast culture type (Mitchell 1990:356), and they have been recovered from almost all excavated Nuu-chah-nulth and Makah sites.

Dentalium shell bead (1)

One very small dentalium bead was found during fine-screening a column sample. The tubular white shell appears to have been cut at each end. The resultant bead is 4.2 mm long and 2.7 mm in diameter.

Dentalium shells, strung as beads in necklaces and bracelets, and as ear or hair ornaments, were in widespread use among the Nuu-chah-nulth and Makah (Drucker 1951:139–140; Swan 1870:13, 16). Dentalia were obtained from deep-water beds off the west coast of Vancouver Island, and were highly valued as a trade commodity. Only small numbers, however, have been excavated from Nuu-chah-nulth sites. Six came from Ts'ishaa (McMillan and St. Claire 2005:64), while Yuquot, T'ukw'aa and Ch'uumat'a yielded only one or two examples each. In Makah territory on the Olympic Peninsula, small numbers of dentalium shells were found at Hoko River Rockshelter (Croes 2005:177) and Tatoosh Island (Friedman 1976:156). Only in the unique circumstance of Ozette, in the well-preserved floor of a high-status Makah house, do we find evidence of substantial quantities of dentalium in a west coast site (Wessen 1994:353).

Shell disk bead (1)

A small shell disk bead was recovered during fine-screening a column sample. This flat, circular, white bead appears to be made from clamshell. It is 6.5 mm in diameter and 1.6 mm thick. A small circular hole, 1.0 mm in diameter, has been drilled through the centre from each face. A similar small clamshell disk bead came from Ts'ishaa (McMillan and St. Claire 2005:64).

Artifacts of Wood

Points (2)

Two small pointed wooden objects show signs of having been whittled to shape (Fig. 3-44). Both small points (or possibly bipoints) are roughly circular in cross-section and have their greatest width (0.4 and 0.5 cm) near the centre, from which they taper to both ends. One is nearly complete (at 3.7 cm length), but is missing a small portion at each end; the other (at 4.1 cm length) is missing a more substantial portion of one end. Both are blackened by charring, which likely is responsible for their preservation. One was found in a patch of shell and ash within the black silt of the house floor, while the other came from an area of burned shell at the upper surface of the shell layer that underlies the house floor. Similar small wooden

Figure 3-44. Small charred wooden points.

points have been reported from waterlogged deposits, such as at the Ditidaht site of Wikpalhuus (Eldridge and Fisher 1997:57), but have not generally been preserved in other contexts.

Artifacts of Stone

Stemmed ground slate point (1)
This finely-made projectile point of black slate is largely complete (Fig. 3-45, right). It is 3.9 cm in length and 0.3 cm thick. One corner has broken away, but extending the straight side suggests that the complete object was about 2.3 cm in maximum width. The sides are straight and bifacially bevelled, converging to a sharp tip. Deep triangular notches cut into the basal corners have produced a slightly contracting stem. The shape and size of this object suggest that it tipped an arrow, although Drucker's Nuu-chah-nulth informants denied the use of stone-tipped arrows (1950:186).

Small ground stone points are absent from the Yuquot and Hesquiat assemblages, and are not considered part of the West Coast culture type. However, they occur in small numbers at the excavated Barkley Sound sites of T'ukw'aa, Ch'uumat'a, and Ts'ishaa (McMillan and St. Claire 1992, 1996, 2005), although none closely resembles the stemmed point reported here. Ground stone points are more abundant in the Shoemaker Bay assemblage (McMillan and St. Claire 1982) and at sites in the Strait of Georgia region (Mitchell 1971).

Figuer 3-45. Ground slate artifacts (left: knife; right: stemmed projectile point).

Fishhook shanks (4)
Two finely made complete stone shanks were found in the same unit and level, only a short distance (about 24 cm) apart in house floor deposits (Fig. 3-46). A very slender example, of dark grey slate, has flattened sides and a rectangular cross-section. A well-defined lashing spur is at one side of the base. The projecting flange at the other side of the base has a narrow point bed along its edge that would hold only a small bone point. Two semi-circular notches at each side of the flat proximal end would have served for line attachment. It is 6.0 cm in length and 0.4 cm in thickness. The second example, of reddish-brown slate, is 6.4 cm long and 0.7 cm in thickness. It is somewhat stouter and is a rounded rectangle in cross-section. Two grooves for line attachment encircle the proximal end, while the distal end is flared out in the characteristic shape, with a point bed at one edge and lashing spur at the other.

Two fragmentary shanks are similar to the complete examples. One, of reddish-brown slate, is the proximal end, including most of the shaft. It is a flattened oval in cross-section. Two notches on one side and one on the other have been cut into the sides just below the flat proximal end, presumably for line attachment. A narrow vertical groove along one side from the notch to the flat end may also have held the line. The fourth example, of brown fine-grained sandstone, is the distal end of the shank, with much of the shaft. The shaft is a flattened oval in cross-section, while the flat distal portion is rectangular, with a well-defined lashing spur and narrow point bed.

Figure 3-46. Stone fishhook shanks.

Ethnographically, stone fishhook shanks were part of specialized trolling hooks, particularly for salmon, with the stone shank also serving as a weight. Such artifacts are found at almost all excavated Nuu-chah-nulth and Makah sites, including all the Barkley Sound villages, where they tend to occur in relatively late deposits (McMillan 1999:172). They are a characteristic feature of the West Coast culture type (Mitchell 1990:356).

Celts (2)

One complete large celt has been formed from a split pebble of hard black slate (Fig. 3-47). The dorsal face has a naturally smooth surface, although fine grinding lines are evident. The split ventral face shows considerable grinding and polish over its high points. Grinding from both faces along one end has produced a wide curving bit, 5.5 cm in length. Numerous small flakes removed along the bit indicate use damage. A ground bevel from the ventral face runs from the bit along much of one side. At the other end, the poll is rough and irregular. Dimensions are 8.3 x 7.4 x 1.9 cm.

An incomplete second example is also from black slate. One surface has been ground flat and smooth. One straight side has been sawn and ground perpendicular to the flat surface. A steep-angled bevel along one end has produced a straight bit that shows impact damage along its length. Measurements for this fragment are 8.4 x 4.4 x 0.9 cm. However, it has been split in thickness and is incomplete in all dimensions.

Small rectangular stone celts are reported for Yuquot (Dewhirst 1980) and Hesquiat Village (Haggarty 1982), leading Mitchell (1990:356) to list them as one of the characteristic traits of the West Coast culture type. However, they are not common at the Barkley Sound village sites. No intact stone celts were recovered from Ts'ishaa, although three fragments of ground and polished black slate were interpreted as possible celt preforms (McMillan and St. Claire 2005:60). No stone celts (with the possible exception of a reworked greenstone implement) are included in the substantial assemblage from T'ukw'aa (McMillan and St. Claire 1992). Stone celts are more abundant at Ch'uumat'a, but all come from deposits that predate the other village sites (McMillan and St. Claire 1996:26–29, 53). By the time House 1 at Huu7ii was occupied, mussel shell celts had apparently largely replaced those of stone in Barkley Sound. The irregularly shaped slate example discussed here is an exception, but differs considerably from the well-shaped rectangular examples of earlier times. It does, however, resemble an example reported for Ozette (Gleeson 2005:246).

Net weight (1)

A flattened oval cobble of fine-grained sandstone has a perforation that would make it serviceable as a net sinker (Fig. 3-48). The object is 12.6 x 8.0 x 1.9 cm. A hole, 2.1 cm in diameter, is asymmetrically placed, toward one end of the artifact. The hole appears to have been formed by pecking and grinding from each side, and has a smooth flattened interior surface.

Such objects are rare in Nuu-chah-nulth sites. Dewhirst (1980:222–225) reports considerable numbers of perforated sandstones from Yuquot

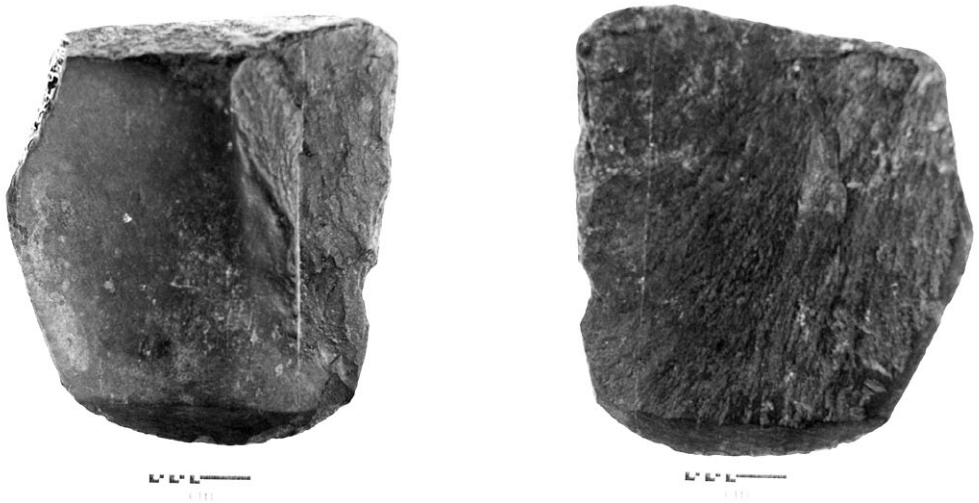

Figure 3-47. Stone celt (dorsal and ventral faces).

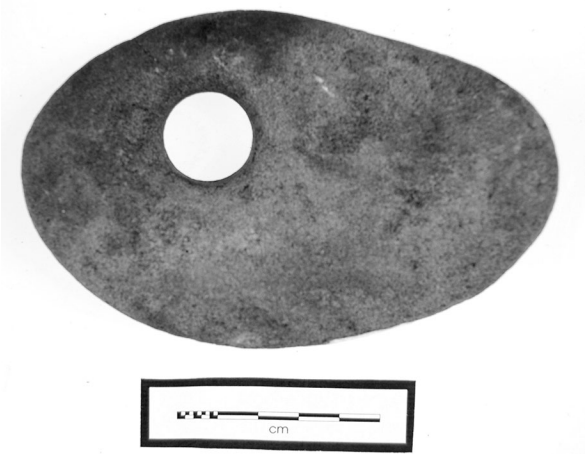

Figure 3-48. Stone net weight.

that resemble the Huu7ii example, although the holes were produced naturally through burrowing by piddock clams. Such holes are distinguishable by their straight walls, rather than the bifacial indentations on the Huu7ii example. Dewhirst argues that these were collected and brought into the site for their utility as sinkers and similar items. Another small example came from T'ukw'aa (McMillan and St. Claire 1992). Ethnographically, net sinkers were simply beach stones lashed with cedar withes (Drucker 1951:22–23), which makes them unrecognizable in sites where such materials are not preserved.

Chipped pebble (*pièce esquillée*) (1)
A small beach pebble of fine-grained metamorphic rock has been split lengthwise by bipolar percussion. One end shows only the impact scar from the initial blow. The other end has had extensive small flake removal from both faces, producing a straight edge. The object's dimensions are 4.0 x 2.8 x 0.8 cm.

Such items are often referred to in the archaeological literature as *pièces esquillées*, and may have served as small wedges or cores. They tend to occur in earlier deposits at west coast sites. Two such flaked pebbles came from Ch'uumat'a, from deposits dating to 3500 BP or slightly earlier (McMillan and St. Claire 1996:26). Six small "flaked stone wedges" came from early levels at Yuquot (Dewhirst 1980:125–128). They also occur in small numbers in late period sites: one came from T'ukw'aa (McMillan and St. Claire 1992:44). They are more abundant in Makah territory, such as at the Ozette midden trench (McKenzie 1974:121) and the Hoko River Rockshelter (Croes 2005:200–201).

Ground slate knife (1)
This is a large fragment of an implement made from a thin, flat, irregular piece of dark grey slate (Fig. 3-45, left). It has been ground smooth on both faces, and has been bifacially bevelled along one curving end to produce a knife edge. It is incomplete in both length and width, with dimensions of 9.3 x 5.7 x 0.3 cm.

Although Drucker's Nuu-chah-nulth informants denied the use of ground slate for cutting edges, he speculated that ground slate knives were probably used in prehistoric times (Drucker 1951:91). However, such tools are almost unknown for excavated Nuu-chah-nulth villages of this age. In Makah territory they are reported for the Ozette midden trench (McKenzie 1974:132) and the Hoko River Rockshelter (Croes 2005:195). Others were found in the waterlogged deposits of the Ozette house, three still in their cylindrical wooden handles (Gleeson 2005:284).

Ground schist (13)
All objects in this category are fragments of schist, ranging from green to grey, that show some evidence of grinding. One nearly complete artifact, measuring 11.7 x 2.3 x 0.8 cm, is an elongated bar with one long edge bifacially bevelled to produce a straight knife surface for its entire length. A fragmentary piece of green schist has a straight edge bevelled from one side, but this would not have been a serviceable knife edge. In other cases, grinding has produced flat faces or sides. A few show only small, flattened facets from grinding.

As neither schist nor slate are available on the islands of Barkley Sound, such materials would have to have been obtained from sources elsewhere on western Vancouver Island. Wilson (2005) notes possible source areas as the rocks of the Ucluth Formation to the northwest of Barkley Sound or the Leech River area to the southeast. Additional unmodified pieces of schist, including a large block, were collected during excavation and may be raw material or blanks for tool manufacture.

Sandstone saw (1)
A flat section of sandstone, measuring 9.6 x 4.6 x 0.6 cm, is incomplete in length and width. Both faces are flat, although only one has been ground smooth. The long intact edge has been bifacially bevelled to produce a straight surface that would be serviceable as a saw (Fig. 3-49).

Sandstone saws have been reported for several Nuu-chah-nulth sites, including Yuquot (Dewhirst

Figure 3-49. Sandstone saw.

1980), Hesquiat Village (Haggarty 1982), and Ch'uumat'a (McMillan and St. Claire 1996).

Abrasive stones (100)

Abrasive stones are the most common of the stone artifacts, making up 64.9% of the total for that category and 10.4% of all artifacts from the site. Most examples are fragmentary, hindering any attempt at classification. All are of sandstone, ranging from very fine-grained to quite coarse-grained. All relatively intact examples appear to be a size that could be held in the hand during use, although at least one is at the upper range for such an attribute. The fragmentary nature of most specimens prohibits definite statements on size.

Only eight artifacts are considered complete. Of these, five are large rounded sandstone cobbles, with both faces flattened through use. Edges may also be somewhat flattened but tend to be more rounded than the smaller shaped examples that have edges ground perpendicular to the faces. One exhibits traces of a reddish-brown material that may be remnants of red ochre at several points on the surface of one face. Another has an area of pitting at the centre of one face, indicating possible use as an anvil stone. These objects are generally larger and sturdier than others in the category, which has contributed to their intact state. All five are similar in size, with measurements of 14.6 x 11.6 x 1.8 cm, 14.7 x 10.1 x 2.2 cm, 15.1 x 8.1 x 2.0 cm, 15.7 x 10.2 x 3.7 cm, and 17.3 x 11.0 x 2.3 cm. The remaining three complete examples are smaller and more extensively shaped. A rectangular abrader, measuring 8.9 x 7.3 x 2.1 cm, may have continued in use after breaking in length as one short edge shows some polishing over a broken surface. Another (5.0 x 4.2 x 1.4 cm) has two flat faces and two converging long sides. The third (5.7 x 5.6 x 1.2 cm) is almost square in shape, with rounded corners.

At least 40 abraders can be classified as "shaped," as indicated by having at least a portion of one straight flat edge (Fig. 3-50). However, many are fragmentary medial pieces that lack any intact edges, so this number would have been substantially higher. Only two artifacts show evidence of having been sawn to shape along one side. Four shaped abraders take the form of an elongated bar. Another carefully shaped fragment has a curving indentation at the intact end and along each side near that end, resulting in this portion of the artifact resembling a fish tail (Fig. 3-50, lower right).

Most abraders (63%) show evidence of wear on two flattened faces. However, only 40% have roughly equal wear on both faces while a significant portion (23%) exhibit only relatively slight wear on one of the faces. Although the remainder (37%) show wear on one face only, this figure is certainly too high as many have split in thickness. In the great majority of cases, wear has resulted in an essentially flat surface. However, 13 examples have shallow dished depressions worn into the length of one face. Two others have shallow narrow grooves, presumably from sharpening small objects such as bone points.

The abundance of abrasive stones in this assemblage reflects their obvious importance in the technology. Such tools were essential in woodworking, as well as in the production of stone, bone, antler, and shell artifacts that were ground to shape. Drucker (1951:77, 79) notes the presence of such objects in the ethnographic carpentry toolkit, referring to "grindstones of sandstone for finishing" that were "small flattish slabs … picked up here and there." Archeologically, such implements are found in abundance at all excavated Nuu-

Figure 3-50. Shaped abrasive stones.

chah-nulth sites and are a characteristic feature of the West Coast culture type (Mitchell 1990:356; McMillan 1998a:879). Their relative importance at Huu7ii (10.4% of the artifact total) is somewhat higher than at other major excavated Barkley Sound sites, such as Ts'ishaa (7.9%; McMillan and St. Claire 2005:60) and T'ukw'aa (4.3%; McMillan 1999:172). However, that is far below their numbers at Yuquot and Hesquiat Village, where they comprise roughly half the total artifact assemblage (McMillan 1999:172), or Shoemaker Bay, where they form over a third of the total (McMillan and St. Claire 1982:124).

Large chipped slab (1)
One large sandstone slab measures approximately 56.5 x 26.0 x 4.7 cm. It exhibits pronounced flake scars along the length of one long side. For part of that length the flaking is bifacial, leaving a central ridge. The function of this object is not known.

Hammerstones (11)
All examples are rounded beach cobbles that show evidence of pitting on at least one end, suggesting use as hammerstones. All are of a size that could be used while held in one hand, although the largest are near the upper limit for such use. Two size categories can be distinguished.

Six fall into the small category. They range from 67.85 g to 637.1 g in weight (mean = 237.6 g) and 5.3 cm to 10.7 cm in maximum dimension (mean = 7.4 cm). The smallest, of vein quartz, shows a small area of pitting at one end only. Three gneiss cobbles are similar in size; of these, one shows significant pecking at one end only, whereas the other two show battering at one end and on one side. A larger cobble, of gabbro, has slight pecking at one end. The largest, of diorite, has extensive battering, producing flattened facets, along both sides near one end.

Five others are substantially larger. They range from 1269.4 g to 2416.5 g in weight (mean = 1981.3 g) and 12.6 cm to 19.2 cm in maximum dimension (mean = 16.4 cm). All are gneiss cobbles. Three show pitting at one end only. Another, in addition to the pitting at one end, has a battered area on the middle of one face, indicating that it was also used as an anvil stone. The largest object shows evidence of heavy battering, removing both ends of the elongated cobble.

Hammerstones are simple expedient tools that could be used for a wide range of tasks. For example, Drucker (1951:77) mentions the ethnographic Nuu-chah-nulth practice of laboriously producing stone mauls by pecking them to shape with any suitable hard cobble from the beach. Jewitt (1967:70) observed such use at Nootka Sound during his 1803 to 1805 captivity, stating, "Instead of a mallet for striking [the] chisel, they make use of a smooth round stone, which they hold in the palm of the hand." Such simple tools are found in archaeological assemblages all along the Northwest Coast.

Anvil stone (1)
A large cobble of hornblende gneiss weighs 8152 g (dimensions 26.4 x 17.6 x 11.4 cm). Extensive battering, presumably through use as an anvil, has produced two deeply pitted patches on one face. It was found on the house floor, sitting on a large flat rock, in association with a concentration of large boulders and adjacent to a large hearth feature.

Gaming piece (?) (1)
A spherical marble-sized pebble, 1.9 cm in diameter, has a somewhat polished surface. It appears to have been intentionally shaped into a perfectly round form. It came from well below the house floor, in the gravels at the base of the deep unit dug into the southeast corner of the house. A date of 1310 to 1060 cal BP came from just above this object.

There are few parallels for this object in the published literature for the Northwest Coast. Five polished spherical stones came from Kitselas Canyon, along the Skeena River (Coupland 1988:165–166), where they were classified as "ornamental and decorative items." Several others came from sites of the late Graham Tradition in Haida Gwaii, where they were considered to be "gaming pieces or manuports" (Mackie and Acheson 2005:295). Another has been reported for the Fraser River canyon, where it was associated with rock fortification features and was interpreted as a sling stone used in warfare (Schaepe 2006:687). Several of Drucker's Nuu-chah-nulth informants also affirmed the use of slings in Nuu-chah-nulth warfare (Drucker 1950:187; 1951:335). However, the Huu7ii artifact is substantially smaller than the Fraser Canyon example and may have been too small for such use. A "gaming stone" is a very tentative interpretation for this item.

Quartz crystal/ calcite manuports (4)
These four objects have been formed naturally through a "drip" process in a cave or cavity. Their presence within the house indicates that they were purposefully transported there. All may have had some ornamental or ritual value.

A small quartz crystal extends from an irregular base. The total length is 2.5 cm; the shaft of the crystal is 0.5 cm wide where it emerges from its base. The supernatural and ritual importance crystals had in Northwest Coast societies may be responsible for this item's presence on the house floor. Across much of western North America, quartz and other crystals were associated with activities of the shaman, including rituals of curing (Hickok et al. 2010:250–251; Pearson 2002:142). The Nuu-chah-nulth believed that supernatural quartz crystals grew in caves high up in the mountains; ambitious men sought out such objects, which became hereditary treasures (Drucker 1951:153, 367). In other cases, crystals were gifts from encounters with supernatural Wolves and other beings (Drucker 1951:368). They featured prominently in Nuu-chah-nulth ceremonial life, particularly the events associated with inviting guests (Drucker 1951:368, 377, 431, 443) and in the performance of the Wolf Ritual (Sapir and Swadesh 1955:93–94; Boas 1891:600). Crystals imbued with supernatural power were also used in sea mammal hunting rituals (Drucker 1951:169).

Three calcite objects have formed with central holes and could possibly have been used as beads. The smallest, a flattened oval, resembles a disk bead, although it appears to have formed naturally, possibly around a root. Its measurements are 1.0 x 0.8 x 0.3 cm. Its oval central hole, 0.5 cm in maximum dimension, closely parallels the outer form. The second object is a segment of a smooth shiny calcite tube, 2.7 cm long and 1.3 cm in diameter, with a straight hole extending through its centre for the entire length. The central hole is 0.45 cm at one end, decreasing to only 0.2 cm at the other. This would make a serviceable and attractive bead, which may be the reason for its presence in the house. The final object is also a calcite tube, 3.8 cm long, with a circular hole about 0.4 cm in diameter running its length. The outer surface is irregular, dull, and rough, making it less attractive and somewhat doubtful as a bead.

Red ochre (12)

Eleven samples are small crumbly patches of red-brown material, presumably red ochre (iron oxides), which were clearly distinguishable from the black silt of the house floor. The colour ranges from red (Munsell 10R 4/8) to dark reddish-brown (2.5YR 2.5/4).

Ochre was widely used as a pigment all along the Northwest Coast. Numerous ethnohistoric sources attest to the Nuu-chah-nulth use of red and black paint as body decoration. Ochre was ground into a powder and mixed with an organic binder, such as crushed or chewed salmon eggs, to form a durable paint (Drucker 1951:83). A fragmentary clamshell bowl, thickly encrusted with red ochre paint, was found at Ts'ishaa (McMillan and St. Claire 2005:64); similar examples came from the Ozette midden trench (McKenzie 1974:113) and the Hoko River Rockshelter (Croes 2005:185).

The final sample has a distinct context. It came from the southern edge of the excavation, from the shell deposits of the back midden ridge, rather than the house floor. A small concentration or pocket of shells that were not otherwise common in the midden deposit was found, perhaps as a single basketload. Red ochre occurred throughout these shells, heavily encrusting some examples. This ochre-covered patch of unusual shells was designated a feature (F54); further description can be found in the discussion of features below.

Features

Of the 51 features that were designated within the House 1 excavation, 48 (94.1%) were encountered in the house floor deposits. This is partially a result of the level of activity within the house, but also reflects the fact that many units (particularly those of the central excavation block) were discontinued when the base of the house floor was reached. Major features evident at the lowest house floor level are described (and illustrated) in Chapter 4. Only two features were recorded in the strata underlying the house deposits. An additional feature was noted during excavation into the back midden ridge in an attempt to expose a house feature that had become buried under this shell accumulation.

Everyday domestic activities within the house would have included maintenance of fires for cooking, light, and warmth. Evidence of such mundane practices was scattered in abundance throughout the house deposits, taking the form of patches of tan-coloured ash or concentrations of angular fire-cracked rocks (FCR), often with charcoal (see Fig. 3-3). These comprised just over half the total number of recorded features within the house floor (25; 52%). Only substantial concentrations of such materials were designated as features, although ash, charcoal, and FCR were scattered throughout much of the floor deposits. Most indicate only ephemeral and shifting hearth positions, although one patch of ash over 20 cm in thickness suggests more prolonged use. Several substantial FCR piles

indicate clearing the residue from cooking activities. One very large concentration of FCR and charcoal at the lowest level of the house floor (F45) had a maximum diameter of about 1.8 m. Three ash patches were associated with small stake holes, suggesting the roasting of food on wooden spits directly over the fire. In these three cases, nine, 11, and 17 small stake holes were noted.

Two more formal hearths were recorded, both at the base of the house floor in the central excavation block (see Chapter 4). In one case (F36), a circle of rounded cobbles, about 70 cm in diameter, enclosed a thick concentration of ash, the only such rock-lined hearth encountered in House 1 (Fig. 4-12). The second example (F42), also unique among the House 1 hearths, was located in an excavated depression, about 1.0 m across, located near the centre of the house (Figs. 4-10, 4-13). Charred wood, retaining the recognizable shape of the burned logs, filled the pit. Sand visible below the charred logs suggests that the pit was sand-lined. Radiocarbon analysis from the charred wood gave a result of 990±50 BP (970 to 780 cal BP), the oldest date from the house floor. This large hearth fits Drucker's (1951:71) description of an ethnographic Nuu-chah-nulth house containing "a large shallow circular depression" near its centre "that served as the fireplace on ceremonial occasions." This central feature presumably served the entire household on special occasions, whereas the smaller hearths scattered across the house floor were used by individual families for everyday cooking.

In addition to the three ash patches with stake holes mentioned above, six features consisted of stake holes or moulds. The largest cluster (F55), from the upper levels of one of the eastern units, consisted of 14 stake holes, ranging in diameter from 3 to 8 cm. Other clusters consisted of four, six, and seven stake holes, with individual diameters between 4 and 13 cm. Two others were single stake holes, with diameters of 4 and 8 cm. The larger of the two (F4) was associated with an articulated row of salmon vertebrae along its edge, suggesting that this food refuse lodged against a bench support or similar feature, thus escaping housecleaning efforts (Fig. 4-3). Many of these stake hole features occurred near the sides of the house and may represent uprights in sitting, sleeping, and storage facilities.

Three similar but larger straight-sided features are considered post moulds. One (F2), 20 cm in diameter, occurred in the upper portion of the house floor near the west wall of the house, while the other two are at the base of the house floor near the back wall (Fig. 4-9). One (F10) is about 35 cm in diameter, whereas the other (F47) is an oval of about 45 by 30 cm. All three likely held substantial posts but are not large enough to represent the primary house posts of a large structure such as House 1.

Four large boulder-filled pits likely indicate the positions of major support posts. All are described in Chapter 4 and their locations noted on Fig. 4-9. In two cases whale vertebrae and other large bones occur with the large boulders in the pit. Such features occur along both the east and the west walls of the excavation, which correspond to the edge of the house platform as visible on the surface, and can be seen primarily in the unit profiles (e.g. Fig. 3-8). The largest of the four features (F56) was located at the centre of the back wall. This very large pit, filled with large boulders and a considerable number of complete whale vertebrae, had become buried under the shell refuse of the back midden ridge, suggesting that the house position had shifted somewhat over time. Another large rock-filled pit (F52) is located a short distance further into the house and may represent a slightly later position of the back wall.

Another feature associated with the house that stood at the lowest house floor is a long shallow trench (F46) that ran diagonally across the central excavation block (see Chapter 4; Figs. 4-9, 4-10). Dug about 10 cm from the base of the house floor into the underlying shell deposit and filled with sand, this trench has been interpreted as a drainage feature. Its length can be traced for about seven metres across the excavated area, but its actual extent may well be greater. If this is indeed a drainage feature, it likely continues into the unexcavated front portion of the house platform. Drainage trenches lined with planks were prominent features on the floors of the excavated houses at Ozette.

Of seven pit features, with sloping sides and rounded bottoms, six were visible on the lowest house floor (see Chapter 4; Fig. 4-9). The upper pit (F31), an oval of about 28 by 17 cm and about 20 cm depth, was filled with shell, particularly intact articulated mussel valves, making it highly evident in the black silt of Layer B. A pit (F48) in one of the eastern units, containing ash and FCR, was only partially excavated but was 30 cm across where it disappeared into the unit wall. Two additional pits, near the southwestern corner of the house, were also only partially exposed within their excavation units. A basin-shaped pit (F13) was about a metre across where it extended into the

unit wall, whereas the other (F14) was about 1.2 m across and was lined with sand and pebbles at its base. The final three pits occurred in close proximity in the central excavation block, near the back centre of the house. The largest (F44), an irregular oval about 1.5 m by 90 cm at its surface, had distinct pits within, reaching a maximum depth of about 60 cm. Immediately to the southwest was a smaller pit (F18), about 60 cm across and 55 cm deep, containing a large rock slab. To the south of the largest pit and beside the rock-lined hearth described above was a pit (F43) about 80 cm in diameter, with four large boulders and smaller rocks placed on its top.

Two miscellaneous features complete the total for the house floor deposits. F37 was a small pile of rounded, egg-sized rocks, along with some FCR. It is likely that the rounded rocks were intended for use as boiling stones in cooking. The second feature (F51) was a cache of ten whalebone blanks stacked in a pile on the lowest house floor (see artifact descriptions and Chapter 4). Each blank had been roughly worked to a similar shape and size (Figs. 3-37 and 4-7). Such blanks would have been a preliminary stage in the manufacture of a variety of tools. Whalebone was a common raw material at Huu7ii, and these blanks would have been a suitable size for the production of such important items as the large valves for harpoon heads used in sea mammal hunting.

Only two features were recorded in the strata underlying the floor deposits. A rock and whalebone concentration (F7) at the western edge of the excavated area appeared to be circular in form although only part of it could be examined within the unit. The circular shape and charred nature of the whalebones suggest that this may have been a hearth. Packed in with the whalebones were at least 25 small rounded stones of roughly uniform size, presumably representing boiling stones used in cooking. The second feature (F40), in the easternmost unit, was also a rock concentration that may have been a hearth. In this case, a roughly circular pile of rounded and angular rocks, with charcoal among them, sat on a thin shell layer just into the gravel at the base of the cultural deposit.

The final feature came from the shell of the midden ridge that accumulated along the back of House 1. This ridge had built up over several substantial features at the back of the house floor, suggesting that the house position had shifted somewhat over time. In order to more fully expose a large rock-filled pit (F56) at the back of the house, several small unit extensions were dug into the midden ridge. While removing this material one feature (F54) was recorded. This consisted of two small adjacent patches, each about 18 cm in diameter, of distinctive shells covered with red ochre. Although both patches extended into the unit wall, most of each could be excavated. A grab sample that encompassed much of one patch was collected for shell identification (by shell analyst Ian Sumpter). When the shells were examined under a microscope in the lab, many of the valves were clearly caked with ochre. The 90 shells that made up the sample were primarily unusual species, not the common mussel shells that made up most of the midden ridge. The most common species, at 55.6% of the sample total, was the western bittersweet clam (*Glycymeris septentrionalis*). A few of the valves were very small, making it unlikely that they were collected for food. Following were the smooth pink scallop (*Chlamys rubida*) at 15.6%, the rose-painted clam (*Semele rubropicta*) at 12.2%, the black turban snail (*Tegula funebralis*) at 10%, and the keyhole limpet (*Diodora aspera*) at 3.3%. Most of these were too small to be primarily food refuse. Also in the sample were one broken northern abalone (*Haliotis kamtschatkana*) valve, one topsnail (*Calliostoma* sp.), and one plate from a giant Pacific chiton (*Cryptochiton stelleri*). Only the black turban snail and the northern abalone were present in the analyzed midden deposits (Sumpter, Appendix D). These concentrations of unusual ochre-encrusted shells, perhaps deposited as two basket loads, seem unlikely to be simple food refuse and perhaps indicate some ritual treatment.

Subsistence Remains

Analysis of the vertebrate fauna recovered from the excavation units is reported in Appendix A (by Gay Frederick). In this study, over 80,000 vertebrate elements were examined from selected excavation units within the outline of House 1. See Appendix A for discussion of which units and levels are included in this analysis. From the large number of elements in the sample, just over 43,000 could be assigned to species, genus, or family (Appendix A). Fish dominated the identified specimens in the unit samples, comprising 92% of the total, distantly followed by marine mammals (4%), land (including commensal) mammals (3%), and birds (2%). Samples analyzed came from both house floor deposits and sub-floor midden. Although most of the 2006 excavation units were discontinued at the base of the house floor, infor-

mation on the underlying midden comes from a number of units that were more deeply excavated, particularly the two that reached the sterile beach sand at the base of deposits (N18-20 E2-4 along the west wall and N18-12 E34-36 near the southeast corner). Faunal abundance was greatest in the house floor deposits. As would be expected, damage through trampling was particularly evident on faunal elements from the house floor.

The faunal remains provide ample evidence of a heavy dietary reliance on fish. Among the wide range of species present in the unit samples, hake, salmon, rockfish, greenling, dogfish, and sole are particularly common (Appendix A). Although small fish such as herring and anchovy were recovered in the unit samples, they are clearly under-represented. Fine-screen examination of the column samples, as reported in Appendix B, demonstrates the magnitude of this biasing factor. The prominence of hake in the unit samples stems largely from a huge concentration of more than 12,000 bones collected from the sub-floor midden in three consecutive levels of one unit, although hake are still well represented even when this concentration is removed from the analysis. The emphasis on hake at Huu7ii differs from other excavated Barkley Sound sites, such as Ts'ishaa (Frederick and Crockford 2005) and Ma'acoah (Monks 2006), where hake played a more minor role. A significant shift appears to have taken place from the sub-floor midden to the house floor deposits, as salmon become much more important in the latter, particularly in the uppermost levels (Appendices A and B).

Several less common fish species are also worthy of note. Bluefin tuna elements (Fig. 3-51) occur in small numbers throughout the deposits, as is the case for virtually all excavated Nuu-chah-nulth sites, including the Barkley Sound villages of Ts'ishaa, T'ukw'aa, Ch'uumat'a, and Ma'acoah (Crockford 1997a; Frederick and Crockford 2005; McMillan 1999:142–143; Monks 2006). This large powerful fish, with archaeological specimens estimated at over 2 m in length (Crockford 1997), came into British Columbian waters during warmer summer conditions. Although there are no ethnographic accounts of taking this large fish, and only a few ethnohistoric references to its use, its presence in faunal assemblages indicates a fairly constant role in the diet over millennia. Halibut, on the other hand, feature prominently in the ethnographic and historic accounts of Nuu-chah-nulth life, yet are relatively rare in the Huu7ii fauna, as was also the case for the faunal sample from Ts'ishaa (Frederick and Crockford 2005). In general, halibut elements occur in relatively low frequencies in faunal assemblages along the outer Northwest Coast compared to their ethnographic importance, likely reflecting such cultural practices as butchering the large fish on the beach, where most bones were discarded, and boiling the dried flesh before consumption, reducing the survivability of the remaining elements (Orchard and Wigen 2008). Also of note are two species of large shark, the seven-gill shark and the great white, each represented by a single tooth (the former in the faunal sample and the latter, drilled as a pendant, among the artifacts) in the house floor deposits.

Figure 3-51. Bluefin tuna vertebra in hand shortly after being excavated. Note the size of this large fish.

A separate study of vertebrate fauna focused on the fine-screened column samples taken from selected unit walls at the completion of excavation. See Appendix B (by Iain McKechnie) for specific locations of the column samples. Over 36,000 faunal elements were examined, of which just over 15,000 were identifiable to species, genus, or family. Fish remains overwhelmingly dominate these samples, comprising 99.8% of the identifiable bone from House 1 (Appendix B). Herring, which make up 65.9% of the fish total, are consistently the major species represented. Other important species include salmon (10.7%), anchovy (10.1%), hake (4.2%), greenling (3.5%), rockfish (1.8%), and dogfish (1.7%). This study demonstrates that the field-recovered unit samples greatly underrepresent smaller fish such as herring and anchovy.

Instead, fine-screen recovery of these small fish species reveals the magnitude of their role in the economy at Huu7ii at the time House 1 was occupied.

A variety of cetacean species also played significant roles in the diet at Huu7ii. Whale elements were widely distributed across the excavated units and were common in both the sub-floor midden and the floor deposits (Appendix A). Most were too fragmentary for accurate species identification through visual examination. However, a sample of 101 elements from across the House 1 deposits was examined through aDNA analysis (Arndt and Yang, Appendix C). The great majority, 83.3% of the identifiable elements, were from humpback whales, with grey whales coming a distant second at 13.1% and finback and right whales represented by only a few elements (Appendix C). This is very similar to other excavated Barkley Sound sites, which are characterized by a similar dominance of humpback whales (Monks et al. 2001; McMillan et al. 2008:225–226). Unlike T'ukw'aa and Ts'ishaa, where portions of mussel shell cutting blades from whaling harpoon heads were found embedded in whale bones (Monks et al. 2001:66; McMillan and St. Claire 2005:69), no evidence of active hunting was evident in the Huu7ii assemblage. However, the marked predominance of humpbacks, rather than the grey whales that tend to travel closer to shore, strongly suggests that this assemblage resulted from selective hunting, rather than from scavenging drift animals (Appendix C). Several species of porpoise and dolphin were also taken in considerable numbers (Fig. 3-52). The people who lived at Huu7ii clearly had developed effective open-ocean strategies and technology for hunting such large prey as whales and fast-swimming elusive animals such as porpoises.

Other sea mammals, including northern fur seals, northern sea lions, and harbour seals, played significant roles in the diet. Fur seals were particularly important, as was the case at virtually all Nuu-chah-nulth sites, including the large Barkley Sound village of Ts'ishaa (Frederick and Crockford 2005; McMillan 1999:140). The presence of significant numbers of very young animals suggests exploitation of a fur seal rookery in the general vicinity of Barkley Sound, rather than relying on the migratory herds that characterize the modern population (Appendix A; Crockford et al. 2002).

The land mammal assemblage is dominated by dogs, which were particularly abundant on the house floor. All age classes are represented, although puppies are particularly common. All skeletal parts are present, with several animals being nearly complete. Unlike hunted animals, whose elements undergo selection in a faunal assemblage, this appears to be natural population kept as pets. As at the nearby site of Ts'ishaa (Frederick and Crockford 2005:179), both large and small dog

Figure 3-52. Articulated porpoise vertebrae in situ in house floor deposits.

breeds are present, with the smaller animals being particularly common. Measurements on the latter are consistent with Crockford's (1997b) Type 1 dogs, a size represented ethnographically by small long-haired animals that were kept separate from the general canine population. After dogs, deer were the most abundant land mammal, particularly in the midden layers below the house. In contrast, although the numbers are very small, elk and bear occur only in the house floor deposits (Appendix A).

Analysis of shellfish from the House 1 area (Sumpter, Appendix D) was restricted to one column sample from near the southwest corner (Unit N10-12 E2-4). The west wall of this unit cut into the midden ridge, providing much more abundant shell remains than further out onto the house floor. The shell collected in the column sample was overwhelmingly mussel (*Mytilus californianus*), which comprised 94.3% by weight of the shell total. Barnacles followed distantly at 3.3%. These taxa reflect the rocky foreshore of the site location; clams and other sediment beach species, which are not readily available in the immediate vicinity, are relatively rare in the Huu7ii sample. Species diversity is low, with only 12 shellfish species identified from House 1 compared to 53 in contemporaneous deposits at Ts'ishaa (Sumpter 2005). Although this analysis was based on only one column from the house periphery, field observations during the excavation confirm the low shellfish variability and the overwhelming dominance of mussel.

Although the diet was dominated by a variety of fish, sea mammals, and shellfish, plants would also have played a significant role. Ethnographic accounts document a wide range of plants used by Nuu-chah-nulth people for food and medicine (Drucker 1951:56–57; Turner and Efrat 1982; Turner et al. 1983). Although Huu7ii's restricted island environment would have limited access to food plants, analysis of preserved pollen in a core taken from a bog at the back of the site (Pellatt, Appendix F) demonstrates that a number of plants that could potentially have contributed to the diet grew in the general area. The large rose family (Rosaceae) identified in the pollen includes such food species as serviceberry, wild strawberry, and wild crabapple, as well as the Pacific cinquefoil, whose edible root was gathered in quantity by the Nuu-chah-nulth (Turner 1975). Within this family, genus *Rubus* pollen was identified, which would include such common species in the Nuu-chah-nulth diet as the thimbleberry, wild raspberry, and salmonberry. Pollen from the heather family (Ericaceae) was identified as "likely salal or red huckleberry" (Pellatt, Appendix F). Also identified in the pollen was *Corylus*, the hazelnut, and the fern family (Polypodiaceae), several species of which were gathered by the Nuu-chah-nulth for their edible rhizomes and shoots (Turner 1975). Pollen from these plants increases in abundance in the upper portion of the bog core, corresponding in time to when the main portion of the village, including House 1, was occupied.

The presence of such edible plants in the pollen record shows that they were growing in the general site vicinity but cannot demonstrate use by the site occupants. Paleoethnobotanical analysis relies on plant remains such as seeds being preserved in archaeological deposits, generally by charring. Unfortunately, examination of matrix samples taken from hearths and other burnt contexts failed to reveal any direct evidence for plant use at Huu7ii in the form of preserved seeds or other food refuse (Weathers, Appendix E). The lack of such botanical remains is likely a factor of poor preservation in the alkaline site deposits.

In general, the most abundant Huu7ii fauna, such as rockfish, greenling, herring, and mussels, reveal an emphasis on inter-tidal and near-shore resources that could have been procured in the immediate site vicinity. However, other species, such as porpoises, fur seal, and bluefin tuna, demonstrate a more open-ocean capability. Significant shifts in resource use appear to have occurred in the final period of occupation. Salmon increase dramatically, from a minor taxon in the sub-floor midden to about 68% of the fish total in the house floor, resulting in a drop in the relative importance of all other fish (Appendix A). This major jump in salmon importance suggests that they were being taken elsewhere, probably at a major salmon river along the Barkley Sound shoreline, and were brought back to the site as preserved fish. This would suggest that the people of Huu7ii had obtained access to a broader territory during this final period of occupation. This idea is also supported by the shellfish analysis, which shows a dramatic rise in importance of clams in the most recent layer (from an average of 1.6% of the total by weight to 33.9% in the uppermost stratum; Appendix D). In earlier times people primarily gathered the large mussels available in the rocky vicinity of the site, whereas in the final stage they also consumed large numbers of clams from more distant beaches.