People and Water:

A study of the relationship between humans and rivers in the Mesolithic and Neolithic with particular reference to that within the Thames Basin

Volume 2

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I, Fiona M Haughey, confirm that the work presented in this thesis is my own. Where information has been derived from other sources, I confirm that this has been indicated in the thesis.

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ABSTRACT

People and Water: A study of the relationship between humans and rivers in the Mesolithic and Neolithic with particular reference to that within the Thames Basin

Rivers and their associated wetlands and lakes form a major component in the landscape and yet discussions concerning their usage in early prehistory are rarely undertaken in Britain and Ireland. Exceptions to this have included the work on the Severn, the Shannon and the Humber estuaries. The Thames forms one of the biggest river systems within England and yet modern writers have undervalued it as a resource of early communities. The work within the Thames basin had been somewhat piecemeal with, until recently, attention being focussed primarily on the non-tidal parts of the river system. A consideration of the Mesolithic period had also not been undertaken.

The relationship between hunter-gatherers and early farming communities and freshwater resources is examined within two major themes. The first is that of an economic nature (provider of sustenance and raw materials, communication, transport, choice of settlement site) and the second, experiential/symbolic (ritual deposition, sacred and burial sites, rock art). The two themes are not mutually exclusive and the points of overlap are also considered.

Understanding of the archaeological record within the Thames basin is approached by the use of ethnographic analogy and archaeological comparison within a number of world regions. The ethnographic material is drawn from communities based on rivers in Australia, the Amazon basin and a number of locations in North America. The archaeological information is primarily from Europe (Britain and Ireland, the North European Plain and the Central European Uplands). Two other areas are briefly examined, namely Old World rivers (the Euphrates, the Jordan and the Nile) and a number of New World sites in North America.

Attributes of the themes are drawn out from both the ethnographical and archaeological material. The Thames material is outlined and conclusions drawn in light of these attributes.

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Mesolithic and Neolithic finds from the London Thames

Figure 80 Finds from the Thames (Museum of London)

Appendix 1

Introduction

This section contains a database of Mesolithic and Neolithic finds which have been recovered from the Thames and its foreshore within the Greater London boundaries. It forms part of a larger database collated by myself, from this geographic area which covers all prehistoric periods. The information has been gathered from a variety of collections held in a number of museums at home and abroad. The majority of the finds have been recovered during dredging operations on the Thames which were undertaken to maintain a navigable channel down the river. This channel is not necessarily centrally- or midstream-based as the bends often cause shallower stretches on the outer curve and other parts of the riverbed were also dredged to enable vessels to approach closer to jetties or barge beds. The finds that were retrieved from the dredgers were sold to collectors and their agents (Layton and GF Lawrence are examples of both the former and the latter (Lawrence 1929, Macdonald 1996, Whipp & Blackmore 1977)). These collections found their way into those held by regional, national and overseas museums.

One problem which has been associated with these finds is the apparent lack of provenance as referred to **5.7** above. Those entered into the database are those I am confident of placing within one of the Thames Archaeological Survey zones (see ***Zones*** below) which gives an accuracy of c500m. There were many artefacts that it was not possible to thus place (for example, those marked just *Thames* or *Thames between Teddington Lock and Hammersmith*) and these have not been include.

Another problem is the range of artefacts. It has to be accepted that the finds that are available in the museum collections are a sample of what was actually obtainable. The dredgermen often collected to order and also gathered what was recognisable. Axes are much more easily identifiable than flakes and microliths. In the range of bone in the river, skulls are the most distinguishable of the human variety when compared with those from animals. An additional note on the human skulls from the river: many of those retrieved were polished or lacquered for display purposes by the collectors, which has made radiocarbon dating impossible. This will explain why of the 300+ currently held at the Natural History Museum and the Museum of London only a very small

number have been dated. Organic artefacts are rare and this is almost certainly due to survival rate. The dredgers are somewhat brutal in the method of extraction and so any basketry or object of perishable material may not have survived the operation. In addition, any that were recovered may have disintegrated after being removed from either an anaerobic or a waterlogged context.

The database takes the following order:

Key to database

Type/Style
This describes the artefact class. Style refers to those classes used purely for pottery (for example, Peterborough ware, Abingdon ware etc)

Number
The number listed here is that assigned in the accession register of the museum where the artefact(s) is held.

Period

em	Early Mesolithic
m	Mesolithic
lm	Late Mesolithic
en	Early Neolithic
n	Neolithic
ln	Late Neolithic

Present location
The different museums are indicated thus:

ash	Ashmolean, Oxford
brad	Bradford Manor House Art Gallery and Museum
bm	British Museum
cumaa	Cambridge University Museum of Archaeology and Anthropology
gpm	Gunnersbury Park Museum
guildm	Guildford Museum
km	Kingston Museum
mol	Museum of London
mrich	Museum of Richmond
nhm	Natural History Museum
prm	Pitt Rivers Museum, Oxford
rom	Royal Ontario Museum
sal	Society of Antiquaries of London
ww	Wandsworth

private indicates that the artefact is in private hands

Zone code
This refers to the TAS zones, used as an administrative device in recording the foreshore between Teddington Lock and Erith/Rainham. These codes have been agreed with the Museum of London and the Greater London Sites and Monuments Record. Each zone is approximately 500m in length.

The code comprises 5 digits (for example FSW12):
F for foreshore

a **2-letter code** indicating the borough within which the artefact was recovered:

BR Barking & Dagenham

BX Bexley
CY City of London
GW Greenwich
HM Hammersmith & Fulham
HV Havering
HL Hounslow
KN Kensington & Chelsea
LM Lambeth
LS Lewisham
NH Newham
RM Richmond
SW Southwark
TH Tower Hamlets
WM Westminster
WW Wandsworth

a **2-digit number** (01 to 28)
With the exception of the London Boroughs of Southwark and Richmond, all numbers begin on the downstream end of the borough's foreshore. Richmond, situated on both sides of the river, numbers up and then down the river. The first zone on the Thames to be surveyed was designated FSW01 and is situated part way along the Southwark foreshore. The numbering continues in sequence to the upstream end of the borough and then returns to include the section between the downstream boundary and FSW01.

So the example give above, FSW12, is a foreshore site in the London Borough of Southwark, and the twelfth zone.

NGR TQ
The National Grid Reference is given as a 12-figure reference and lies within the area TQ.

Findspot
Any information concerning the findspot of the artefact is included here. 'Th' indicates the find was retrieved from the Thames

Condition
This section includes damage, marks, use wear and radiocarbon dates where applicable.

Date
This refers to the date of finding of the artefact.

Comments
This column includes description and measurements, any published references and comments on associated finds

Table 24 Bone -Human

Bone/ modified	Number	Period	Present location	Zone_code	ngr TQ	Findspot	Condition	Date	Comments
skull	4.7191	n	nhm	FWW12	527250 177350	Th Battersea	OxA-1199 4880+/-60bp (3925-3877 BC, 3810-3510 BC or 3396-3388 BC); imperfect cranium, cut mark over left brow, dolchocephalic		Female c25yrs, BD 49 'near Battersea Br', brown

Table 25 Bone - Tool

Bone/Modified	Number	Period	Present Location	Zone_code	ngr TQ	Findspot	Condition	Date	Comments
sp/head	A.10941	n	mol missing	FRM11	517580 174660	Th Richmond		1913	
object/?needle	A.13690	n	mol missing	FRM15	518650 177750	Th Kew		1914	12.7cm lg, sm circular perforation in upper part
hammer/adze	A.27555	m	mol	FRM15	518650 177750	Th Kew	from upper portion of right radius of Bos Premigenius	1925	25.5x10cm, UNIQUE, with perforation for a handle at upper
netting tool	A.27742	n	mol missing	FRM15	518650 177750	?Th Kew		1925	9.5cm simple form
dagger	A.11955	n	mol	FRM18	520825 176500	Th Mortlake		1913	
skull	A.7894	n	mol	FRM18	520825 176500	Th Mortlake	unw	1912	23.8cmx7.8cm, frontal ('of Bos.....skull',
lance head	A.17339	n	mol	FRM19	521600 177000	Th Barnes		1916	9.5cm lg
netting tool	A.24428	m	mol missing	FRM21	522850 177000	Th Barnes Elms		1922	11.5cm lg, spindle shaped, with pointed ends
hammer head	C.707	n	mol	FHM03	523175 177390	Th Hammersmith	from bone of Bos Primigenius	pre 1912	18.5cm lg
pin	A.26953	n	mol	FWW06	525275 175375	Th Wandsworth	point missing	1924	9.5cm lg, simple form
implements (2)	unreg	n	bm	FWW06	525275 175375	Th Wandsworth	pointed		

pin	A.7446	n	loan to wm	FWW07	525750 175450	Th Wandsworth		1912	c9cm lg
lance head	C.723	n	mol	FWW12	527250 177350	Th Battersea		pre 1912	
point	A,11729	m	mol	FWW13	527750 177550	Th Battersea	red deer tibia	1913	20.5cm lg, barbless, split bone, leaving marrow channel as groove, fishing tackle
implement	A.11729	n	mol	FWW13	527750 177550	Th Battersea		1913	
lance head	C.722	n	mol	FWW14	528250 177650	Th Battersea	tip broken off	pre 1912	
awl/metacarpal of goat or sheep	E.5972	n	nhm	FHL06	517500 176350	Th Syon Reach	polished	pre 1963	9.25x1.5at base cm, dk brown
dagger	A.18885	n	mol missing	FHL08	518100 177175	Th Brentford	knuckle end broken away	1917	19.8cm coarsely pointed as if by flint flake
lance head (shuttle)	A.23475	n	mol	FHL12	519350 177750	Th Strand-on-the-Green	rivet hole at base	1920	16cm lg, Lawrence 82, ex Vize

Table 26 Stone - British

Type	Number	Period	Petrology	Present location	Zone-code	ngr TQ	Findspot	Condition	Date	Comments
axe	A.10927	n	group VII	mol		503150 171250	Th Staines	ground, polished	1913	14.7x7.6x3cm dk grey mottled Vull 74, A&J 275, LS p90 no43
axe	A.10928	n	group VII micodiorite	mol		503150 171250	Th Staines	ground, polished, slight signs of wear	1913	21.6x8.2x5.2cm grey, A&J 29, LS p92 no69
axe	A.10930	n	group VIII Gt Langdale	mol		503150 171250	Th Staines	ground, lsight signs of wear	1913	10.7x5.5x3cm grey, A&J 235, LS p90 no42
axe	A.10931	n	chert	mol		503150 171250	Th Staines	ground polished, handle left mark 4.5cm across		17.6x7.3x4.5cm blunt well finished butt, pointed oval section, Lawrence 1929 pl III no3
axe frag	49.107/166	n		mol missing		514000 169400	Th Hampton	lower half, re-used, broken in antiquity	1892 Nov	5.5x6cm trimmed at fracture to reuse as handheld knife Lloyd
axe	49.107/165	n	augite granophyre	mol		515400 168500	Th Hampton Court	ground polished thin butt now damaged, v encrusted	1900 May24	18.3x8x3.8cm A&J 132 LS p90 no33 Lloyd
axe	O.592	n	finegrained	mol		515400	Th	ground,		16x6.4x3cm LS p90 no32 Layton

			(ultra)-basic rock			168500	Hampton Court	polished edge damaged		
axe	31	n	doirite	mol	FRM01	516500 171475	Th Teddington	ground	pre 1908	15x7.7x3.5cm edge/butt damaged prob in antiquity tapering toards butt, rounded sides, flattened form, A&J 198
axe	49.107/122	n	grp VI Gr Langdale	mol	FRM01	516500 171475	Th Teddington	ground, polished, some encrustation,	1898 Nov	16.3x7.1x3cm greenish grey unsymmetrical cutting edge, LS p90 no45
axe	O.626	n	gpI greenstone	mol	FRM03	516550 173125	Th ballast Twickenham above Eel Pie Island	ground polished		21.3x9.7x4.8cm A&J 37, Layton
axe	33.153/2	n	grp VII augite granophyre	mol	FHL03	516650 175680	Th N foreshore, Isleworth, Syon Reach	ground, polished butt end broken off		11.1x4.8x3.1cm grey/greenish mottled, traces of flaking remain LS p90 no37, A&J 253
axe	76.20/269	n	v fine grained greensih stone	gpm	FRM03	516655 173100	Th Twickenham	butt only	1879	10.1x6.5x3.9cm, pol, square edged, Crooke coll
axe	O.464	n	igneous	loan gpm	FRM09	517200 173275	Th Petersham bed of Th off Ham House top	pol	1880 apr	Layton

							of London clay			
axe	95.533/2	n	?group I/?Cornish	mol		517450 176400	Th foreshore Syon Middx TQ 1745 7640	ground	1995	12.7x5.8x3.4cm found 'with' LBA scrap`bronze hoard lamas 47:9
macehead	O.745	m		mol	FHL06	517500 176350	Th Isleworth off Syon Reach			Layton
axe	A.22842	n	grpIA greenstone	mol	FHL06	517500 176350	Th Syon Reach	ground, polished edge worn, damaged butt	1920 Aug	13x6.9x3.6cm semirough, thick butt, oblique cuttung edge, A&J 62, LS p92 no68
axe	A.23263	n		mol	FHL06	517500 176350	Th Syon Reach	ground butt broken, hollowed face	1920 Oct	11.3x5.3x2.8cm dk green, cutting edge unsymmetrical=?wear, centre of base depressed Lawrence 79
axe	AE 759	n		rom	FHL06	517500 176350	Th Syon Reach	some encrustation, poss reground blade		10.9x3cm, speckled dk grey, polished, cutting edge v irreg, one corner oblique, butt blunt,thick and narrow. sloping to sides,
axe	k771	n	Limestone/ ?Nummulite	km	FHL06	517500 176350	Th Syon Reach	pecked and polished	pre 1907	8.2x4.5cm, damaged on surface, blade v slightly used, still sharp , Lawrence
axe	Z24858 D1 (916)	n		cumaa	FHL06	517500 176350	Th Syon Reach	butt broken, worn on		13.5x6cm, grey/brown, ground/polished, square edges on sides, Fox coll

								blade end		
axe	Z24858 D2 (632)	n		cumaa	FHL06	517500 176350	Th Syon Reach	blade edge damaged, v pol with wear on blade end		13x5.5cm, grey/br-yellow, ground/polished, symmetrical blade, Fox coll
axe	76.20/48	n	greenstone , Cornwall, group I	gpm	FHL06	517500 176350	Th nr Syon House, Brentford	cutting edge damaged		13.1x5.5x3.2cm, pecked, partly ground, Crooke coll
celt/chisel	0569	n	basalt	sal		517750 168500	Th Kingston Chelsea waterworks, 'deep in clay'	surface rough except near cutting edge ?use	1855	length 5", sides rounded, body thick in proportion to width, Roots 3
axe	49.107/128	n	grp III	mol		517750 169650	Th Kingston	ground polished	1889	12.7x6.7x3.6cm black A&J 65, LS p91 no55,
axe	k12	n	group IV ?Gt Langdale	km		517750 169650	Th Kingston	damaged edge, butt and blade, polished	pre1904	11.1x5.7x3cm, Great Langdale stone axe, flattened sides, hafting marks, A&J 291
axe	k722	n	Cornwall group I greenstone	km		517750 169650	Th Kingston	pecked and polished	pre 1907	13.7x7.6x2.6cm, slight signs of waer on blade, otherwise excellent condition,Roots
axe	k726	n	Cornwall group I greenstone	km		517750 169650	Th nr Kingston	baled smooth, rest roughened, ground with polished	pre1907	12.5x6.4x3.4cm , blade poss resharpened but then not reused, Roots, A&J 53

								edge		
axe	k839	n	group I greenstone	km		517750 169650	Th Kingston	prob unfinished, ?hafting	pre1908	22.7.5cm, bl, v rough surface, pol/ground gone, butt poss chipped, balde asymmetrical = ?use
axe	76.20/47	n	?altered slate	gpm	FHL07	517850 176850	Bed of Th Syon Reach, Brentford			14x6.8x3.4cm, pecked, sides and butt squared, Crooke coll
axe	49.107/132	n	diorite/?greenstone	loan mrich loan no L18.7	FRM10	518000 174000	Th Richmond Lock&weir	ground, rounded sides/butt	1892 Oct	11x5.7x2.9cm A&J 59, London Studies I:92 no60, 1974 Lloyd
axe	O.670	n	igneous	mol missing ?lent gpm 1968	FRM11	518000 174000	Bed of Th, Richmond, nr Buccleuch House	pol	1865	circular
axe	52.117	n	greenstone	mol	FHL09	518000 177225	Th 4sh Brentford, opposite Brentford docks	ground polished towards cutting edge		12.8x5.2x3.3cm A&J 54
macehead	k2035	ln	igneous, Hornsfelsed porphyr	km		518000 691000	Kingston Eden St, in clay in sediments of ancient river channel, 16'deep	complete	1965	9x6x6cm, hole ?off centre, pebble&ox bone found nearby, ovoid,LA Field&Penn 'A late Neolithic macehead from K-u-T' p15-17
axe	O.425	n	grp VI Gt	mol	FHL08	518100	Bed ofTh,	ground,		25.4x7.6x4.2cm A&J 51, LS p89

			Langdale			177175	off Old England Brentford	polished		no28 mx11, Layton
axe	O.738	n		mol	FHL08	518100 177175	Th off Old England Brentford	not perforated		triangular Layton
pestle	A.13709	m/n	Chrorite-sericite-feldspar	mol	FRM15	518650 177750	Th Kew	some lime encrustation, surface rough /pitted		26x6.5x5cm Lawrence refs: Lawrence 81, PPS 26:fig6,1, PPS 5:pl11:3,
axe	49.107/146	n	olivine basalt	mol	FHL10	519000 177850	Th Brentford	ground polished	1854	25.8x7.4x5.5cm Lloyd
axe	76.20/45	n		gpm	FHL10	519000 177850	Th Brentford			pol, Crooke coll
axe	60.176/23	n		mol	FHL10	519000 177850	Th w side Kew Bridge dredged	ground polished, butt & edge damaged	1940 Aug1	12.3x6.7x3.6cm found with worked bone J.O.K.
axe	O.585	n	altered dolerite or greenstone	mol	FHL10	519000 177850	Th?, Kew Bridge off Toll House	ground, polished butt damaged	1869	16x6.4x3.2cm, A&J 42 Layton
axe	O.617	n	nr gpI unaltized Gabbro,	mol	FHL10	519000 177850	Th?, Brentford between Eyot and Kew Brdge	ground polished		18.2x7.2x3.9cm Layton
axe	St 104 v	n	green stone	bm	FHL10	519000 177850	Th Kew in ballast			pol, dk.

axe	O.635	n	epidotized tuff	mol	FHL20	519000 177850	Th Kew Bridge	ground polished		12.1x6.8x3.4cm A&J 66 Layton
axe	O.623	n	gpI greenstone	mol	FHL12	519450 177625	Chiswick, below Strand Island (Olivers Ait)	ground polished		11.7x6.6x3.3cm A&J 69, Layton
pounder	A.7784	n	diorite	mol	FRM18	520825 176500	Th Mortlake		1912	
grain rubber	A.8121	n	diorite	mol	FRM18	520825 176500	Th Mortlake		1912	circular with flat top/base
adze	Z24863	n		cumaa	FRM18	520825 176500	Th Mortlake	broken, butt missing		7x5cm,ground/polished, Fox coll
axe	1318	n		gpm	FRM19	521600 177000	Th Barnes			pol, Sadler coll
axe	909.54.6 AE 526	n		rom	FRM19	521600 177000	Th Barnes	pitted, damage on blade poss in antiquity	pre 1909 Jul24	14.5x7.5cm dk grey, polished, thick, broad, irreg edge, poss reground blade edge, sides curved, butt broad, rounded and rect shaped GFL
axe	A.16359	n	diorite	mol	FRM19	521600 177000	Th Barnes	ground, poss resharpd, polished edge slightly worn	1915 Sep	13.8x6.5x3.6cm black/green truncated butt, A&J 44, ?Arch J. 86:85
axe	A.17126	n	'diorite'	mol	FRM19	521600 177000	Th Barnes	ground, polished edge	1916	12.3x5x3cm oblique cutting edge A&J 57, Arch J.86:85

								slightly worn, roughnd butt		
axe	O.596	n		mol	FRM19	521600 177000	Th Barnes	ground polished		11.9x5.4x2.8cm A&J 309, Layton
axe	O.553	n	altered epidotized greenstone	mol	FHL20	521850 178000	Th Chiswick	ground,polished		16.6x7.8x3.8cm A&J 318, Layton
axe	O.621	n	greenstone	mol	FHL20	521850 178000	Th ballast, Strand-on-the-Green, Chiswick	ground,polished lg patches of pecking/grinding	1862	17.5x7x2.7cm A&J 317, LS p89 no30 mx15, Layton
axe	O.622	n		mol	FHL20	521850 178000	Th ballast Strand-on-the-Green, Chiswick	ground, polished patches of pecking	1862	15.3x6.8x3.3cm A&J 95, Layton
hammerstone	A.22610	n	quartzite	mol	FRM20	522500 178200	Th Hammersmith ? S side	roughly perforated		8.9x6.6x2.6cm hour glass perforation, oval beach pebble Lawrence 86
scraper	1884.123.343	m		prm	FHM02	522500 178225	Bed of Th Hammersmith		pre 1884	9cm, long, oval, narrow thick, plano-convex, yellow/grey ?fabricator worked all round, Pitt Rivers colln
axe	1884.125.165	n		prm	FHM02	522500 178225	Th Hammersmith		1870	16cm, heavy, dk blue/grey, pecked all over, subtriang/conical/oval body, rounded point, pol, Pitt Rivers colln
axehead pol	1964.12-6.898	n	granular	bm	FHM02	522500 178225	Th Hammersmith	concretion on both faces		16.4x6.9cm, dk grey mottled, rounded narrow butt, straight sides tapering out to curved cutting edge,

										double concave profile, asymmetrical cutting edge
axe	30.181/3	n		mol	FHM02	522500 178225	Th Hammersmith	ground, polished /edge worn		19.4x7.5x4.7cm black, A&J 93
axe	68.9/18	n		mol	FHM02	522500 178225	Th Hammersmith	ground polished		14x6.8x3.9cm A&J 76
axe	927.48.68 AE 738	n		rom	FHM02	522500 178225	Th Hammersmith	lower third is roughened, some encrustation	pre 1927 Mar24	12x6cm, speckled grey, broad curved edge, longer at one side,polished, sides tapering slightly to thick rounded butt GFL
axe	A.21062	n	grpVII porphyrite microdiorite	mol	FHM02	522500 178225	Th Hammersmith	ground, butt damaged, polished	1919 Dec	11.5x6.7x2.6cm grey mottled flattish oval section,A&J 84, LS p88 no9
axe	O.629	n	greenstone	mol	FHM02	522500 178225	Th ballast, Hammersmith off the Mall	ground polished		15.5x5.7x4cm A&J 266, LS p88 mx13, Layton
chisel	PR 6.60	n	chert?	prm	FHM02	522500 178229	Th Hammersmith, surface find	flaked	1869 Dec	13.5cm, brown, narrow, tapering, Pitt Rivers Colln
axe	1884.125.305	n	chert	prm	FHM03	523175 177390	Th Hammersmith		1869 May	13.5cm, unpol, flaked, ground, oval/sub-plano-convex, Pitt Rivers Colln
axe	48.30/5	n		mol	FHM03	523175	Th	ground		13.2x6.5x3.7cm A&J 48

						177390	Hammersmith dredged	polished, slightly battered butt		
axe	68.9/19	n	diorite	mol	FHM03	523175 177390	Th Hammersmith	ground polished butt battered		12.4x5.9x3.5cm A&J 56
axe	68.9/20	n	'mudstone'	mol	FHM03	523175 177390	Th Hammersmith	ground polished		12.5x4.2x1.7cm A&J 20
axe	A.8412	n		mol	FHM03	523175 177390	Th Hammersmith	ground, polished	pre 1912	15.4x5.2x2.75cm grey-green banded stone A&J 20
axe	O.630	n	gpI greenstone	mol	FHM03	523175 177390	Bed of Th, Hammersmith	ground polished		12.9x6.2x3.7cm ?Vull 74, A&J 75 Layton
chisel	PR 6.55.1002	n		prm	FHM03	523175 177390	Th Hammersmith	pecked all over	1870	16cm, heavy, dk bluegrey, subtriang, conical oval body, rounded point, Pitt Rivers Colln
axe	1884.125.304	n	chert	prm	FHM03	523181 177390	Th Hammersmith foreshore		1869 dec	13.3cm, tapering, brown, Pitt Rivers colln
axe	A.24366	n	grpIV amphibolite	mol	FRM21	523300 177125	Th Barn Elms	ground, butt slightly damaged=? attaching to handle	1921 Dec	11.3x6x2.9cm A&J 71, LS p92 no66
axe	A.1560	n	group IA	mol	FHM05	523425	Th	ground,	pre 1912	11.6x6.2x3.4cm black slightly

			greenstone ?Cornwall			177225	foreshore Fulham	mostly polished, battered butt		oblique cutting edge LS p88 no5
axe	48.30/3	n		mol	FWW04	524575 175575	Th Putney	ground polished, signs of resharpening, bat'd butt		10.3x5.5x3.3cm A&J 72
axe	A.26003	n	'non-ophitic dolerite'	mol	FWW04	524575 175575	Th Wandsworth, Putney end	ground, tip of butt battered	1923 Jul	15.7x5.3x3.5cm black pointed butt, squ cutting edge, A&J 306, LS p89 no17, PPS 28:229 nos 964,1169,1174
macehead	k998A	n	grey wacke?	km	FWW04	524575 175575	Th under original railway line at Putney	edge slightly chipped, heavily used	pre1927	11x6.3x2.7cm, perforated in centre, pecked/ground, wellworn hole, poss hafting marks, blade and edge chipped
axe?	1906 5-30 18	n		bm	FWW07	525750 175450	Th Wandsworth			
pestle	A.26461	m/n	coarse ashy volcanic grit	mol	FWW07	525750 175450	Th Wandsworth	little limey encrustation, mainly rough	1924	33x7x4.5cm Lawrence refs: Lawrence 91, PPS 26:fig6.1, PPS 5:pl11B
axe	1850.2.1	n	greenstone	bm	FWW07	525750 175450	Th Wandsworth		1850	
axe	A.17199	n	diorite	mol missing	FWW07	525750 175450	Th Wandswort	roughened surface,		16 cm long, unusually broad form

							h	polished edge		
axe	A.1932	n	group IA greenstone ?Cornwall	mol	FWW07	525750 175450	Th Wandsworth	ground, butt damage	pre 1912	16.6x6.8x4.1cm Stanley *** A&J 261, LS p89 no18, Lawrence plIII no5
axe	A3	n	greenstone	mol	FWW07	525750 175450	Th Wandsworth	ground, poss resharpened, battered butt	1911	13.6x6.5x3.7cm oblique cutting edge A&J 46, LS p89 no16
axe	O.641	n		mol	FWW07	525750 175450	Th Ballast Wandsworth	ground polished	1864	21.8x7.8x4.8cm A&J 39 Layton
axe	Z24858 (363 9/12)	n		cumaa	FWW07	525750 175450	Th Wandsworth	encrustation, damaged blade-worn, abraded		15x4.5cm, v dk grey, dground/polished, omed faces
axe	A.7748	n	grpI greenstone	loan WW Mus	FWW11	526875 177200	Th Battersea	ground, polished edge worn	1912	11.7x5x3.1cm thick oval section, butt thick & almost rectang in section A&J 74, LS p88 no1
axe	1927.379 8	n		ash	FKN01	527000 177530	Th Battersea Bridge	gr, pol	pre 1927	21x7.8cm thin butt, circular cross section, JEC
axes (2)	1861.6.20 .1,2	n		bm	FWW12	527250 177350	Th Battersea		1861	
axe	1884.123. 324	n		prm	FWW12	527250 177350	Th Battersea		pre1884	14.5cm, long, yellwo/grey, partly ground, pol, expanding to curved edge, flaked, Pitt Rivers colln
axe	68.28/2	n	grp I	mol	FWW12	527250 177350	Th nr Battersea	ground polished		12x6.6x3.5cm PPs 17:101-2 no630, PPS 28:255 no630, LS p88 no2,

								edge/butt damaged		A&J 70, E.T.S. 20
axe	St.104c	n	green stone	bm	FWW13	527750 177550	Th Battersea			Christy colln
flake	1884.132.57	m	chert	prm	FWW14	528250 177650	Th Battersea		pre 1884	5.7cm, sm brown, parallel flaked surface, Wymer CBA Gaz 1977 p199, Pitt Rivers Colln
flake	1884.132.58	m	chert?	prm	FWW14	528250 177650	Th Battersea		pre 1874	7.7cm, brown, flaked, narrow backed, longit curving blade, Wymer CBA Gaz 1977 p199, Pitt Rivers Colln
axe	1927.3797	m	chert	ash	FWW14	528250 177650	Th Battersea	tranchet	1896	12.1x4.8cm, buff/brown, chipped, irregular cross section JEC
chisel	1884.125.167	n		prm	FWW14	528250 177650	Th Battersea	encrusted with ?lime	pre 1884	11.75cm, ground black stone, slightly curved edge, Pitt Rivers Colln
chisel	1884.125.169	n	chert	prm	FWW14	528250 177650	Th Battersea	hump on both sides	pre1884	14.25cm, pale yellow/grey,pol, hump on both sides, Pitt Rivers Colln
axe	1907.6-9	m		bm	FLM01	530100 178250	Th Vauxhall		1907	GFL
axe	Z24858 (690)	n		cumaa	FLM01	530100 178250	Th Vauxhall	damaged blade, poss reground (asymmetrical blade),		11x5.7cm, grey, ground, encrustation
axe	A.14913	n	group I/IA diorite	mol	FLM02	530350 178625	Th Westminster opposite Tate gallery	ground, polished edge worn, butt battered	1915 Feb	10.3x5.8x3.1cm A&J 73, Arch J.86:93, Stanley 1976
axe	A.26010	n	serpentine	mol	FLM03	530525	Th	ground,	1923 Aug	18.4x9.5x5cm massive, A&J 321,

			prob Cornish			179100	opposite Lambeth palace	edge very worn, truncated butt		LS p92 no67
axe	none10	n	Grp 1 greenstone cornwall	private		536840 178640	Th foreshore TQ 3684 7864	cutting edge battered stained dk on 1 side, coarse	1989	11.4x5.2x3.2cm, thin butt, RHill, LAMAS 42
axe gr pol	1927.380 2	n		ash	FCY01	532050 180750	Th London	broken butt	1865	23x8.1cm, irregular Xsection, JEC
axe gr pol	1927.380 3	n		ash	FCY01	532050 180750	Th London		pre 1927	18.8x8.8cm, rounded butt, Xsection circular, JEC
chisel	PR 6.55.1002 a	n		prm	FCY01	532050 180750	Th London		1868 May3	22.5cm, large, ground, dk grey heavy,stone, Pitt Rivers Colln
polishe r	A.5458	n		mol missing	FCY01	532050 180750	Th London		1913	Vull 70
axe	A4	n	flinty stone	mol	FGN04	538500 178750	Th Greenwich	ground, edge damaged, worn, many flake scars,	pre 1911	17.2x6.5x4.3cm milky grey unsymmetrical, thin rounded butt A&J108
maceh ead	A.19915	n	quartzite	mol	FGN13	540250 179325	Th ?Woolwich /Greenwic h	hour glass perforation	1918	11.5x8.5cm oval flat form
axe	O.442	n	'very near jadeite'	mol	FTH01	533600 180400	Th off Tower,	ground, butt end		8.4x5.3x1.3cm A&J 367, LS p88 no12, Layton

			1984 Dec				ballast	broken off		
axe	A.16571	n	markfieldite	mol	FTH05	535125 180125	Th foreshore Wapping	ground, edge broken in antiquity	1916	22.4x8.2x4.5cm black,thick, pointed butt A*J 90, LS 89, 20, PPS 28:230
axe	48.30/12	n	Diorite type	mol	FTH22	538650 180400	Th Orchard House Blackwall Poplar	ground,edge only polished, band=?evid of hafting		19x8.2x4.5cm A&J 91
axe	48.30/7	n		mol	FTH22	538650 180400	Th Blackwall Poplar	ground, only blade polished, butt damaged		19.5x6.5x4.8cm
axe	O.615	n		mol	FTH22	538650 180400	Bed of Th, nr Blackwall tunnel	polished		Layton
axe	O.614	n	gp I greenstone	mol	FWM07	530350 179300	Bed of Th, off Houses of Parliament	ground polished		23.3x8.4x4.8cm Evans 123, A&J 18, Vull 74, Layton

Table 27 Stone -Foreign

Type	Number	Period	Petrology	Origin	Present Location	Zone-code	ngr TQ	Findspot	Condition	Date	Comments
axe	31.48	n	jadeite	Brittany, Piedmont, Swiss side of Alps	mol	FRM18	520825 176500	Th Barnes Mortlake	ground	pre 1914	16x7x1.6/1.8cm Lawrence refs: Lawrence 84 plIVA, PSAS 83:153-8 no33, PPS 29:163 no39, Jessup 80, LSp91 no58

Table 28 Pottery - Whole

Type/Style	Number	Period	Present Location	Zone_code	ngr TQ	Findspot	Condition	Date	Comments
bowl Mortlake	1909 6-25 1	n	bm	FRM18	520825 176500	Th Mortlake			
bowl	1909.6.25	n	bm	FRM18	520825 176500	Th Mortlake		1909	
bowl Mortlake	BM 63	n	bm	FRM18	520825 176500	Th Mortlake			
urn black ware	C.700	ln	mol missing	FHM03	523175 177390	Th Hammersmith		1912	

Table 29 Pottery - Sherd

Type/Style	Number	Period	Present location	Zone_code	ngr TQ	Findspot	Condition	Date	Comments
Mortlake/?Peterborough	A.10213	n	mol	FRM18	520825 176500	Th Barnes Mortlake	restuck, conjoining from bowl	1912	twisted cord decoration not barbed wire, fingertip impressions in sm hollowed neck ?Lawrence 84 fig 1.4
beaker	A.10214	n	mol	FRM18	520825 176500	Th Barnes Mortlake		1912	9.6x8.4cm coarse storage pot, ?rusticated, fingernail decoration
Ebbsfleet rim	A.10215	n	mol	FRM18	520825 176500	Th Barnes Mortlake		pre 1912	c6.8cm long, deep lattice pattern grooves on rim, sm pits/?fingernail decoration below, hollow neck, inside=raised pattern triangs filled with rough diamond squs, Lawrence 84
beaker	A.10217	n	mol	FRM18	520825 176500	Th Barnes Mortlake	slightly burnished	1912	5.9x5.8x0.8xm dk grey, double horizontal groove with vertical grooving one side & incised chevrons the other
Abingdon, rim, Black burnished	A.10558	n	mol	FRM18	520825 176500	Th Barnes Mortlake	smooth, gritty interior,	1912	c6.5cm long slightly outturned rim, groove c3cm below rim
Abingdon, rim	A.10560	n	mol	FRM18	520825 176500	Th Barnes Mortlake	plain, gritty,	1912	fairly sm outturned rim Lawrence 84
Ebbsfleet	A.10573	n	mol	FRM18	520825 176500	Th Barnes Mortlake		pre 1912	
black grey ware	A.13633	n	mol missing	FRM18	520825 176500	Th Mortlake		1914	with band of finger impressions below rim

black grey ware	A.13634	n	mol missing	FRM18	520825 176500	Th Mortlake		1914	with band of finger impressions below rim
black grey ware	A.13636	n	mol missing	FRM18	520825 176500	Th Mortlake		1914	with band of finger impressions below rim
Sherds (2) Grooved ware, rim	A.13664	ln	mol	FRM18	520825 176500	Th Barnes Mortlake	v crumbly, with grits	1914	9.8x8.1cm, =one pot, brown ext, curved wall, flat rim, irregular horizontal grooves c5mm thick
Mortlake ?rim, ?vase	A.13666	n	mol	FRM18	520825 176500	Th Barnes Mortlake	pits ?with sm pointed implem't	1914	rough diamond lattice pattern incised inside rim/neck ?Lawrence 84
Fengate vase	A.13667	n	mol	FRM18	520825 176500	Th Barnes Mortlake		1914	Vull 82 plIII.2, Lawrence 84 fig1,3
Mortlake rim ?vase	A.13668	n	mol	FRM18	520825 176500	Th Barnes Mortlake		1914	diamond lattice pattern incised inside neck/rim Lawrence 84
Mortlake/Peterborough	A.13670	n	mol	FRM18	520825 176500	Th Barnes Mortlake		1914	
Sherds (2) Peterborough but unusual	A.13671	n	mol	FRM18	520825 176500	Th Barnes Mortlake	conjoining	1914	cf Windmill Hill & C.954,C.955, Lawrence 84 fig1.2
Mortlake rim vase	A.13693	n	mol	FRM18	520825 176500	Th Barnes Mortlake		1914	black/grey ware, bands of oblique indents,Lawrence 84 fig1,1
frag	A.17508	n	mol missing	FRM18	520825 176500	Th Mortlake		1916	with pinched decoration
decorated	C.950	n	mol missing	FRM18	520825 176500	Th Mortlake		1912	
decorated	C.952	n	mol missing	FRM18	520825 176500	Th Mortlake		1912	
Ebbsfleet rim	C.953	n	mol	FRM18	520825 176500	Th Barnes Mortlake		1912	fingernail decoration, hollow neck/sharp shoulder, inside

									below rim=horizontal rows finernail decoration, cf A.13671, Lawrence 84,
Ebbsfleet, prob Peterborough body	C.954	n	mol	FRM18	520825 176500	Th Barnes Mortlake	faint traces of decoration	1912	
Sherds (3) Ebbsfleet (Peterborough)	C.955	n	mol	FRM18	520825 176500	Th Barnes Mortlake	conjoining	1912	faint traces of ?whipped cord decoration, sm pits in inturned ?rim
sherds (3)	POA 158-160	n	bm	FRM18	520825 176500	Th Mortlake			
rim/body	66.39/1	n	gpm		521900 178000	Th foreshore off SE part Chiswick eyot	thin layer of soot caked on outer surface	1966	from large vessel dia c28cm, handmade calcined, flint tempered, dk grey/black, with brown tinges on outer surfaces, simple rolled rim, RCC
body sherd Mortlake ware	66.39/2	n	gpm		521900 178000	Th foreshore off SE part Chiswick eyot	decoration of impressed horizontal/vertical lines	pre1966	grey core with dk grey inner surface, grey/orange-brown outer surface, shell tempered with shell tempered grog, RCC
Fengate half bowl	P.21	n	mol	FRM20	522500 178200	Th Wandsworth nr Hammersmith Br	decorated	1855	15.4x12.75cm part food vessel, moulded rim, decorated inside lip/exterior, Vull 91-2, Lawrence 91, Archaeologia 69:11-12figs 9,10 Layton
decorated	C.945	n	mol	FHM02	522500 178225	Th		1912	8.5x7.5cm

						Hammersmith			
Grooved ware	C.946	ln	mol	FHM02	522500 178225	Th Hammersmith		1912	10x5x0.9cm horizontal grooves, fingernail impressions
Grooved ware	C.948	ln	mol	FHM02	522500 178225	Th Hammersmith		1912	decorated with sm circular deressions/ straight grooves ?Lawrence 86
Grooved ware rim	C.949	n	mol	FHM02	522500 178225	Th Hammersmith		1912	?beaker, 2 horizontal rows fingernail impressions outside, one inside top
beaker	167 (4069)	n	mol	FHM03	523175 177390	Th Hammersmith		pre 1908	23x24.5cm frag lge vase, coarse ware, indented marks on outer surface
Ebbsfleet rim	C.940	n	mol	FHM03	523175 177390	Th Hammersmith		1912	fingertip impressions in hollow neck, oblique grooves on top rim
Ebbsfleet rim	C.941	n	mol	FHM03	523175 177390	Th Hammersmith		1912	lattice on rim, fingernail on body, deep grooves on shoulder
Ebbsfleet rim	C.944	n	mol	FHM03	523175 177390	Th Hammersmith		1912	hollow neck/shoulder, fingernail impressions on rim, perforation in neck, another not pierced
greyware rim	unknown	n	mol	FWW03	524375 175660	Th Putney foreshore midway between Putney bridge/former BP		1990 Nov19	rim diam c14cm, everted rim, cordon below, misaceous fabric

						jetties at Wandsworth, midway between embankment/low water mark			
Grooved ware body	68.117	ln	mol		524460 175540	Th foreshore Putney TQ 2446 7554		1968 Sep1	4x3.5x0.8cm dk grey, herringbone pattern of grooves
Grooved ware	A.9964	ln	mol	FWW12	527250 177350	Th Battersea	pt bowl with herringbone decor	1912	brown, smooth, flat rim
potsherd Deverel-Rimbury type	82.367/59	ba	mol		533600 180500	Inmost ward Tower of London TQ 336 805	coarse, fairly soft	1976	3.4x2.9x1.2cm core dk grey, exterior reddish, flint grits, ?burnt after beaking, from natural silt , layer 119, DoE excavation 1976
southern decorated bowl trad rim	none30	en	private	FSW01	534360 179800	Th foreshore d/s Chambers Wharf with 'macehead' and core TQ 3436 7980	race adhereing when found	1995 jul	6.7x6.5cm, part large flaring mouth thin walled open bowl, sandy fabric with crushed burnt flint inclusions
Mortlake ware	none9	ln	private		534800 179800	TQ 348 798	decorated externally	1989	wall sherd 5.2x1.2cm, dk grey brown laminated fabric,

									tempered with crushed burnt flint, ext - c4 horizontal row a of 'bird-bone' type impressions, int-wiped RHill, LAMAS 42
Abingdon, part urn, rim/body	A.23378	n	mol	FHL06	517500 176350	Th Syon Reach	fairly smooth, with fine grits	1920 Nov	10x10.5cm hard grey ware, plain, slight outturned irregular rim, brownish
Grooved ware	A.27166	n	mol	FHL12	519350 177750	Th Strand-on-the-Green		1924 Aug	residue analysis=fish&milk prods, grey, herringbone decoration, flat bottom Lawrence 82
sherds (5)	82.35/1	n	gpm	FHL21	521875 177950	Chiswick eyot	matching	1962	10x7.5xxx0.5/0.6cm, dk grey, flecked with white
sherd	82.35/2	n	gpm	FHL21	521875 177950	Chiswick eyot		1962	5x5.5x0.8/0.9cm, dk grey flecked with white

Table 30 Horn/Antler

Horn/Antler Type	Number	Period	Present Location	Zone_code	ngr TQ	Findspot	Condition	Date	Comments
antler hoe	49.107/900	n	mol		503350 171100	Th Staines		1898	5350+/-100 BP, OxA-1158, =3400+/-100BC; 9 5/8in long, oblique cutting edge, oval shaft hole, lloyd
mattock antler beam Smith type D	49.107/902	m/n	mol	FRM02	516080 172425	Th Twickenham	mineralizes		23.8cm lg, oval perforation, oblique edge, LAMAS 20 fig 7.2 Lloyd
macehead/sleeve	49.67	m	mol	FRM03	516550 173125	Th Eel Pie Island Twickenhm, dredged	?red deer	1949	8cm lg, perforated for haft
pick antler	49.107/894	n	mol	FRM10	518000 174000	Th Petersham		1897	37cm lg, Lloyd
hammer head horn	49.107/922	m	mol	FRM10	518000 174000	Th Petersham	broken/mended 1984	1888 Jan16	8.3cm lg, round type, perforated, Lloyd
mattock horn	A.13478	n	mol	FRM15	518650 177750	Th Kew		1914	16.5cm lg, edge cut obliquely, perforation roughly cut to form an oval
adze/?mattock antler	49.107/897	m	mol	FRM16	519650 177725	?Th, Kew Bridge	calcareous deposit on tool, state of burr shows shed naturally		?late Boreal, 6870+/-100BC (8820+/_100BP OxA-1160); c30cm lg, wide cylindrical perforation below burr, working edge cut obliquely and ground adze-like, see pollen LAMAS 20:133, Lloyd
axe antler Lyngby type	49.107/896	m	mol	FRM18	520825 176500	Th Mortlake Reach		1889	30cm lg Lloyd
hammer head horn	A.13498	m	mol	FRM18	520825 176500	Th Mortlake	under side broken	1914	9cm lg, circular perforation

							away		
horn frag	A.7680	n	mol	FRM18	520825 176500	Th Mortlake	showing primitive cutting	1912	
antler/horn	A.7893	n	mol	FRM18	520825 176500	Th Mortlake	unw, red deer	1912	
antler 'pendant'	A.8125	n	mol	FRM18	520825 176500	Th Mortlake		1912	
hammer head horn	A.9382	m	mol	FRM18	520825 176500	Th Mortlake		1912	
hammer/antler	927.28.104 AF 321	n	rom	FRM19	521625 176800	Th Barnes		pre 1927 Jul9	8.6x6.2cm central circilar perforation
?part of pick/antler/horn	927.28.106 AF 323	n	rom	FRM19	521625 176800	Th Barnes		pre 1927 Jul9	l24.3cm circular perf at top, 2 more perf where branches broken off, lwer end incomplete, GFL
macehead antler	81.167/5	l n	mol	FHM02	522500 178225	Th Hammersmith	cracked longitudinally, surface flaking, shed, red deer, brow/bez tines removed	pre 1919	9x8.2cm straight circular perforation through solid beam portion, edge of burr smooth
antler handle/hammer head horn	A.13689	n	mol	FHM02	522500 178225	Th Hammersmith	roughly cut oval perforation	1914	16.5cm lg, ?socket for implement
hammer head horn	A.13930	n	mol	FHM02	522500 178225	Th Hammersmith	red deer unfinished	1914	brow tine, butt end cut and partly bored
mattock	71	m	mol	FHM03	523175	Th			c16.2cm lg, oblique edge, oval perforation

antler beam Smith type D					177390	Hammersmith			near basal end
adze horn/antler	910.153.4 AF326	n	rom	FHM03	523175 177390	Th Hammersmith	underside highly polished from use	pre 1910 Oct	l17.5cm curved grip GFL
hammer head horn	A.13687	m	mol	FHM03	523175 177390	Th Hammersmith		1914	8cm lg, circular perforation
hammer horn	A.13929	m	mol	FHM03	523175 177390	Th Hammersmith	red deer	1914	c9cm lg, both ends decorated with a series of facets
hammer head horn	A.21047	m	mol	FHM03	523175 177390	Th Hammersmith	2 tines removed	1919	13.3cm lg, circular shaft hole/barely perforated
hammer head horn	81.167/1	m	mol	FRM21	523300 177125	Th Barn Elms	shed, red deer with brow/bez tines removed, base of burr dented, parts surface gone	1906 Aug	13.5x11cm, hollow beam cut off perpendicularly, peroration through stump of bez tine,
mattock antler beam	A.18231	m	mol	FRM21	523300 177125	Th Barn Elms		1917 May	c16cm lg, ?skin stretcher/dehairer (R Jacobi 19.3.74), circular perforation for handle, bevelled edge
point antler frag	A.4907	m	mol	FWW06	525275 175375	Th Wandswort	lower part only,	1911	9050+/-85BP (OxA 3736); 10cm lg, fishing/fowling gear, Clark 18 fig2,7,

Maglemosian form						h	barbed on one side		Rankine 22, Warren 119-20 fig 10, SAC 63:13ff fig3,1 ex ?Lawrence
?haft for stone tool/ horn	927.28.105 AF322	n	rom	FWW07	525750 175450	Th Wandsworth		pre 1927 Jul9	l18.4cm, central perf, oblate opening, GFL
implement antler	A.7976	n	mol missing	FWW12	527250 177350	Th Battersea			
antler beam	none28	lme	private		527650 177480	Th Battersea Surrey cTQ 2765 7748 14m out from river wall, 225m d/s Albert bridge	badly shattered distal end	1996 aug	40x4cm, trz tine survives altho tip missing, bevel at proximal end with evid of working
point antler frag Maglemosian form	A.19788	m	mol	FWW13	527750 177550	Th Battersea	lower part only, barbed on one side	1918	14.8cm lg, Clark 115-7 fog 2,6 ex Greenwell
comb horn	A.10683	n	mol		528000 177600	Th Battersea TQ 280 776 ?	from antler sleeve	1913	cylindrical, LAMAS special paper no1 SMR no 100068
mattock antler	A.26935	m	mol		530600 179750	Found with A.26936 among piles on site of County	blunt, rubbed	1924	17.5cm lg, oval perforation, axe-like edge, narrow

						Hall extension			
?mattock antler	A.27513	m	mol		530600 179750	site of County Hall extension in gravel, Th/side same site as A.27512	rubbed, blunt	1925	30cm lg, oval perforation, axelike edge, narrow
mattock head antler Smith type A	A.27514	m	mol		530600 179750	site of County Hall extension in gravel, Th/side same site as A.27512	rubbed, blunt, frag of wood haft in socket	1925	25.5cm lg, narrow, axelike edge
hammer head horn	A.13499	m	mol	FRM15	518900 177825	Th Kew		1914	8.3cm lg, circular perforation
hammer antler	49.107/924	m	mol	FHL04	516875 176025	Th Isleworth	?red deer, bruised like hammer stones, cracked, peeling, mineralized	1895	cf Baltic Maglemosian; 10cm lg, perforated, inside not artifially enlarged to take stone/bone adjunct, LAMAS 20 fig 7,7, Lloyd
hammer head antler	49.53	m	mol	FHL08	518100 177175	Th foreshore		1949	10.2cm perforated

						Brentford			
antler macehead	74.26	n	gpm	FHL12	519350 177750	Th Strand on the Green		1935 jun	8.8 long, perfor 2.7cm diam
mattock antler beam Smith type D	60.176/299	m	mol	FKN01	526750 177310	Th Chelsea	red deer	1911	27cm lg, bevelled cutting edge, circular hole, J.O.K.
antler worked	95.290/5	n	mol	FLM01	530100 178250	Th Vauxhall, Nine Elms	cut and chopped antler base, brow tine removed, bez tine almost removed	1993 Aug20	found within grp piles in front of Cold Store, Nine elms
antler tine	95.290/8	n	mol	FLM01	530100 178250	Th Vauxhall Nine Elms	found close to snapped flint blade 95.290/4	1993 Aug 20	23.3x3cm downstream of pile structre
mattock antler	38.187	lm	mol	FSW11	532000 180575	Bankside, depot of S Met Gas Co, 400yds/ft from Th, c15ft deep	c5000BC; red deer, heavily mineralised		21.5cm lg, perforation such that haftwould be at angle to main axis of antler head, singly-bevellede, chisel-like edge in line with perforation

Table 31 Miscellaneous

item	number	period	present location	zone code	findspot	ngr TQ	condition	date	comments
mussel shell Unis margaritifera	A.11919	n	mol	FWW12	Th Battersea	527250 177350		1913	
mussel shell Unis margaritifera	A.11920	n	mol	FWW12	Th Battersea	527250 177350		1913	

Table 32 Flint

Type	Number	period	Present location	zone code	NGR TQ	Findspot	Condition	Date	Comments
pick	O.210	m	mol	FBX12	551550 178375	Th bed of Erith		1889 Feb	16.5x5x4(6 at broader end)cm black with grey mottle, poss tranchet on broader end=evid of use, sub-rect cross-section 'Thames Bed off Erith, Feb. 1889' Layton
adze	49.107/28	m	mol	FBX15	552950 178150	Th Erith	tranchet, well chipped	1889 Aug	20x5cm thick section, tapering towards pointed butt Lloyd
adze	49.107/636	m	mol	FBX15	552950 178150	Th Erith		undated	12x4.5cm grey mottled ?Lloyd
axe	Z30764.1	m	cumaa	FBX15	552950 178150	Th Erith 'Thames River, Erith Reach' found 6 fathoms			
axe	32	m	mol	FBX15	552950 178150	Th Erith	tranchet, unpolished		13.5x2.5cm
axe	49.107/633	m	mol	FBX15	552950 178150	Th Erith	tranchet	undated	16cm long chipped Lloyd
axe	908.53.1 Ae 492	m/n	rom	FBX15	552950 178150	Th Erith	tranchet; scratched on one face	pre 1908 Nov	12x4.5cm, lt mottled grey, chipped, narrow, oval edge, sides irreg, butt thick/almost straight, one side almost flat, Fenton
axe	7.33	n	brad	FBX15	552950 178150	Th Erith dredged	butt end broken in antiquity		11.5x6.2cm yellow/brown, ochreous patina, chipped to shape, ground and pol, section lozenge shape Cudworth Wm coll

axe	O.370	n	mol	FBX15	552950 178150	Th Erith			Layton
axe	O.416	n	mol	FBX15	552950 178150	Th Erith	polished		Layton
axe	O.417	n	mol	FBX15	552950 178150	Th Erith	ground, polished		17.4x8.2x3.4cm cream, A&J p36 no193, Layton
axe	O.418	n	mol	FBX15	552950 178150	Th Erith	polished		Layton
axe	O.671	n	mol	FBX15	552950 178150	Th Erith		1888	Layton
burin	725	em	gpm	FBX15	552950 178150	Th Erith	slightly rolled, edges abraded, stained over patina		11x2.7cm, brown, made on double-edged blade recently snapped at terminal end, Wymer p183 Sadler coll
pick	49.107/634	m	mol	FBX15	552950 178150	Th Erith	some cortex	undated	18x4.5cm grey flaked ?Lloyd
thames pick	25	m	mol	FBX15	552950 178150	Th Erith	cortex on butt end		16x5cm
scraper	39	n	mol	FCY01	532250 180775	Queenhithe			5.5x4.5cm grey, oyster form
thames pick	none6	m	private	FGN02	537500 177400	Ravensbourne river west bank Deptford TQ 375 774	broken butt, some cortex, cutting edge resharpened	1984	13.8x5.3x41cm, grey (stained bluish-black/orange), RHill, LAMAS 42
axe	1177	em	gpm	FGN18	542750 179350	Th Woolwich	tranchet, slightly		19.3x5.2x4.1cm, brown, non-cortical, Wymer CBA p187 Sadler coll

							stained, with patchy black deposit		
axe	A.13698	m	mol	FGN18	542750 179350	Th Woolwich	tranchet, polished some cortex on butt and faces	1914 June	12.2x5.6x3.25cm unusual oblong form, pointed oval section, flaked only
axe	908.53.2 AE 493	n	rom	FGN18	542750 179350	Th Woolwich	cortex on butt and faces, rather cherty looking	pre 1908 Nov	16x5cm lt brown/dk at butt, sharp edge, irreg oval, straight sides and irreg, butt flat Fenton
axe	927.51.8 AE 731	n	rom	FGN18	542750 179350	Th Woolwich	butt damaged	pre 1927 Apr14	20x5.5cm dk br/grey mottled, lpolished, long narrow, edge curved and nicked, faces convex, sides tapering to rounded butt with cincave nick. Fenton
chisel	Z15147 F (1543)	n	cumaa	FGN18	542750 179350	Th Woolwich	tip broken, sm cortex, sides slightly chipped		11x4.5cm, mottled grey, made on flake, fairly fresh Fox coll
flake	bmsc15	m	bm	FGN18	542750 179350	Th Woolwich	evidence of earlier working on back	pre 1919	11x4.5cm lt grey mottled, abraded
imple	WG 72	n	bm	FGN18	542750	Th			

ment					179350	Woolwich			
knife	bmsc11	m	bm	FGN18	542750 179350	Th Woolwich		pre 1919	12.5x2.3cm grey, curved, retouch on blade edges
knife	bmsc12	m	bm	FGN18	542750 179350	Th Woolwich		pre 1919	9.5x3cm brown/yellow mottled, retouch along edges for serrated edges
knife	bmsc13	m	bm	FGN18	542750 179350	Th Woolwich	cortex	pre1919	8.5x4.5cm, brown, serrated edges with some abrasion, almost triang in shape
knife	bmsc14	m	bm	FGN18	542750 179350	Th Woolwich	evidence of earlier working on back of blade	pre 1919	11x5cm lt brown, bipolar earlier working
knife	bmsc16	m	bm	FGN18	542750 179350	Th Woolwich		pre1919	13x4cm, tan, sides braded
adze	49.107/46	m	mol	FHL03	516650 175680	Th Isleworth	tranchet, chipped	1888 Aug	13.5x5cm ochreous
adze	49.107/3	n	mol	FHL03	516650 175680	Th Isleworth	polished edge, sharp squ butt	1890 Sep	15x7cm well chipped, incurved sides Lloyd
axe	49.107/167	m	mol	FHL03	516650 175680	Th Isleworth	tranchet	1894 Feb	15x5cm yellow flaked picklike
axe	49.107/73	m	mol	FHL03	516650 175680	Th Isleworth	tranchet	1888 Sep	13x4.5cm grey triang cross-section
axe	36.217/8	n	mol	FHL03	516650 175680	Th Isleworth	polished		18.8x11cm wide & thin butt end, nearly parallel sides, thin oval section
axe	49.107/134	n	mol	FHL03	516650 175680	Th Isleworth	partly polished, incrustation	1894 Jan	15.5x5cm grey, narrow
axe	49.107/136	n	mol	FHL03	516650 175680	Th Isleworth	polished, edge	1890 Jan	16x6cm yellow

							missing (recent?)		
axe	49.107/39	n	mol	FHL03	516650 175680	Th Isleworth	recent fracture, butt end only	1890 Feb	15x6.5cm dk brown chipped sharply tapered butt Lloyd
axe	927.52.16 AE 736	n	rom	FHL03	516650 175680	Th Isleworth	some later damage, encrustation, very pol at blade edge edge	pre 1927 Mar22	14.3x6.3cm, brown, partly polished, edge curved and nicked, sides straight tapering to rounded flaked butt, faces convex, most flaking done in antiquity
scraper	49.107/173	n	mol	FHL03	516650 175680	Th Isleworth	end scraper, made on blade	1890 Dec	7x2.5cm black, duck-bill type
thames pick	49.107/100	m	mol	FHL03	516650 175680	Th Isleworth		1894 Feb	18x8cm dk grey curved
pick	WG 69	m	bm	FHL04	516875 176025	Th Isleworth	some cortex, slight abrasion		30x4.6cm, tan, Greenwell
thames pick	33.153/3	m	mol	FHL05	517125 176175	Th north foreshore Syon Reach Isleworth			
adze	49.107/30	m	mol	FHL06	517500 176350	Th Old England	tranchet, chipped	1888 Oct	16cm brown
axe	76.20/45	em	gpm	FHL06	517500 176350	Th Syon reach	tranchet	pre 1976	Crooke coll

axe	36.217/21	m	mol	FHL06	517500 176350	Th Syon Reach	tranchet, roughly flaked	1936	20x6cm irregular shape
axe	60.176/35	m	mol	FHL06	517500 176350	Th Syon Reach	whitish encrustations (some greenish)	1942 Jul28	14.8x6x3.5cm yellowish brown & grey chipped, butt=blunt, cross-section=thickened by rough hump JOK.
axe	A.22841	m	mol	FHL06	517500 176350	Th Syon Reach		1920 Aug	14.5cm long chipped
axe	36.217/2	n	mol	FHL06	517500 176350	Th Syon Reach	polished		18.2cm long,sides converge to a narrow thin butt
blade	17,150	m	mol	FHL06	517500 176350	Th Syon Reach			10x3cm
flake	A.18996	n	mol	FHL06	517500 176350	Th Syon reach		1917	
knife	1965.2.9.459	m	bm	FHL06	517500 176350	Th Syon Reach	v good	pre 1965	6x0.8cm, grey, very fine working, serrated edges using natural shape of flake, sharp point Trechmann coll ex GFL
pick	36.217/22	m	mol	FHL06	517500 176350	Th Syon Reach	tranchet, roughly flaked	1936	20x7cm irregular shape, used prob as a chisel
thames pick	A.27339/2	m	mol	FHL06	517500 176350	Th Syon Reach		1926 Jun30	Tranchet
pick	30.160	m	mol	FHL06	517500 176350	Th Syon Reach	part cortex, edge heavily battered		2.18x6.2x5.1cm chipped, squat type, slightly twisted in side view Lawrence
adze	60.176/55	m	mol	FHL08	518100 177175	Brentford prob Th	tranchet, white Th encrustations, little	1922 Apr5	18.7x5.1x4.5cm dk grey sharp thickenng at point, curved cutting edge made by 2 intersecting tranchet strokes 'from colln at Brford, prob Th' JOK.

							cortex on butt		
adze	O.229	m	mol	FHL08	518100 177175	Th Old England Brentford		1865	Layton
adze	O.230	m	mol	FHL08	518100 177175	Th Old England Brentford	tranchet	1864	Layton
adze	O.231	m	mol	FHL08	518100 177175	Th Old England Brentford	tranchet	1861	Layton
adze	O.232	m	mol	FHL08	518100 177175	Th Old England Brentford	tranchet	undated	Layton
axe	76.20/49	em	gpm	FHL08	518100 177175	Bed of Th nr Brentford ferry, Brentford	tranchet, stained, sm patch cortex		17x4.7x3.1cm, brown, Crooke coll
axe	76.20/46	en	gpm	FHL08	518100 177175	Th Brentford	slightly stained	pre 1976	13.9x5.5x3.4cm, partly pol, slightly squ sides, Crooke coll
axe	49.107/1	ln	mol	FHL08	518100 177175	Th Old England		1888 Jul	15x4cm yellow, v well chipped, flat narrow type, pointed butt
axe	49.107/5 8	m	mol	FHL08	518100 177175	Th Old England	tranchet	1890 Jul3	12x5cm yellow, chipped
axe	50.18	m	mol	FHL08	518100 177175	Th Brentford opp Dock	tranchet, fresh	?1950	14x5.5x4cm fresh black pointed butt, lozenge-shaped section, dredged -almost opp (south) of the Dock
axe	O.233	m	mol	FHL08	518100 177175	Th Old England Brentford	tranchet	undated	Layton

axe	O.682	m	mol	FHL08	518100 177175	Th bed Brentford, between ferry and docks + piles	tranchet	1865	23.8x5.6cm Layton
axe	O.683	m	mol	FHL08	518100 177175	Th Brentford, off Old England	tranchet	1895	20x5.1cm Layton
axe	A.10736	n	mol	FHL08	518100 177175	Th Brentford	polished all over, thin damaged butt	1913	12.9x5.66x3.8cm asymmetrical with asymmetrical edge, oval section, 1 end rounded/slightly flattened, 1=pointed
axe	O.373	n	mol	FHL08	518100 177175	Brentford Ferry	polished		Layton
axe	O.396	n	mol	FHL08	518100 177175	Th Brentford			thin, Layton
axe	O.426	n	mol	FHL08	518100 177175	(Th?)Brentford, Old England, Gt Western Docks	polished		Layton
axe	927.51.5 AE 728	n	rom	FHL08	518100 177175	Th Brentford	broken one side of butt, polished edge, encrustatio n, blade	pre 1927 Apr14	15x5cm dk brown, polished, edge and sides curved, giving slight twist, butt rounded, faces convex, heavily flaked in antiquity, Fenton

							reground, some cortex		
chisel	O.699	n	mol	FHL08	518100 177175	Bed of Th, between ferry & Docks, Brentford	partly polished	1865	Layton
core	Z15147 F (348)	m/n	cumaa	FHL08	518100 177175	Th Brentford	some cortex, poss retouch		6.5x4.5cm, grey, made on a flake, evidence of earlier flaking hinge, Fox coll
core	Z31180 (1270)	n	cumaa	FHL08	518100 177175	Th Brentford	patination, slightly damage on one edge		12.7x5.5cm, lt grey mottled, bipolar, long blade removal, one face flat and smooth
flake	bmcc189	m	bm	FHL08	518100 177175	Th Brentford	sides abraded		6.5x3.75cm, tan, clearly seen bulb of percussion, removal of flake at base leaving hinge, Crooke coll
flake	bmsc5	m	bm	FHL08	518100 177175	Th Brentford	encrustation/eroded cortex near base of flake	pre1919	7.5x1.75cm, br mottled, ?Sturge coll
implement	A.10746	n	mol	FHL08	518100 177175	Th Brentford		1913	
implement	A.10995	n	mol	FHL08	518100 177175	Th Brentford		1913	
pick	A.10748	n	mol	FHL08	518100 177175	Th Brentford		1913	
scraper	Z15147 F	m/n	cumaa	FHL08	518100	Th	some		6x4cm, grey/mottled dk yellow, retouch

	(544)				177175	Brentford	encrustation, fairly fresh		almost all the way round,, Fox coll
thames pick	bmuc3	m	bm	FHL08	518100 177175	Th Brentford	slight abrasion at sides, some cortex/encrustation		16x4cm, mottled grey twisted side,
thames pick	Z30882 (471)	m	cumaa	FHL08	518100 177175	Th Brentford	broken butt, some modern damage, slight damage to edges		13x5cm,yellow/grey (where modern chip == lt grey , poss yellow = peat staining?),
thames pick	k772	m	km	FHL08	518100 177175	Th Brentford, Middx	?unfinished, some encrustation	pre1907	13.2x4.1cm,unused, mottled black, Lawrence
axe	1909 3.19.8	m	bm	FHL10	518200 177375	Th Brentford ferry	war damage by fire 1941	1908 Sep23	15x5cm, brown, Hilton-Price coll
arrowhead	A.13436	n	mol	FHL10	518375 177475	in Thames at Brentford	l/s, tip missing, ground	1914	4.5cm long
chisel	O.700	n	mol	FHL12	519350 177750	Th Strand-on-the-Green, excavation for railway	partly polished		Layton

						br			
knife	A.27163	n	mol	FHL12	519350 177750	Th Strand-on-the-Green	plano-convex, chanelled working only on convex face, some cortex	1924 Aug	8.75x2.8x0.7cm greyish, asymmetrical
pick	O.248	m	mol	FHL12	519350 177750	Th Strand-on-the-Green, Strand Hill	cortex on butt	1862 Mar	13.5x4x3.5cm mottled black, triang cross-section, poss tranchet cutting edge 'Bed of the Thames off Strand Hill, Strand-on-the-Green, Mar 1862' Layton
scraper	76.20/249	em/en	gpm	FHL12	519350 177750	Th Strand on the-Green	end scraper	turn of century	8.6x4x1.5cm, brown, made on cortical double ridged blade, snapped at bulbar end, Crooke coll
arrowhead	A.15583	n	mol	FHL20	521850 178000	Thames, Chiswick	l/s ground	1915 May	4.0cm long
blade	83.57/1	en	gpm	FHL21	521875 177950	Chiswick eyot		pre1983	
knife	83.57/2	en	gpm	FHL21	521875 177950	Chiswick eyot	frag	pre 1983	
adze	34	m	mol	FHM02	522500 178225	Th Hammersmith			15cm long chipped
adze	A.14693	m	mol	FHM02	522500 178225	Th Hammersmith	tranchet, chipped only, unusaully flat underside	1914	15cm long

adze	927.48.69 AE 739	n	rom	FHM02	522500 178225	Th Hammersmith	peat stain on one half of one face, damaged, cortex on butt	pre 1927 Mar 24	12.7x5.4cm, mottled brown, polished, curve edges and sides, narrow butt, faces convex, depression near butt, GFL
axe	1884.123.325	en	prm	FHM02	522500 178225	Th Hammersmith	flaked	1870	plano-convex, black, long, pitt rivers coll
axe	1971.6-1.158	m	bm	FHM02	522500 178225	Th Hammersmith dredged	tranchet	1898 Dec	15.2x4.9cm
axe	30.181/2	m	mol	FHM02	522500 178225	Th Hammersmith	tranchet, encrusted with 'race' ?tufa	1930 Dec23	
axe	49.107/168	m	mol	FHM02	522500 178225	Th Hammersmith	tranchet	1894	14.5x4.5cm flaked only picklike
axe	O.376	m	mol	FHM02	522500 178225	Th Hammersmith	tranchet, lg amount cortex, retouch all sides&butt		14x5.1cm Groove =?blade been detached, oblong shape Layton
axe	AE 1142	m/n	rom	FHM02	522500 178225	Th Hammersmith	tranchet, butt broken, encrustation	pre 1928 Feb24	11.7x4.5cm grey, chipped, butt thick with almost triang section, slightly splayed and rounded blade, slightly curved, 'K.S.T.H.' GFL

axe	1927.3800	n	ash	FHM02	522500 178225	Th Hammersmith		1886	16.5x5.6cm, black, thin butted, flaked pol, Xsection oval with squared sides, JEC
axe	POA 189	n	bm	FHM02	522500 178225	Th Hammersmith			
axe	POA 193	n	bm	FHM02	522500 178225	Th Hammersmith			
axe	36.217/5	n	mol	FHM02	522500 178225	Th Hammersmith	polished		15x6cm wide and thin butted, thin oval section
axe	A.22444	n	mol	FHM02	522500 178225	Th Hammersmith	polished, sides are sharp	1920	19cm long tapering to butt=rounded
axe	A10965	n	mol	FHM02	522500 178225	Th Hammersmith	polished	1913	11.1cm long
axe	927.48.70 AE 741	n	rom	FHM02	522500 178225	Th Hammersmith	surface lightly abraded prior to further damage, dredger marks, encrustation, butt broken and scratched	pre 1927 Mar 24	15x6cm, mottled grey, polished, broad semicircular edge, sides curved, butt narrow and straight, irreg triang section, faces convex, GFL
blade	bmfc2	m	bm	FHM02	522500	Th	some	pre1869	5.2x1.8cm brown/yellow,

					178225	Hammersmith	encrustation, slight edge chipping	Jul	
blade	bmfc3	m	bm	FHM02	522500 178225	Th Hammersmith	edges heavily chipped	pre 1869 Jul	6x2.2cm, grey some cortex
blade	bmsc10	m	bm	FHM02	522500 178225	Th Hammersmith		pre 1919	
blade	Z15147 C (!541)	m	cumaa	FHM02	522500 178225	Th Hammermith	encrustation, slight chipping		7x2cm, grey,
blade	B.3.44	n	prm	FHM02	522500 178225	Th Hammersmith	l/s, thin	1912 May	donated by SG Hewlett
chisel	1927.3804	n	ash	FHM02	522500 178225	Th bet Putney and Hammersmith		1899	14.4x2.5cm, black, chipped, pol, thin butt, Xsection triang, JEC
disc	46.2/19	n	mol	FHM02	522500 178225	Th Hammersmith	cortex, worked	1910 Sept	5.3cm diam black
flake	Z15147 C (1547)	m	cumaa	FHM02	522500 178225	Th Hammersmith	edge damage		7x2.3cm, mottled grey, bipolar working, bulb of percussion at tip, flat flake
flake	1966.1463	n	ash	FHM02	522500 178225	Th Hammersmith	abraded,	pre 1961	8.5x2.9cm, grey/ochreous patina, striking platform reduced by battering on core
hammerstone	A.13708	n	mol	FHM02	522500 178225	Th Hammers	with trimmed	1914 June	6.5cm long

						mith	edge		
knife	A.10983	n	mol	FHM02	522500 178225	Th Hammers mith		1913	
pick	1907 6-19 9	m	bm	FHM02	522500 178225	Th Hammers mith	some race, abraded	1907	7.5x3cm, dk grey, tranchet flake, GFL
scraper	A.13734	m	mol	FHM02	522500 178225	Th Hammers mith		1914 July	7.5cm long duck bill type
scraper	A.19489	n	mol	FHM02	522500 178225	Th Hammers mith		1918 Feb	3.5cm long rounded form
scraper	943.41.48 AE 1225	n	rom	FHM02	522500 178225	Th Hammers mith	slightly chipped on one aspect, cortex on one face, encrustatio n	pre 1943	10.2x4cm thin, oval, prob used as scraper, pressure flaked on one edge/poss on other
spear	A.13474	n	mol	FHM02	522500 178225	Th Hammers mith	l/s, sm portion base broken in antiquity,	1914	11.5cm long unusually well chipped,
thames pick	30.74/2	m	mol	FHM02	522500 178225	Th Hammers mith	small	1930 May2	no tranchet
pick	O.240	m	mol	FHM02	523000 178100	Ballast, Hammers mith	butt end=cortex , broad	1885 Sept	18x6x4cm dk grey oval cross-section, 'Thames Ballast near Hammersmith Bridge Sept 1885' Layton

						Bridge	cleaverlike edge		
axe	1307	em	gpm	FHM03	523175 177390	Th Hammersmith	tranchet, slightly rolled, some 'race', cutting edge and butt heavily battered		8x4cm, dk brown, patch cortex on back, Wymer CBA p188, Sadler coll
blade	bmfc1	m	bm	FHM03	523175 177390	Th ballast Hammersmith		pre 1871 Nov7	9x1.75cm mottled brown
blade	16,875	m	mol	FHM03	523175 177390	Th Hammersmith	flake		7.0x2cm
chisel	PR.6.60.971	n	prm	FHM03	523175 177390	Hammersmith	flaked	1869 May	13.5cm, oval, subpalno-convex, Pitt Rivers Colln
fabricator	A.13707	em	mol	FHM03	523175 177390	Th Hammersmith	1 side well chipped, end blunted by use	1914	11.5cm long
fabricator	A.13702	n/m	mol	FHM03	523175 177390	Th Hammersmith	trimmed & rounded point	1914	7cm long
flake	A.13704	m/n	mol	FHM03	523175 177390	Th Hammersmith		1914 June	10cm long symmetrical form
flake	A.13697	n	mol	FHM03	523175	Th	roughly	1914 June	18.5cm long patinated

					177390	Hammersmith	chipped, 1 edge trimmed 2ndry working		
saw	A.13705	n	mol	FHM03	523175 177390	Th Hammersmith		1914	6cm long
saw	A.27194	n	mol	FHM03	523175 177390	Th Hammersmith		1924 Oct	8cm long
axe	St.104b	n	bm	FHM05	523350 177325	Th Hammersmith, opposite the Crabtree	faces of cutting edge polished	1868	mottled olive green, Christy colln
pick	O.239	m	mol	FHM05	523350 177325	Bed of Th off Crabtree Hammersmith	butt end=deep accidental chip	1881	19x5x3.5cm black with grey mottle, oval crsoo-section, tranchet at cutting edge 'Bed of Thames off Crabtree, Hammersmith, 1881' Layton
pick	O.242	m	mol	FHM06	523450 176575	Th off Craven Cottage Hammersmith	some cortex buttend blunt, cutting edge damaged	1887 Jan	14.5x3.5x3cm black, roughly triang shape, 'Bed of Thames off Craven Cottage, Hammersmith' Layton
scraper	Z15147 F (1547)	m/n	cumaa	FHV01	546000 181500	Th Barking	cortex		8.2x5.5cm, yellow/grey, retouch on 2 edges Fox coll

scraper	Z15147 F(1547)a	m/n	cumaa	FHV01	546000 181500	Th Barking	fairly fresh		7x4.5cm, grey/yellow, retouch on 2 edges, Fox coll
adze	33	m	mol	FKN01	526750 177350	Th Chelsea	tranchet, roughly chipped, truncated butt		20cm long ?Chis/Chel see CBA gazetteer card index
scraper	bmuc4	m	bm	FKN01	526750 177350	Th Chelsea	some cortex		6.5x4.5cm mottled grey/brown, worked on top face only
thames pick	Z31021 (84)	m	cumaa	FKN01	526750 177350	Th Chelsea	tranchet, break at butt, slight abrasion on sides ?hafting,		15x6cm, lt grey (cherty looking), evidence for hinge breaks of later flakes on body, domed shaped
thames pick	dup1	m	nhm	FKN01	526750 177350	Th Chelsea	cortex at base	pre 1963	20x6cm grey mottled
thames pick	909.54.5 AE 495	m/n	rom	FKN01	526750 177350	Th Chelsea	sm encrustation, some cortex	pre 1909 Aug12	15.2x4.5cm, dk brown/lighter patches, sharp oval edge, irreg, rounded butt with some brown cortex on both faces, heavily flaked, GFL
knife	60.176/351	n	mol	FKN03	527000 177425	Th Chelsea reach	1 edge shows retouch & no grinding, 1 end broken	1911	10.5x8.5x1.5cm ground/polished edges. J.Orrell Knowles purchased for 3/-15.7.11 LAMAS 20:225 1961
blade	95.290/3	m	mol	FLM01	530100 178250	Th foreshore Vauxhall	patch cortex/distal,lateral edges/signs	1993 Sept	5.7x1.9x0.08cm complete narrow brown, found within complex of wooden piles adjacent to Cold store jetty

							wear		
blade	95.290/4	m	mol	FLM01	530100 178250	Th foreshore Vauxhall,	broken	1993 Aug	3.5x1.3x0.5cm proximal end of snapped blade, cherty grey/brown, found close to 95.290/8 antler tine, downstream of pile structure
core	95.290/2	m	mol	FLM01	530100 178250	Th foreshore Vauxhall	sm patch rough wh cortex/striking platform	1993 Aug	5.3x3.7x3.3cm single platform, pyramidal bladelet core, dk grey/black, in a peaty deposit at low water
pick	A.13260	m/n	mol	FLM01	530100 178250	Th Nine Elms Battersea		1914	11x3.5cm flat underside, well chipped
axe	36.217/1	n	mol	FLM01	530100 178250	Th off Nine Elms, c300yds N Vauxhall Bridge	pol		
thames pick	1176	em	gpm	FLM01	530100 178250	Th Nine Elms			19.5x6cm, ex Rivett Carnack coll
thames pick	dup2	m	nhm	FLM01	530100 178250	Th Nine Elms	slightly abraided	1914 Jun	17.5x5cm mottled grey
thames pick	none7	m	private	FLM01	530100 178250	Th foreshore in front of Pepys Estate Deptford	appears broken butt	1984	RHill, LAMAS 42
axe	A.15677	n	mol	FLM03	530500 179050	Th Lambeth	highly polished blade, butt	1915 May	10.4x46.5x2.3cm dk grey, thin butt, flattened oval section

							ground over		
thames pick	1927.12.12.2	m	bm	FLM05	530450 179100	Th bet Westminster & Lambeth	cortex, some abrasion	pre 1927	22.5x6cm mottled grey, tranchet flake
axe	O.221	n	mol	FLM06	530750 180525	Th Waterloo Bridge			waisted, Layton
axe	+ 1389	n	bm	FNW01	539765 180350	Th Victoria Dock			pol, grey, Christy colln
thames pick	bmabc1	m	bm	FNW14	545000 181250	Th Beckton 'new gasholder' in silt above ballast	sides abraded	1891 May21	14.5x4cm, mottled grey, tranchet flake Allen-Brown coll
adze	49.107/7	n	mol	FRM01	516350 171700	Th Tedd	partly polished, sharp sides	1889 Feb18	14x4.5cm brown, pointed butt
axe	76.20/268	em	gpm	FRM01	516350 171700	Th Teddington	tranchet, partly encrusted with race	turn of century	9.7x4x2.6cm, sm, noncortical brown, Crooke coll
axe	74.260/1	m	mol	FRM01	516350 171700	Th Teddington	coarsely flaked	1973	24x8.5xmax5cm thicker at butt than blade no tranchet flake
axe	1927.3805	n	ash	FRM01	516350 171700	Th Teddington		pre 1927	15.4x6.5cm, grey, thin butt, chipped, pol, JEC
axe	1927.3806	n	ash	FRM01	516350 171700	Th Teddington		1892	17.5x6.4cm, ground, pol, thin butt JEC

axe	1861.6.22.1	n	bm	FRM01	516350 171700	Th Teddington		1861	
axe	49.107/155	n	mol	FRM01	516350 171700	Th Teddington	well polished	1895	13.5x6.5cm brown, rounded sides, asymmetrical, SILICA GLAZE
axe	74.260/2	n	mol	FRM01	516350 171700	Th Teddington	polished	1973	21x8cm
blade	A.13701	em	mol	FRM01	516350 171700	Th Teddington	ends blunt edges signs of use coarsely chipped	1914 June	13.5x3.5cm
core	A.13695	m	mol	FRM01	516350 171700	Th Teddington	core from which long flakes had been struck	1914	10cm long
flake	bmsc17	m	bm	FRM01	516350 171700	Th Teddington	cortex	pre1919	7.2x3cm, dk grey, slight abrasion on serrated edges
flake	bmsc18	m	bm	FRM01	516350 171700	Th Teddington		pre1919	6.5x1.5cm lt grey,
flake	bmsc19	m	bm	FRM01	516350 171700	Th Teddington		pre1919	5x1.5cm translucent brown,
pick	1861 6-42	m	bm	FRM01	516350 171700	Th Teddington	some cortex	26.5x6cm tan, slightly slug shaped, Frost coll	
thames pick	49.107/32	m	mol	FRM01	516350 171700	Th Teddington		1889 April	15.5x4.5cm grey-green
axe	k720	n	km	FRM01	516625 171525	Th Teddington	ground, partly	pre 1907	13.5x7cm, whole, brown, flaked then ground, butt broken = ?used as pounder,

						Lock	polished, worn, chipped, reground then unused		from Roots colln
arrowhead	60.176/85	en	mol	FRM01	517050 171375	opp Red House above Teddington weir, 100 yds from river bank	triang	1911 mar 12	3.5x3.2cm, JOK
adze	49.107/47	m	mol	FRM02	516080 172425	Th Twickenham	tranchet, chipped	1887 Jun10	13x4cm dk grey, Lloyd
adze	49.107/124	n	mol	FRM02	516080 172425	ThTwickenham	polished	1893 Jan	16x7cm yellow
axe	376	em	gpm	FRM02	516080 172425	Th Twickenham	tranchet		Sadler coll
axe	49.107/54	m	mol	FRM02	516080 172425	Th Twickenham	tranchet	1887 Jun1	13.5cm long chipped Lloyd
axe	49.107/78	m	mol	FRM02	516080 172425	Th Twickenham	tranchet	1887 Jun10	16cm long chipped only Lloyd
axe	49.107/82	m	mol	FRM02	516080 172425	Th Twickenham	tranchet	1888 May	13x4.5cm blackish/yellow chipped
axe	49.107/9	m	mol	FRM02	516080	Th	tranchet	1887 Jul	13.5x5cm lt grey chipped fine tranchet

	6				172425	Twickenham			edge
axe	49.107/118	n	mol	FRM02	516080 172425	Th Twickenham	polished	1893 Mar	18.5x6.5cm yellow, semicircular cutting edge, thick section
axe	49.107/120	n	mol	FRM02	516080 172425	Th Twickenham	polished	1888 May31	15x6cm dk grey, thich butt
axe	49.107/52	n	mol	FRM02	516080 172425	Th Twickenham	polished, broken	1886 Dec14	10.5x6.5cm lt brown
axe	49.107/8	n	mol	FRM02	516080 172425	Th Twickenham	polished edge, sharp sides	1887 May13	12x5cm black, chipped
borer	49.107/194	n	mol	FRM02	516080 172425	Th Twickenham		1885	5.5x1.5cm brown Lloyd
chisel	1927.3807	n	ash	FRM02	516080 172425	Th Twickenham		1891	11.8x2.5cm, chipped, pol, thin butt, JEC
chisel	49.107/189	n	mol	FRM02	516080 172425	Th Twickenham	tranchet	1888 Oct	7.5x2.5cm Lloyd
core	49.107/187	n	mol	FRM02	516080 172425	Th Twickenahm		1888 Dec	4.5cm diam
core	49.107/192	n	mol	FRM02	516080 172425	Th Twickenham		1888 June	4x4x2.5cm Lloyd
fabricator	49.107/191	n	mol	FRM02	516080 172425	Th Twickenha	some cortex	1889 Feb	10x2.5cm

						m			
fabricator	A.10971	n	mol	FRM02	516080 172425	Th Twickenham		1913	flaking tool
flake	A10936	m	mol	FRM02	516080 172425	Th Twickenham		1913	
flake	49.107/190	n	mol	FRM02	516080 172425	Th Twickenham	traces of use on point		8x5cm brown flint ?Levallois technique
knife	Z15147 C (1541)a	n	cumaa	FRM02	516080 172425	Th Twickenham	sm edge damage		11x3cm, grey, retouch on both sides, Fox coll
knife	Z15147 C (1541)b	n	cumaa	FRM02	516080 172425	Th Twickenham	damage near bulb of perc, some cortex		9x3.2cm, dk yellowy grey, squared end (from hinge break?) retouch on side, Fox coll
microlith	49.107/195	m	mol	FRM02	516080 172425	Th Twickenham	Well-worn edges	1885	3.5x10.5cm dk grey, Lloyd
pick	Z31190 (82)	m	cumaa	FRM02	516080 172425	Th Twickenham	cortex on butt, very rough		19x4.8cm, ochreous, finished tool but v rough, sharp but small blade end (3cm), edges abraded
scraper	49.107/186	n	mol	FRM02	516080 172425	Th Twickenham	much cortex	1885	7.5x2.5cm black
thames pick	49.107/18	m	mol	FRM02	516080 172425	Th Twickenham		1898	22.3x6.5cm roughly chipped, thick
thames	49.107/3	m	mol	FRM02	516080	Th	fine grey	1888 Oct	14x5cm blackish brown

pick	7				172425	Twickenham	encrustation		
thames pick	49.107/48	m	mol	FRM02	516080 172425	Th Twickenham	coarsely flaked	1887 Feb	15x5cm black tranchet blow
thames pick	49.107/57	m	mol	FRM02	516080 172425	Th Twickenham		1888 Jun13	15x5cm grey tranchet blow
axe	60.176/44	m	mol	FRM02	516120 172875	Th Twickenham Cross Deep	tranchet, cortex on one edge, cutting edge sharp		9.5x4x2.5cm dark, chipped ,one edge battered
knife	O.1024	n	mol	FRM02	516135 172750	Th nr Pope's villa, Twickenham		1885	7cm long Layton
arrowhead	36.217/17	n	mol	FRM02	516250 173000	Th Twickenham			triangular 3x4cm, Recieved 1936 Carmarthen Antiqu. Soc.
arrowhead	49.107/767	n	mol	FRM02	516250 173000	Th Twickenham	base gone, l/s	1886	4.3cm long Lloyd Coll, Recieved Dec 1949, Richmond Publ Libr
thames pick	49.107/81	m	mol	FRM02	516375 171750	Th Teddington Reach		1889 Jun	13.5x5cm black/grey mottled rather broad
blade	96-102	m	bm	FRM03	516550 173125	Th Eel Pie	trapezoid	pre1896	4.3x2cm, pale brown, race Christy ex GFL
blade	96-88	m	bm	FRM03	516550 173125	Th Eel Pie marked	slightly chipped	1885 Nov 15	9x2.5cm, brown, cortex, Christy ex GFL

						Thames something			
blade	96-90	m	bm	FRM03	516550 173125	Th Eel Pie		1886 Mar24	5.5x2cm, brown, cherty, flaked on backpart serrated Christy ex GFL
blade	96-92	m	bm	FRM03	516550 173125	Th Eel Pie	cortex	pre1896	4.5x1cm thin grey Christy ex GFL
blade	96-94	m	bm	FRM03	516550 173125	Th Eel Pie	chipped	pre1896	4.5x1.4cm, brown, serrated? Christy ex GFL
blade	96-95	m	bm	FRM03	516550 173125	Th Eel Pie		pre1896	4.5x1cm, greybrown, sm pointed, poss arrowhead Christy ex GFL
core	bmsc28	m	bm	FRM03	516550 173125	Th Eel Pie Isl		1886 Sep24	4.7x4.5cm, grey/yell, some cortex,
flake	96-100	m	bm	FRM03	516550 173125	Th Eel Pie		pre1896	3.5x0.8cm brown, slug shaped Christy ex GFL
flake	96-101	m	bm	FRM03	516550 173125	Th Eel Pie		pre1896	4.4x1.5cm, brown yellow, snapped end, flat Christy ex GFL
flake	96-103	m	bm	FRM03	516550 173125	Th Eel pie		pre1896	3x0.8cm pale cream Christy ex GFL
flake	96-86	m	bm	FRM03	516550 173125	Th Eel Pie marked Thames Twickenham		pre1896	5x3.5x0.8cm brown thick serrated Christy ex GFL
flake	96-89	m	bm	FRM03	516550 173125	Th Eel Pie marked Thames Richmond under GFL label		pre1896	5.5x1.4cm greybrown, pointed Christy ex GFL
flake	96-91	m	bm	FRM03	516550 173125	Th Eel Pie	poss hinge	pre1896	5x1.7cm, grey, poss serrations, marked 'Thames Richmond' under GFL label

									Christy ex GFL
flake	96-93	m	bm	FRM03	516550 173125	Th Eel Pie		pre1896	4.5x1.3cm, grey, poss serration Christy ex GFL
flake	96-96	m	bm	FRM03	516550 173125	Th Eel Pie		pre1896	3.5x1c. brown pointed Christy ex GFL
flake	96-98	m	bm	FRM03	516550 173125	Th Eel Pie		pre 1896	2.2x1.5cm brown square Christy ex GFL
flake	bmsc29	m	bm	FRM03	516550 173125	Th Eel Pie Island	2ndary, chipped, abraded		4.2x3.5cm, brown
knife	96-87	m	bm	FRM03	516550 173125	Th Eel Pie, Twickenham	some chipping	pre1896	12x2cm, grey/brown, Christy ex GFL
microlith	96-97	m	bm	FRM03	516550 173125	Th Eel Pie		1885	3.2x1cm grey/brown, curved with point Christy ex GFL
microlith	96-99	m	bm	FRM03	516550 173125	Th Eel Pie Island	sm cortex	pre1896	2.5x0.7cm, transl brown/grey, Christy ex GFL
adze	49.107/41	m	mol	FRM04	517000 173250	Th Orleans House	tranchet, chipped only	1888 Feb3	14.5cm long Lloyd
axe	49.107/103	n	mol	FRM04	517000 173250	Th Twickenham Orleans House	polished, white patches	1887 Mar13	16.5x5cm black, tapered butt
knife	49.107/180	n	mol	FRM04	517000 173250	Th Orleans House Twickenham		1888 Mar	8x2.5cm black flint Lloyd
axe	O.383	n	mol	FRM07	517050 175050	Richmond Lock&weir	polished		Layton
axe	O.384	n	mol	FRM07	517050	Richmond			?seamer type, Layton

					175050	Lock&weir			
knife	49.107/14	n	mol	FRM07	517050 175050	Richmond lock& weir	one edge ground	1982 Jan	8x7cm
scraper	49.107/172	n	mol	FRM07	517125 173250	Th Ham Reach		1885	5x3.5cm black
axe	36.217/3	n	loan mrich ;oan no	FRM09	517125 173250	Th off Ham House, Petersham Reach	polished	1913 Nov14	20.3x7cmflat oval section
axe	49.107/45	m	mol	FRM10	517950 173500	Th Petersham	tranchet, chipped	1887 Aug29	9x4.5cm grey
axe	O.380	n	mol	FRM10	517950 173500	Th Petersham	polished		Layton
blade	49.107/174	n	mol	FRM10	517950 173500	Th Petersham	worked out utilised notch at one end	1887 Aug	10x3cm Lloyd
axe	O.268	m	mol	FRM10	518000 174000	Richmond nr Buccleuch House		1885	Layton
axe	O.382	m	mol	FRM10	518000 174000	Th Richmond off Buccleuch House			Layton
adze	O.270	m	mol	FRM10	518000 174000	Richmond, nr Buccleuch House,	tranchet		Layton

						ballast			
adze	49.107/34	m	mol	FRM11	517580 174660	Th Richmond	tranchet, chipped only	1888 July	16cm long Lloyd
adze	49.107/38	m	mol	FRM11	517580 174660	Th Richmond	some cortex remaining	1888 Aug30	12x4cm chipped blackish
adze	A.10932	m	mol	FRM11	517580 174660	Th Richmond		1913	
adze	O.267	m	mol	FRM11	517580 174660	Richmond, nr bridge			Layton
adze	49.107/115	n	mol missing	FRM11	517580 174660	Th Richmond	polished	1888 Aug	12x6cm dk grey mottled tapered squ butt
axe	bmsc60	m	bm	FRM11	517580 174660	Th Richmond	poss hafting damage, slight chipping		7.3x4.5cm, grey, some cortex, trapezoid shaped, finely worked, thin, Sturge
axe	A.10970	m	loan mrich loan no L18.15	FRM11	517580 174660	Th Richmond	tranchet	pre1913	chipped flint, grey
axe	49.107/94	m	mol	FRM11	517580 174660	Th Richmond		1888 Aug21	13.5cm long roughly chipped Lloyd
axe	A.10972	m	mol	FRM11	517580 174660	Th Richmond	tranchet	1913	
axe	A.10975	m	mol	FRM11	517580 174660	Th Richmond	tranchet	1913	
axe	10.33	n	brad	FRM11	517580 174660	Th gravel, Richmond			16x7cm, yellow/brown, highly pol on both faces, thick butt, cutting edge highly curved, butt-end rounded, Cudworth Wm coll

axe	A.18703	n	loan mrich Loan no L18.18	FRM11	517580 174660	Th Richmond	partly polished	1917	12cm long oval outline, slightly flattened
axe	49.107/111	n	loan mrich loan no L18.5	FRM11	517580 174660	Th Richmond	polished	1890 Aug15	12x6cm brown
axe	49.107/126	n	loan mrich loan no L18.6	FRM11	517580 174660	Th Richmond	polished	1889 Mar26	13x6cm dk grey, v flat squ edge
axe	49.107/2	n	mol	FRM11	517580 174660	Th Richmond	polished edge at one end	1888 Sep17	15.75x4.5cm brown well chipped, other end ?gouger
axe	A.10963	n	mol	FRM11	517580 174660	Th Richmond	completely polished	1913	15.15x7.55x3.55cm asymmetrical edge, thin pointed butt with slighly flattened pointed oval section
axe	A.10964	n	mol	FRM11	517580 174660	Th Richmond	ground & polished	1913	15.1x5.6x3cm thin roundd butt, slightly flattened oval section
axe	A10970	n	mol	FRM11	517580 174660	Th Richmond	tranchet	1913	20cm long
axe	49.107/110	n/m	loan mrich loan no L18.4	FRM11	517580 174660	Th Richmond	partly polished, some cortex	1888 Jul4	11.5x5cm brown v flat tapered butt
blade	bmsc27	m	bm	FRM11	517580 174660	Th Richmond			8x2cm, grey, curving serrarted edges
blade	bmuc5	m	bm	FRM11	517580 174660	Th Richmond	cortex, edges slightly chipped		8x1.8cm, dk grey, v thin translucent,
flake	bmsc62	m	bm	FRM11	517580 174660	Th Richmond	cortex, some race,	pre1919	9x2.4cm, dk grey, serrated sides, slightly chipped Sturge

							hinge fractue at base		
flake	bmsc63	m	bm	FRM11	517580 174660	Th Richmond	race, fresh	pre 1919	4.8x1.3cm, translucent brown, serrated edges, Sturge
knife	bmcc190	m/n	bm	FRM11	517580 174660	Th Richmond			6x2.5cm, grey/brown, curved, serrated on outer edge, some cortex, Crooke
knife	927.48.89 AE 1008	n	rom	FRM11	517580 174660	Th Richmond	butt slightly broken at one corner, l/s	pre 1927 Mar24	15.8x3.5x0.5cm, dk bl/grey, chipped, rounded/almost pointed tip, becoming narrower towards butt, pressure flaking on edges Laver coll via GFL
microlith	bmsc58	m	bm	FRM11	517580 174660	Th Richmond	trapezoid		3x1.2cm, grey, serrated edges, fresh, Sturge
microlith	bmsc61	m	bm	FRM11	517580 174660	Th Richmond		pre1919	2.4x0.6cm, translucent brown, serrated edges, Sturge
pick	63.106	m	bm	FRM11	517580 174660	Th Richmond	slight abrasion	28x7cm, dk grey, adze shape one end	IoA coll
pick	Sturge 300	m	bm	FRM11	517580 174660	Th Richmond	some race	30x7cm, tan abraded, Sturge	
pick	O.264	m	mol	FRM11	517580 174660	Th Richmond between bridges	blunted buttend & pick point	1884 Oct	16x4.5x3cm tapers from 6cm at butt to ridge at point, lt brown, subrectang cross-section, 'Thames, Richmond, between the bridges, October 1884' Layton
scraper	bmsc59	m	bm	FRM11	517580 174660	Th Richmond			4.2x1.8x0.8cm, grey, cortex, flat back slug?, Sturge
scraper	k39	n	km	FRM11	517580	Th	modern	1904	4.5x2.2cm, struck both sides, some cortex,

					174660	Richmond	damage		retouch on edge, Lawrence
scraper	A.19732	n	loan mrich loan no L18.19	FRM11	517580 174660	Th Richmond		1918	6.5cm long
scraper	49.107/182	n	mol	FRM11	517580 174660	Th Richmond		1888 Aug	6x2.5cm dk brown
adze	O.265	m	mol	FRM12	517050 175050	Th Lock Richmond			Layton
adze	49.107/152	n	mol	FRM12	517050 175050	Th Richmond Lock&weir, dredged	polished	1891 Jun	15.5x7cm black, EXTREMELY RARE, rounded sides, pointed butt cf Bordaz 1970 Tools of Old & New Stone Age p98-Danish
axe	49.107/85	m	mol	FRM12	517050 175050	Th Richmond Lock& weir	tranchet, white incrustations	1891 Jun19	15x6.5cm dk grey fine flat flaking
axe	49.107/97	m	mol	FRM12	517050 175050	Th Richmond lock&weir	tranchet, white incrustation	1891 Jul 6	13.5x4.5cm dk grey thick butt
axe	O.266	n	mol	FRM12	517050 175050	Th Lock Richmond	shapeless but-end, sharp pointed cutting end	1889 Oct	13.5x7.5x2.5cm Black flint Layton 'midway between bridges'
flake	49.107/742	n	mol	FRM12	517050 175050	Th Richmond & Twickenham	48		Lloyd
pick	O.263	m	mol	FRM12	517050	Th works		1892 May	18x5x4.5cm brown, fluted flaking both

					175050	of lock & weir Richmond			ends, roughly triang cross-section, base =slightly convex, 'Thames, Works of the Lock and Weir, Richmond, mid-channel. May 1892' Layton
thames pick	49.107/65	m	mol	FRM12	517050 175050	Th Richmond lock& weir		1892 Apr	11x4cm black/grey tranchet, Lloyd
chisel	87.29/2	n	mol	FRM14	517990 177000	Th foreshore Syon Reach Surrey side	polished at cutting edge	1944 Jan21	10.5x2.5x1.4cm yellow, chipped all over, tapers towards the end
axe	Z301884	m	cumaa	FRM15	518650 177750	Th Kew, Richmond			Fox coll
axe	2144/1	m	gpm	FRM15	518650 177750	Th Kew dredged	tranchet, slightly stained and rolled, race		10.5x4.5cm, lt grey, cortex, Sadler
axe	2144/2	m	gpm	FRM15	518650 177750	Th Kew dredged	tranchet, mint condition		12x5.2cm, grey, encrustation calcareous river encrustation, Sadler
axe	374	m	gpm loan mrich loan no L19.1	FRM15	518650 177750	Th Kew	tranchet, rolled, stained		14x5cm, grey, elliptical section, Sadler
axe	1744	m	gpm loan mrich loan no L19.2	FRM15	518650 177750	Th Kew	tranchet, not stained or rolled, some race		13x4cm, brown, triang section, Sadler ex Layton
axe	1750	m	gpm loan mrich loan no L19.6	FRM15	518650 177750	Th Kew	only 2 faces worked,		13.5x2.7cm, brown, no tranchet edge, Sadler ex Layton

							slightly stained, rolled in places, some cortex		
axe	A.17125	m	loan mrich loan no L18.17	FRM15	518650 177750	Th Kew	tranchet, highly sand polished	1916	c12cm long chipped, ocherous yellow
axe	49.107/93	m	mol	FRM15	518650 177750	Th Kew	tranchet	1888 Oct	13.5cm long chipped twisted butt Lloyd
axe	68.9/15	m	mol	FRM15	518650 177750	Th Kew dredged	tranchet	?1929	11.5x4.7x3.5cm boldly flaked elliptical section, single tranchet edge
axe	927.48.77 AE 768	n	rom	FRM15	518650 177750	Th Kew	faces scarred, lightly abraded	pre 1927 Mar24	15.3x6cm dk/light grey,polished, oval cutting edge, one side almost straight, other shows swell, butt broad/rounded, faces convex one with hollow GFL
blade	81.450/3	m/n	mol	FRM15	518650 177750	Kew ?Th	brown staining, little race, shallow retouch		8x1.7cm edges converge at distal end, rtouch at proximal end marked 'Kew 84996' colln AD Lacaille
blade	1748	n	gpm loan mrich loan no L19.4	FRM15	518650 177750	Th Kew	retouch along one edge, heavily stained		9x2.7cm prob knife, Sadler from Layton
core	Z31181 (632)	m	cumaa	FRM15	518650 177750	Th Kew	cortex, slight abrasion		7.5x4.8cm yellow (darker under cortex),
flake	Z31181	m	cumaa	FRM15	518650	Th Kew	substantial		6x4cm, dk yellow/grey, poss retouch for

	(210)				177750		cortex		?scraper
flake	A13711	m	mol	FRM15	518650 177750	Th Kew	slight staining 2ndry working broken tip & butt	1914 June	10.6x3.6cm, grey flint one surface highly 'sand lustred'
knife	49.107/975	n	mol	FRM15	518650 177750	Th Kew	'an unusually fine specimen'	1900	During construction of new bridge value £3.10s Crooke
knife	A.27743	n	mol	FRM15	518650 177750	Th Kew	plano-convex	1925 June	7.5cm long, flat form
pick	68.9/12	m	mol	FRM15	518650 177750	Th Kew dredged	coarsely flaked	?1929	15x4x4.5cm section roughly rectang, rough butt forms sharp edge in opp plane to scoopedge
pick	68.9/13	m	mol	FRM15	518650 177750	Th Kew dredged	tranchet, coarsely worked,	?1929	14.3x4.8x4.3cm roughly triang shaped, ridged surface thinning abruptly towards edge, flat surface appears to be tranchet flaked at edge
pick	68.9/14	m	mol	FRM15	518650 177750	Th Kew dredged	tranchet	?1929	13x4.9x3.4cm triang section, edge flaked fanwise on convex, poss tranchet on flat surface
pick	A.17113	m	mol	FRM15	518650 177750	Th Kew	roughly shaped	1916	21cm long in CBA Gazetteer
scraper	1749	m	gpm loan mrich loan no L19.5	FRM15	518650 177750	Th Kew	end scraper, some race on bulb side, slightly		8.5x4.5cm made on blade, Sadler ex Layton

							rolled and stained		
scraper	1747	m/n	gpm loan mrich loan no L19.3	FRM15	518650 177750	Th Kew	side scraper, stained, v slightly rolled, retouch on both long edges		11x3.1cm, made on blade snapped at the terminal end, Sadler ex Layton
scraper	A.13713	n	mol	FRM15	518650 177750	Th Kew		1914 June	5.5cm long central ridge
thames picj	O.1116	em	gpm	FRM15	518650 177750	Th Kew	some race		17.5x4.5cm, lt brown, Layton
axe	1116	em	gpm	FRM15	518650 177750	Th Kew	tranchet		Sadler coll
axe	1320	em	gpm	FRM15	518650 177750	Th Kew	tranchet, iron stained, rolled in places		10.7x4cm, both ends sharpened by tranchet blows, brown, ellip scetion, Sadler coll
axe	1742	em	gpm	FRM15	518650 177750	Th Kew	tranchet, not rolled, some 'race'		10.5x4.5cm, dk brown, patch cortex on butt, triang section, Sadler coll ex Layton coll
axe	1743	em	gpm	FRM15	518650 177750	Th Kew			Sadler ex Layton
axe	1745	em	gpm	FRM15	518650 177750	Th Kew	tranchet, not rolled, some 'race'		12x5cm, brown, ellip section, cortex on butt and one other place, Sadler ex Layton
axe	1746	em	gpm	FRM15	518650 177750	Th Kew	tranchet, stained		15x5cm, brown, few patches cortex, ellip section, Surrey Arch coll 58:8 1966, Sadler

							with iron, rolled		ex layton
axe	897a	em	gpm	FRM15	518650 177750	Th Kew	tranchet, v slightly rolled, iron stained, recent breaks		12x4.2cm, grey, ellip shape, Sadler coll
axe	915	em	gpm	FRM15	518650 177750	Th Kew	tranchet, stained slightly & worn on one side, patches cortex nr butt		11.7x5.2cm, mottled brown, triang section, Sadler
knife	O.1026	n	mol	FRM15	518950 177820	Th off Kew bridge	with notches	1881	Layton
core	O.767	m	mol	FRM15	521375 176230	Bed Th Barnes, nr railway bridge		1893	12.5cm long Layton
pick	O.259	m	mol	FRM18	520375 176225	Th Mortlake Brewery	?cortex on butt end	1896 May6	13.5x5x3cm dk grey mottled, axeshaped cutting edge triang shaped 'Thames, mid-channel, off Mortlake Brewery, 6th May 1896 Layton
adze	A.7671	m	mol	FRM18	520825 176500	Th Mortlake	tranchet, coarsely flaked	1911	18.4x6.9x3.7cm plano-convex section, asymmetrical rounded edge & butt, natural perforation runs obliquely thru middle
adze	A.7781	m	mol	FRM18	520825	Th	tranchet	1912	

					176500	Mortlake			
axe	316	em	gpm	FRM18	520825 176500	Th Mortlake	tranchet, v slightly rolledin places, traces of 'race'		18.4x41x33cm, black, flat, some cortex, tranchet blow each side, Sadler coll
axe	350	em	gpm	FRM18	520825 176500	Th Mortlake	tranchet, slightly rolled in places		16.3x5.5cm, dk brown, patches cortex, lustrous, elliptical section, Sadler ex GFL
axe	O.257	m	mol	FRM18	520825 176500	Th Mortlake, ballast	tranchet		Layton
axe	O.685	m	mol	FRM18	520825 176500	Mortlake, Th ballast	tranchet		22.8x5.5cm 'Thames ballast taken off Mortlake, Dec. 23.....' Layton
axe	30.77/2-3	n	mol	FRM18	520825 176500	Th Mortlake	butt partly ground, edge polished	1930	13x5x2.1cm thin squ butt, pointed oval section
axe	49.107/112	n	mol	FRM18	520825 176500	Th Mortlake	polished with a few flake marks	1894	18.5x6.5cm dk grey, tapered butt
axe	49.107/129	n	mol	FRM18	520825 176500	Th Mortlake	polished	1894	16.5x6.5cm brown
axe	A.14624	n	mol	FRM18	520825 176500	Th Mortlake	broad polished cutting edge	1914	14.5cm long
axe	A.7670	n	mol	FRM18	520825	Th	ground	1912	14.4cm long

					176500	Mortlake	edge		
axe	A.7669	n	SOLD 1920	FRM18	520825 176500	Th Mortlake		1912	SOLD 1920
flake	bmsc23	m	bm	FRM18	520825 176500	Th Mortlake	vslightly abraded	1909	4.5x1cm, grey, GFL
flake	bmsc24	m	bm	FRM18	520825 176500	Th Mortlake	cortex	1909	10x2.5cm, grey GFL
flake	81.450/4	m/n	mol	FRM18	520825 176500	Th Mortlake	cortex/distal end, edges irreg., glossy		10.3x2.4cm blackish-brown, worked, marked 'Th at Mortlake 65578(30)' colln AD Lacaille
flake	81.450/5	m/n	mol	FRM18	520825 176500	Th Mortlake	glossy, worked, cortex/distal&dorsal ridge		8.5x2.5cm bladelike but expanding towards distal end,marked 'Th at Mortlake 65578(4)' colln AD Lacaille
knife	A.10667	n	mol	FRM18	520825 176500	Th Mortlake	ground edge	1913	square in shape
knife	A.7719	n	mol	FRM18	520825 176500	Th Mortlake	worked on both sides	1912	5.5x4cm rectangular
knife	A.13696	n	mol	FRM18	520825 176500	Th Mortlake	l/s, one edge well-chipped	1914 June	7.5cm long
pick	P1964 12-6 1105	m	bm	FRM18	520825 176500	Th Mortlake			9.2x2.5cm, grey mottled, core axe, hinge flakes, Trechmann coll
pick	O.256	m	mol	FRM18	520825 176500	Th Mortlake Reach	blunt butt end	1888 Sep	10.5x4.5x3cm black, axe-type cutting edge, subtriang cross-section 'Mortlake Reach, Sept. 1888' Layton
scraper	A.10747	n	mol	FRM18	520825	Th		1913	

					176500	Mortlake			
sickle	30.77/1	n	mol	FRM18	520825 176500	Th Mortlake	one edge glossed	1930 May30	curved, crescentic sickle
thames pick	30.74/1	m	mol	FRM18	520825 176500	Th Mortlake	small	1930 May2	
thames pick	E.4417	m	nhm	FRM18	520825 176500	Th alluvium below river bed at Mortlake		1912 Oct23	14.5x5cm, grey, in association with E.4418, E.4419, E.4420 and skulls 1957.1.8.94-98
thames pick	E.4418	m	nhm	FRM18	520825 176500	Th alluvium below river bed at Mortlake	grey encrustation	1912 Oct23	12.5x3.75cm, mottled brown, in association with E.4417, E.4419, E.4420 and skulls 1957.1.8.94-98
thames pick	E.4419	m	nhm	FRM18	520825 176500	Th alluvium below river bed at Mortlake	slight break at base	1912 Oct23	10.5x3.25cm, brown, in association with E.4417, E.4418, E.4420 and skulls 1957.1.8.94-98
thames pick	E.4420	m	nhm	FRM18	520825 176500	Th alluvium below river bed at Mortlake	brown encrustation	1912 Oct23	12x4.5cm, brown, in association with E.4417, E.4418, E.4419 and skulls 1957.1.8.94-98
arrowhead	A.19743	n	mol	FRM18	520825 176500	Th, Barnes, Mortlake	l/s, ground	1918 May	4.5cm long, ?Arch.J. 86:82
axe	1318	en	gpm	FRM19	521600 177000	Th Barnes	battering on both edges, iron stained		12.1x4.9x2.8cm, grey, flaked, partly pol, cortex, cutting edge tapering to rounded butt, Sadler coll

axe	bmkc1	m	bm	FRM19	521600 177000	Th Barnes alluvium	tranchet, cortex remaining on reverse face		11.5x5.7cm, grey mottled, cortex, some encrustation, tranchet flake on reverse, slightly rolled Kennard coll
axe	bmkc3	m	bm	FRM19	521600 177000	Th Barnes	tranchet, sides abraded, large deep hollow on reverse		11.5x4.5cm grey/lt grey, broken butt, slightly twisted section, tranchet flake, Kennard coll
axe	49.107/113	n	mol	FRM19	521600 177000	Th Barnes	partly polished	1892 Apr	18x6cm grey, thick section
blade	bmsc1	m	bm	FRM19	521600 177000	Th Barnes	chipped, encrustation	pre 1919	6x2cm, grey/translucent, Sturge coll
knife	A.17708	n	mol	FRM19	521600 177000	Th Barnes	ground edge	1916 Dec	8.5cm long
pick	bmkc2	m	bm	FRM19	521600 177000	Th Barnes	tranchet, sides abraided		13.5x4cm, grey/brown, some encrustation at butt end, Kennard coll, tranchet flake?
pick	bmsc2	m	bm	FRM19	521600 177000	Th Barnes	tranchet, some encrustation	pre1919	12.5x5cm, grey/brown, slightly abraded sides, tranchet flakes on both faces, small flat/oblique butt, Sturge coll
pick	bmsc3	m	bm	FRM19	521600 177000	Th Barnes	wear use damage on butt, poss retouch at blade end	pre1919	15x4cm lt grey-dk grey under cortex, some cortex on curve side, edges v slightly abraded, Sturge coll
pick	bmsc4	m	bm	FRM19	521600	Th Barnes	tranchet, v	pre1919	15.25x5cm, grey-yellow, half top face

					177000		slight abrasion on side edges, cortex worn off on top		=cortex, tranchet flake, poss retouch, Sturge coll
pick	A.13733	m	mol	FRM19	521600 177000	Th Barnes	cortex on upper face	1914 Jul	16.5cm long flat underside, trimmed curved sides
scraper	A.16562	n	mol	FRM19	521600 177000	Th Barnes	trimmed on one edge	1916	7cm long
axe	bmsc9	m	bm	FRM20	522500 178200	Th Chiswick	tranchet, encrustation	pre1919	12x4.5cm some cortex and encrustation, abraded, twisted, Sturge coll
axe	36	m	mol	FRM20	522500 178200	Th Chiswick	tranchet, chipped		9x2.5cm
axe	Z24814 (916)	n	cumaa	FRM20	522500 178200	Th Chiswick	encrustation, side damaged, poss reground as blade asymmetrical, abraded surfaces		16x7cm, mottled dk grey/yellow, polished,
axe	36.217/11	n	mol	FRM20	522500 178200	Th Putney Reach , Barnes off reservoir	unpolished		24x8cm wide oval cross-section
axe	49.107/130	n	mol	FRM20	522500 178200	Th Chiswick	polished	1873	14x6cm brown slightly flattened sides

axe	A.24429	n	mol	FRM20	522500 178200	Th Barn Elms	partly ground, sharp sided	1922	narrow form, pointed butt
axe	A.8123	n	mol	FRM20	522500 178200	Th Barn Elms	polished	1912	14.8cm long
axe	O.214	n	mol	FRM20	522500 178200	Th Barn Elms Reach, Th ballast		1862 Feb4	20x7.5x3.5cm wellchipped Layton
chisel	A.23644	n	mol	FRM20	522500 178200	Th Barn Elms	partly polished	1921	17.25cm long slender form
flake	A.23772	m	mol	FRM20	522500 178200	Th Barn Elms	'sharp' ?retouch trimmed butt	1921 Apr	19.2x6.8cm rectangular flint dk grey
knife	36.217/27	n	mol	FRM20	522500 178200	Th Barn Elms Putney Reach		1936	9x4cm
knife	A.23516	n	mol	FRM20	522500 178200	Th Barn Elms	2ndry flaking at point/base	1921 Jan	10cm long made from a broad flake
thames pick	bmsc57	m	bm	FRM20	522500 178200	Th Chiswick	tranchet, some cortex, slight chipping, some encrustation		12x5cm, dk grey, twisted Sturge
thames	375	m	gpm	FRM20	522500	Th			c7x4.5cm, dk grey Sadler

pick					178200	Chiswick (catalogue says Hammers mith.)			
arrowh ead	36.217/1 4	n	mol	FRM21	523300 177125	Th, Barn Elms, off the Reservoir	l/s, ground	1911 24 Ja	5.6x2cm Recieved 1936 from Carmarthen Antiqu. Soc.
axe	36.217/9	n	mol	FRM21	523300 177125	Th off Barn Elms, Putney Reach	polished		19.7x4cm slightly bevelled edges, narrow oval section
axe	36.217/4	n	mol	FRM21	523300 177125	Th off Barn Elms, Putney Reach	polished, broken butt		10.5x4cm with squ sides,
core	none28	em	private	FSW01	534380 179800	Th foreshore in front Chambers wharf, Bermondse y TQ 3438 7980	pyramidal, patch cortex, lightly peat stained	1995 Mar	8x8.1cm, river gravel cobble mottled grey/black from area of in situ bedded horizons producing range of finds, striking platform renewed; LAMAS 47:4/5
maceh ead	none29	ln	private	FSW01	534380 179800	Th foreshore d/s end chambers wharf Bermondse	naturally perforated nodule with flaking	1989	13.8x13.2x4.9cm, mottled grey/black with some cortex, flaking both soft/hard techn, also used as striking platform for flake removal, LAMAS 47:9-11

						y cTQ 3439 7980			
flake	bmsc21	m	bm	FSW03	535100 179900	Th Rotherhithe	slightly abraded	sturge	8.7x2.5cm, grey Sturge
flake	bmsc22	m	bm	FSW03	535100 179900	Th Rotherhithe	abraded	sturge	7x2.5cm yellow/brown, sturge
flake	bmsc20	m	bm	FSW03	535100 179900	Th Rotherhither dredged	primary, rolled	sturge	9.5x5.5cm, grey, Sturge
axe	10507	n	mol	FSW03	535100 179903	Th opp Bellamy's Wharf, Rotherhithe	part ground		19cm long
blade	82.367/1	lm	mol	FTH01	533600 180500	Inmost ward, Tower of London NGR TQ 336 805	Unretouched	1976	3x0.6cm pale grey, found with inhumation layer 95, DoE excav. 1976 (D Field list 11)
blade	82.367/2	lm	mol	FTH01	533600 180500	Inmost ward Tower of London TQ 336 805	unretouched	1976	3.1x0.8cm , grey, from pit, layer 106 DoE excav 1976 (D Field list 10)
blade	82.367/3	lm	mol	FTH01	533600 180500	Inmost ward Tower of	retouch or wear at edges	1976	4.7x1.7cm buff, ponted, triangular section, DoE excav 1976 (D Field list 6)

						London TQ 336 805			
blade	82.367/4	lm	mol	FTH01	533600 180500	Inmost ward Tower of London TQ 336 805	cortex on 0.5dorsal face, edges retouch/denticulat	1976	6x2.6cm grey/brown, pit layer 106 DoE excav 1976 (D Field list 12)
blade	82.367/5	lm	mol	FTH01	533600 180500	Inmost ward Tower of London TQ 336 805	yellowish staining	1976	3.7x1.5cm light grey, pit layer 106 DoE excav 1976 (D Field list 16)
blade	82.367/7	lm	mol	FTH01	533600 180500	Inmost ward Tower of London TQ 336 805	cortex at distal end	1976	4.7x2.4cm grey pit layer 106 DoE excav 1976
blade	82.367/27	lm/en	mol	FTH01	533600 180500	Inmost ward Tower of London TQ 336 805		1976	3.8x1.7cm translucent DoE excav 1976 (D Field list 14)
blade	82.367/33	lm/en	mol	FTH01	533600 180500	Inmost ward Tower of London	cortex at distal end	1976	1.9x1.6cm dk grey, distal portion of snapped blade, pit layer 107 DoE excav 1976 (?D Field list 19)

						TQ 336 805			
blade	82.367/47	lm/en	mol	FTH01	533600 180500	Inmost ward Tower of London TQ 336 805	?utilised edges and tip	1976	5x2cm, mottled grey, pointed S-curve, from natural silt layer 119 DoE excav 1976 (?D Field list 1)
blade	82.367/48	lm/en	mol	FTH01	533600 180500	Inmost ward Tower of London TQ 336 805	damage/utilisation right edge, tip broken off,	1976	4.3x1.6cm grey with inclusions, section mainly triang. natural silt layer 119, DoE excav 1976, (?D Field list 13)
blade	82.367/6	lm/en	mol	FTH01	533600 180500	Inmost ward Tower of London TQ 336 805	cortex backed chips detached from distal end	1976	3.6x1.5x1cm ?segment from core blade, pit layer 106 DoE excav 1976 (D Field list 17)
flake	82.367/8	lm	mol	FTH01	533600 180500	Inmost ward Tower of London TQ 336 805		1976	4x3.5cm ?axe trimming flake, pit layer 106 DoE excav 1976 brown (DField list 20)
flake	82.367/10	lm/en	mol	FTH01	533600 180500	Inmost ward Tower of London TQ 336		1976	2.8x22cm ?trimming flake, near rectang. + burin like point pit layer 106 DoE excav 1976 (D Field list 23)

						805			
flake	82.367/11	lm/en	mol	FTH01	533600 180500	Inmost ward Tower of London TQ 336 805		1976	3.9x1.9cm mottled grey, pit layer 106 DoE excav 1976 (D Field list 2)
flake	82.367/12	lm/en	mol	FTH01	533600 180500	Inmost ward Tower of London TQ 336 805	half surface cortex	1976	3.6x1.8x1.7cm brownish grey pit layer 106 DoE excav 1976 (D Field list8)
flake	82.367/13	lm/en	mol	FTH01	533600 180500	Inmost ward Tower of London TQ 336 805		1976	2.6x1.8x0.8cm light grey pyramidal pit layer 106 DoE excav 1976
flake	82.367/18	lm/en	mol	FTH01	533600 180500	Inmost ward Tower of London TQ 336 805	?natural	1976	3.3x2.1cm, dk grey & buff, DoE excav 1976, (D Field list 7or 22)
flake	82.367/28	lm/en	mol	FTH01	533600 180500	Inmost ward Tower of London TQ 336 805		1976	2.6x1.4cm translucent pit layer106 DoE exacav 1976 (D Field list 15)

flake	82.367/29	lm/en	mol	FTH01	533600 180500	Inmost ward Tower of London TQ 336 805		1976	3.6x3.4cm grey, ?axe trimming, pit layer 106, DoE excav 107 (D Field list 21)
flake	82.367/30	lm/en	mol	FTH01	533600 180500	Inmost ward Tower of London TQ 336 805	with inclusions	1976	5.2x3.6cm light grey, pit layer 107 DoE excav 1976 (D Field list 5)
flake	82.367/31	lm/en	mol	FTH01	533600 180500	Inmost ward Tower of London TQ 336 805		1976	3.6x3cm grey pit layer 107 DoE excav 1976
flake	82.367/32	lm/en	mol	FTH01	533600 180500	Inmost ward Tower of London TQ 336 805	yellow/brown staining	1976	3.1x1.7cm light grey pit layer 107 DoE excav 1976 (?D FIeld list 4)
flake	82.367/34-35	lm/en	mol	FTH01	533600 180500	Inmost ward Tower of London TQ 336 805	2, little yello/bron staining, ?remnants of blades	1976	34=2.1x1.8cm 35=1.9x1.7cm grey pit layer 107 DoE excav 1976
flake	82.367/3	lm/en	mol	FTH01	533600	Inmost		1976	2.2x1.3cm grey ?segment from blade core,

	6				180500	ward Tower of London TQ 336 805			pit layer 107 DoE excav 1976
flake	82.367/37-46	lm/en	mol	FTH01	533600 180500	Inmost ward Tower of London TQ 336 805	10, no44&46 with yellow-brown staining, 45=?re-used	1976	lengths=3.5-1.4cm, grey except 44=amber, pit layer 107 DoE excav 1976
flake	82.367/50	lm/en	mol	FTH01	533600 180500	Inmost ward Tower of London TQ 336 805	with 'spur', light brown staining	1976	3.8x2.9cm light grey natural silt, layer 119 DoE excav 1976 (?D Field list 24)
flake	82.367/51	lm/en	mol	FTH01	533600 180500	Inmost ward Tower of London TQ 336 805	hinged fracture, with inclusions	1976	3.5x2.8cm grey, ridged, horseshoe shaped, natural silt layer 119 DoE excav 1976
flake	82.367/52	lm/en	mol	FTH01	533600 180500	Inmost ward Tower of London TQ 336 805	some cortex	1976	3.2x2.3cm dk grey natural silt layer 119 DoE excav 1976

flake	82.367/53-57	lm/en	mol	FTH01	533600 180500	Inmost ward Tower of London TQ 336 805	4	1976	53=2x2cm, 54=2.9x1.8cm, 55=3.5x3.4cm, 56=2.4x1.9cm, 57=1.8x1.2cm dk grey-off white, natural silt layer 119 DoE excav 1976
flake	82.367/9	lm/en	mol	FTH01	533600 180500	Inmost ward Tower of London TQ 336 805		1976	4.9x2.8x1.7cm grey-brown, ?core trimmimg, pit layer 106 DoE excav 1976, (D Field list 3)
flake	82.367/14-17	lm/en	mol	FTH01	533600 180500	Inmost ward Tower of London TQ 336 805	4, no15=very thin	1976	14=2.8x1.7cm,15=2.3x1.5cm,16=2.2x1.3cm,17=2.1x1.4cm, light grey/greyish brown, pit layer106 DoE excav 1976,
axe	St.98e	n	bm	FWM04	530125 178300	Th Pimlico	roughly chipped		dk grey, Christy colln
sickle	A14914	n	mol	FWM05	530250 178525	Th opp Tate Gallery		1915	chipped flint, 1 edge straight, 1 curved
axe	St. 104a	n	bm	FWM06	530375 179100	Th Westminster			pol, dk grey, thick, Christy colln
fabricator	A.15444	n	mol	FWM06	530375 179100	Th Westminster	chipped flint, slightly curved towards 1	1915	10.5cm long

							end		
fabricator	A.15445	n	mol	FWM06	530375 179100	Th Westminster	chipped, flat on one face	1915	10cm long
thames pick	36.217/24	m	mol	FWM06	530375 179100	Th Westminster	blunted butt, cortex working edge	1936	13.5x4.5cm
pick	60.176/52	m	mol	FWM08	530250 179650	'nr Westminster Br, foundations of buildings'	little cortex	1912 Apr	14.5x4.5x2.9cm yellowish grey with partial brown patina, chipping skilful JOK.
pick	60.176/61	m	mol	FWM08	530250 179650	'nr Westminster Bridge, foundations of buildings'	tranchet, 1 edge shows traces of battering/stepflaking	1912 Apr	15x4.8x4.1cm yellow/brown mottled, cutting edge sharp, sm butt flat & abrupt JOK
axe	811	n	gpm	FWW03	524375 175640	Th Putney (Surrey)			partly pol, Sadler colln
flake	71.7/18	n	gpm	FWW03	524375 175650	Th Putney foreshore	cortex, quite good	1971	5.3x4.5cm, secondary flake, bulb of perc on reverse, RGL
flake	71.7/19	n	gpm	FWW03	524375 175650	Th Putney foreshore		1971	6x4.5cm, secondary, poss artificially waisted, RGL
scraper	71.7/16	n	gpm	FWW03	524375 175650	Th Putney foreshore	slightly rolled	1971	4.9x4.4cm, dk brown, triang, on tertiary flake, cutting prod by fine scale flaking, other edges blunted by inverse retouch, RGL
scraper	71.7/17	n	gpm	FWW03	524375	Th Putney	cortex,	1971	9x3.3cm, concave, made on blade, RGL

					175650	foreshore	good condition		
awl	bmsc67	m	bm	FWW03	524375 175660	Th Putney	snapped off at end	pre 1919	7.8x1.4cm, orange/brown, poss serrated sides, Sturge
awl	bmsc70	m	bm	FWW03	524375 175660	Th Putney	chipped on sides	pre 1919	7.5x1cm, grey, thin, serrated around poit, Sturge
axe	bmac2	m	bm	FWW03	524375 175660	Th Putney ?'high water'	slightly chipped		10x4.7cm, orange mottled, cortex, Armstrong
axe	A.10968	m	mol	FWW03	524375 175660	Th Putney	tranchet	1913	
axe	O.379	m	mol	FWW03	524375 175660	Th Putney, ballast	tranchet	1888 Nov	14.2x4.8cm 'Thames ballast off.....Bridge near Putney, Nov. 1888' Layton
blade	bmac1	m	bm	FWW03	524375 175660	Th Putney	chipped		5.5x1.8cm, lt grey, Armstong
blade	bmsc64	m	bm	FWW03	524375 175660	Th Putney	backed, race	pre 1919	8x2cm, grey, serrated, fairly fresh, Sturge
blade	bmsc65	m	bm	FWW03	524375 175660	Th Putney	cortex,some race	pre 1919	7.5x1.8cm, brown translucent, fairly fresh, Sturge
blade	bmsc71	m	bm	FWW03	524375 175660	Th Putney	chipped on sides	pre 1919	9.5x2cm, grey, serrated on one side, Sturge
flake	bmsc69	m	bm	FWW03	524375 175660	Th Putney	slightly chipped	pre 1919	7.3x1.7cm, grey translucent, poss serrations, Sturge
flake	Z15147 A (1253)	m	cumaa	FWW03	524375 175660	Th Putney	only slight chipping on end		7x1.5cm mottled grey, sharp edges, fairly fresh
flake	1941.1008	n	ash	FWW03	524375 175660	Th bed Putney		pre 1941	4.7x1.7cm, black, core trimming flake
implement	bmsc68	m	bm	FWW03	524375 175660	Th Putney	abraded	pre 1919	6x3.5cm, grey, 0.8cm thick, serration, worn, cortex, Sturge
knife	bmsc72	m	bm	FWW03	524375	Th Putney	patinated	pre 1919	11x2.5cm, lt grey and lt patination, chipped

					175660				on paarts of edges, Sturge
pick	bmsc25	m	bm	FWW03	524375 175660	Th Putney			8.5x2.5cm, grey/brown, ?Sturge, tranchet flake
pick	bmsc26	m	bm	FWW03	524375 175660	Th Putney	slug shaped		10x3.5cm, brown, slug shaped ?Sturge, some cortex
pick	A.25776	m	mol	FWW03	524375 175660	Th Putney		1923 Apr	9.5cm long chipped, slightly curved sides, simple facetted point
scraper	bmsc66	m	bm	FWW03	524375 175660	Th Putney	serrated on inside of curve as well as on side	pre 1919	4x2.5cm, brown translucent, fairly fresh, Sturge
adze	A.609	m	mol	FWW06	525275 175375	Th Wandsworth	tranchet, chipped	1911	
adze	A.814	m	mol	FWW06	525275 175375	Th Wandsworth	tranchet	1911	
adze	927.48.125 AE 1189	m/n	rom	FWW06	525275 175375	Th Wandsworth	tranchet, cortex and encrustation	pre 1927 Jul9	13.4x4.5cm, yellow/grey with dk patches, near flat on one side with almost triang section and butt, rounded butt, GFL
axe	Z30760 (110)	m	cumaa	FWW06	525275 175375	Th Wandsworth	edges abraded and damaged		10.2x6cm, lt grey, flat base, semicircular edge 0.3cm in depth, appears to be deliberate
axe	60.176/37	m	mol	FWW06	525275 175375	Th Wandsworth	tranchet, traces white encrustation	1910 May18	16.5x4.4x2.5cm black, sold by 'Mr Lawrence' for 7/6, JOK.

axe	A.7747	n	loan to WW Museum	FWW06	525275 175375	Th Wandsworth	ground & polished all over, edge slightly damaged	1912	14.7x6.4x3.1cm thin well-shaped butt, pointed oval section
axe	A.14	n	mol	FWW06	525275 175375	Th Wandsworth	polished	1911	13.8cm long
axe	A.2006	n	mol	FWW06	525275 175375	Th Wandsworth	ground & polished all over	1912	15.8x5.65x3.4cm thin butt, pointed oval section
axe	O.473	n	mol	FWW06	525275 175375	Th Wandsworth Th ballast	ground, polished		16.3x7.1x4.2cm A&J p50 no316, Layton
blade	Z15147 E1	m	cumaa	FWW06	525275 175375	Th Wandsworth	core rejuvenation		Fox coll
core	16,862	m	mol	FWW06	525275 175375	Th Wandsworth			7.5x4cm bi-polar
core	A.8124	m	mol	FWW06	525275 175375	ThWandsworth		1912	
flake	A.4908	em	mol	FWW06	525275 175375	Th Wandsworth	edge polished by wear	1913	
flake	A.13	n	mol	FWW06	525275 175375	Th Wandsworth		1911	?Levallois
knife	A.27838	n	mol	FWW06	525275 175375	Th Wandsworth	with trimmed	1925	11cm long

						h	edge		
knife	A.25247	n	mol	FWW06	525275 175375	Th Wandsworth	l/s	1922 Sept	6.5cm long
pick	60.176/76	m	mol	FWW06	525275 175375	Th Wandsworth	tranchet, broken by plunging fracture	1909 Dec11	11.2x4.6x3.5cm olivegrey cutting edge shows tranchet technique, from 'Mr Lawrence' for 1/6 JOK.
pick	AE 1165	m/n	rom	FWW06	525275 175375	Th Wandsworth	encrustation	pre 1928 Mar17	25.5xmax7cm, large, dk /lt grey patches, cortex, almost flat on one side, slightly curved on other, roughly made, pointed tip, GFL
scraper	A.26296	n	mol	FWW06	525275 175375	Th Wandsworth		1923 Oct	7cm long, long form
scraper	A.6396	n	mol	FWW06	525275 175375	Th Wandsworth		1912	
scraper	927.48.80 AE 841	n	rom	FWW06	525275 175375	Th Wandsworth	end scraper on flake,	pre 1927 Mar24	6.5x3.7cm, almost twisted in reversed 'S'shape, mottled ochreous/grey, sides almost parallel, rounded at both ends, butt end slightly narrower, convex face, GFL
thames pick	A.1	m	mol	FWW06	525275 175375	Th Wndsworth		1911	
axe	36.217/6	n	mol	FWW07	525750 175430	Th (bank) Wandsworth	polished		12.9x5cm sides converge towards the butt, thin oval section
arrowhead	A.10	n	mol	FWW07	525750 175450	Thames Wandsworth	l/s, ground	1911	6.5x2cm

axe	O.686	m	mol	FWW07	525750 175450	Wandsworth Th ballast	tranchet, rectang section	1863 June	22.5x6.5cm 'Thames ballast Wandsworth. Off Putney Hill Shore in the river so-called. June 1863' Layton
flake	A.5445	m/n	Loan to Wwmuseum	FWW07	525750 175450	Th Wandsworth	secondary working at edges	1913	12x2cm
fabricator	PR 6.33a	n	prm	FWW12	527250 177330	Bed of Th Battersea			9cm, yellowgrey, long oval, narrow, thick, plano-convex, worked all round - used as a ?scraper, Pitt Rivers Colln
adze	A.7	m	mol	FWW13	527750 177550	Th Battersea	tranchet, comp. finely flaked	1911	12cm long, tranchet edge, longitudinally curved, cf Duggleby type
axe	bmuc2	m	bm	FWW13	527750 177550	Th Battersea			15xc5cm, tan/brown, some cortex, curved,
axe	1927.3799	n	ash	FWW13	527750 177550	Th Battersea		1891	13.5x6.3cm, grey, chipped, pol, thin butt cross section oval with squared sides, JEC
axe	A.10051	n	mol	FWW13	527750 177550	Th Battersea	polished	1912	15.7cm long
axe	A.7349	n	mol	FWW13	527750 177550	Th Battersea		1912	19.2cm long, in Lawrence 1929 Pl III no.1
chisel	1884.123.324	n	prm	FWW13	527750 177550	Th Battersea	partly ground		14.5cm, yellowgrey, long, expanding to a curved edge. Pitt Rivers Colln
core	bmsc8	m	bm	FWW13	527750 177550	Th Battersea	encrustation on one face	1899 Jun17	5x4.5cm, mottled brown, bipolar, used as scraper,
flake	bmsc7	m	bm	FWW13	527750 177550	Th Battersea	base broken, sm cortex	pre1919	7.5x2cm, brown, fresh, serrated edges, Sturge coll
flake	1884.132.109	m	prm	FWW13	527750 177550	Th Battersea			7.7cm, yellow suboval/blue black mottled, back ridge removed, Wymer CBA Gaz

									1977 p199, Pitt Rivers Colln
flake	1884.132.110	m	prm	FWW13	527750 177550	Th Battersea	side strip cortex		8.4cm, l/s pointed brown black Wymer CBA Gaz 1977 p199 Pitt Rivers Colln
flake	1884.132.59	m	prm	FWW13	527750 177550	Th Battersea	twisted		8.5cm, brown, pointed, expanded below the point, Wymer CBA Gaz 1977 p199, Pitt Rivers Colln
pick	A.2010	n	mol	FWW13	527750 177550	Th Battersea		1912	chipped, not tranchet
thames pick	36.217/18	m	mol	FWW13	527750 177550	Th Battersea	partial cortex	1936	21x4cm triang cross-section
adze	A.10973	n	mol		503150 171250	Th Staines	polished	1913	14.2cm long
adze	A.10974	n	mol		503150 171250	Th Staines		1913	13.6cm long chipped
axe	1317	en	gpm		503150 171250	Th Staines	iron stained, partly pol		13.5x5.1x2cm, grey, flaked, wide convex cutting edge, tapering to narrow butt, Sadler coll
axe	49.107/119	n	mol		503150 171250	Th Staines	polished	1891 Jan	11.5x6cm black, asymmetrical tapered butt
axe	A.10969	n	mol		503150 171250	Th Staines	frag, polished, 'hinged fracture'	1913	10.8cm long
blade	P1982 10-4 2274	m	bm		505450 166050	Th Chertsey	point snapped off	1909 Jul	13x2.5cm lt grey, backed blade, serrated edges, damage on strking platform, Wellcome coll
thames pick	49.107/36	m	mol		505450 166050	Th Chertsey	chipped	1892 Dec	17x5cm
thames pick	S7654	m	guildm		509250 166500	Walton Bridge		1934	
spear	E.2210	n	nhm		512250	Hampton-	butt	pre 1952	5.5x3.4max cm, brown,

					175570	upon-Th, river gravels 37 Coutlands Ave	missing		
axe	49.107/79	m	mol		514000 169400	Th Hampton		1892 Nov	16x5.5cm chipped
axe	49.107/108	n	mol		514000 169400	Th Hampton	polished	1889 Feb18	15.5x6.75cm brown thick section
axe	49.107/117	n	mol		514000 169400	Th Hampton	polished, chip in working edge	1891 Apr	18x8.5cm brown, tapered butt
pick	49.107/20	m	mol		514000 169400	Th Hampton	coarsely chipped	1891 June	27.5cm long pale ochreous
axe	k833	n	km		514000 169400	Th opposite Hampton Church	polished/slightly worn edge	pre 1908	14.7x4.7x1.5cm dk grey/ochreous grey flaked, reground edge, poss hafting marks, A&J 188
axe	1927.3801	n	ash		515500 168500	Th Hampton Court	broken butt	pre 1927	15.5x5.7cm grey, orange patina, chipped, pol, JEC
axe	60.176/32	m	mol		516550 172400	Ham Gravel pit	butt=cortex, sides battered, some re-chipping	1911 May15	10x4.5x3cm black/grey, freshly flaked, cutting edge=?tranchet, 'Dredged from Thames at Chelsea and found at filling up of Ham Gravel Pit' bought from Philips 3 Springfield Rd, tedd for 2/6 JOK
axe	60.176/36	m	mol		516550 172400	Ham Gravel pit	butt/broken off, some white encrustatio	1911 July3	11.5x5.5x2.8cm grey/brown mottled well chipped, from Chelsea Reach in Th, found in fill from Ham Gravel Pit, bought from Emerton Snr for 3/6

							n		
axe	60.176/49	m	mol		516550 172400	Ham Gravel Pit	tranchet	1911 Apr24	9.5x6.3x3cm black/ochre flat on one side, humped other, found in material from Th Chelsea, bought from Emerton for 1/- JOK.
pick	60.176/53	m	mol		516550 172400	Ham Gravel Pit	lot cortex, butt prob broken good cutting edge	1911 Jun3	15.5x4.83.5cm edge has brusque trimming, from Th Chelsea,
knife	95.533/3	en	mol		517300 176300	Th foreshore Syon middx	stained, distal tip worn, reworked as blade along lateral edges	1976/7	7.5x1.9x0.5cm
adze	k721	m	km		517750 169650	Th Kingston	chipped around natural hole	pre1907	18.1x6cm, yellowish, Roots
adze	k759	m	km		517750 169650	Th Kingston	some cortex, ?ide damage before deposition, some encrustation	pre1907	12.7x5cm, green/grey, tranchet blade, edge restruck, Lawrence
adze	49.107/2	m	mol		517750	Th	tranchet,	1892	15.5x5cm squ edge

	9				169650	Kingston	fairly well chipped		
adze	49.107/138	n	mol		517750 169650	Th Kingston	partly ground		12x4cm brown, semicircular edge
axe	49.107/22	m	mol		517750 169650	Th Kingston	2 tranchet, (1) chipped	1897	16.5x6.5cm (1)blackbroad edge thick (2) amber
axe	49.107/23	m	mol		517750 169650	Th Kingston	tranchet, roughly chipped	1891 Oct	20x7cm long Lloyd
axe	49.107/42	m	mol		517750 169650	Th Kingston	tranchet, superficial calcareous deposit	1887 Jun16	11.5x4cm chipped ochreous
axe	49.107/74	m	mol		517750 169650	Th Kingston	tranchet, unpolished	1890 Mar	14x5cm brown
axe	49.107/77	m	mol		517750 169650	Th Kingston	tranchet, flat flaking	1891 Oct	13x4.5cm black/grey chipped Lloyd
axe	49.107/92	m	mol		517750 169650	Th Kingston			17cm long chipped Lloyd
axe	k1	n	km		517750 169650	Th Kingston	ground and polished, slightly rolled	pre1904	18x7.1cm, brown, damaged both nodern and in antiquity, damaged blade
axe	k11	n	km		517750 169650	Th Kingston	worn, polished , flaked	pre 1904	16.1x6.1x3.1cm lt grey, flattened sides A&J 264
axe	k1122a	n	km		517750 169650	Th Kingston railway Bridge	ground, polished,slight signs of wear	pre 1908	20.1x6.4x4.7cm grey mottled , damaged blade edge, ?hafting mark at rear, A&J 327
axe	k1122b	n	km		517750	Th	polished,	pre 1908	15.6x5.3x3.1cm grey with white flecks,

					169650	Kingston railway Bridge, surface find	little signs of wear		blade edge worn, poss reground A&J 97
axe	k2294A	n	km		517750 169650	Th Kingston dredged	butt end broken off, chipped	1974	10.5x5.6cm, lt brown, polished, missing blade end
axe	k717	n	km		517750 169650	Th Kingston	complete, slight signs of wear, ground	pre 1907	13.4x5.6x3.2cm dk grey with lighter patches near butt, worn blade edge, surface slightly worn, A&J 158, Roots
axe	k718	n	km		517750 169650	Th nr Kingston	worn, polished, damage to butt	pre 1907	11.5x6.1x3.5cm yellow /orange, patinated, polished, blade damaged on side =?hafting, Roots, A&J 281
axe	k724	n	km		517750 169650	Th Kingston	complete, ground and polished	pre 1907	14.9x5.9cm lt brown, dk brown nr blade, wear marks/pol marks on blade, v little wear, butt squ shape, Roots
axe	k727	n	km		517750 169650	Th Kingston	ground, worn, some encrustatio n	pre 1907	16x6.2x4cm black, some cortex on butt, some encrustation, blade edge damaged, , Roots, A&J 166
axe	k728	n	km		517750 169650	Th Kingston	blade almost complete, slightly chipped, no encrustatio	pre 1907	15x5.1x2.5cm dk grey, flaked, slightly curved, abraded sides, soil still adhering, Roots, A&J 285

							n, worn edge, slightly polished,		
axe	k834	n	km		517750 169650	Th Kingston	ground and polished, whole	pre 1908	14.5x3.1x2.4cm, mottled grey, ovate, shouldered
axe	k835	n	km		517750 169650	Th Kingston Brige	ground, damaged butt, slight signs of wear	pre 1908	10.4x4.7x2.7cm yellowgrey/yellow-ochreous damage to blade and butt, hafting marks, A&J 348
axe	kL139	n	km (loan from Reading Museum 1967))		517750 169650	Th Kingston, below railway Bridge.	ground with polished edge, worn	pre1967	13.7x6.4x3.8cm lt grey,yellow-ochreous patina, with green-grey/ brown patches, damaged blade & sides (hafting), A&J 159
axe	49.107/121	n	mol		517750 169650	Th Kingston	unpolished	1894	13x5cm brown, sharp edges Lloyd
axe	49.107/123	n	mol		517750 169650	Th Kingston	mostly polished	1888 Oct	15x6cm dark
axe	49.107/137	n	mol		517750 169650	Th Kingston	sharp sides	1889	18.5x9cm brown well chipped, semicircular edge Lloyd
axe	49.107/140	n	mol		517750 169650	Th Kingston	partly polished	1891 Dec	15.5x6.5cm brown, semi-circular butt
axe	49.107/21	n	mol		517750 169650	Th Kingston	unpolished, sharp sides	1890 Sep	18.5x7cm yellow brown Lloyd

						nr One Tree			
axe	49.107/53	n	mol missing		517750 169650	Th Kingston	chipped	1891 Jun	12cm long, Lloyd
axe	49.107/91	n	mol missing		517750 169650	Th Kingston	wellchipped, partly polished at edge/faces,	1897	14.5x5cm brownish, sharp sides, rounded butt Lloyd
axe	E.6008	n	nhm		517750 169650	Th Kingston	polished, reworked	1938	banded flint, br & grey, 10.75x4.5 max cm GFL Colln (380) pres by Dr CT Trechmann
axe	927.51.21 AE 829	n	rom		517750 169650	Th Kingston	surface slightly abraded before later damage	pre 1927 Apr14	20.3x6cm, dk grey mottled, polished, semicircular cutting edge, sides v slightly curved, concavity cortex in butt, faces convex, Fenton
axe	0567	n	sal		517750 169650	Th bank, Kingston, Chelsea waterworks	highly finished and polished	1855 Jul	length 5 1/8", grey, straight sides, one longer than the other, Roots 1
knife	49.107/178	m/n	mol		517750 169650	Th Kingston		undated	7.5x1cm lt brown Lloyd
knife	Z15147C (1547)b	n	cumaa		517750 169650	Th Kingston	some cortex, tip damage, poss chipping on edges		12x3.5cm, black, flake, serrated side edges, Fox Coll
pick	61.212/3	m	mol		517750	Th	underside		14x4x3cm fluted flaking, ?poss tranchet

	7				169650	Kingston	damaged, some cortex		blow
thames pick	k729	m	km		517750 169650	Th Kingston	complete, sides abraded, some encrustation	pre1907	16.2x5.5cm, mottled grey, butt broken, tranchet flake on one side, on other side tranchet almost removed by later flaking at side. Roots
thames pick	k734	m	km		517750 169650	Th Kingston	some cortex	pre1907	18.5x4.6cm, black/dk grey,tranchet flake either side of point, abraded sides, Roots
thames pick	36.217/23	m	mol		517750 169650	Kingston u Th	blunt butt end	1936	18x4cm irreg primary flaking, prob used as chisel
axe	k993	n	km		517900 170250	Th Kingston, nr 'The Chalet' Candury Gdns, dredged	rough out, rolled, chipped, recently broken	1924	23.3x7x5.5cm, grey/yellow, patinated, some cortex, knapped,
axe	A.23526	m	mol		520175 176900	Hartington Rd, Chiswick	tranchet	1921 Jan	15cm long, chipped, with pointed butt & sharp sides
blade	fhhs99	n			520400 176100	Mortlake foreshore TQ 204 761		1971-3	5x2cm, surface find, dk/lt grey, translucent bladed, steelpy blunted 'nibbled' edges, notch on one side, similar to neo found at Brentford (R Canham pers comm)
blade	81.99/1	en	gpm		521900 178000	Th SE corner Chiswick eyot TQ	snapped, incomplete	1981 Nov27	4.5x3.5cm, black, some cortex on 1 edge, opp has some retouch

						21907795			
blade	81.99/4	en	gpm		521900 178000	Th SE corner Chiswick eyot TQ 21907795		1981 Nov27	6x2cm, dk grey/brown some retouch
blade	81.99/5	en	gpm		521900 178000	Th SE corner Chiswick eyot 521900 178000		1981 Nov27	3.2x2.8cm, dk grey/brown some cortex, some retouch
core	81.99/2	en	gpm		521900 178000	Th SE corner Chiswick eyot 521900 178000 below face of mud bank	traces of 'race'	1981 Nov27	4.5xx3.6x2.7cm, sm greyish/olive, striking platform,
flake	81.99/3	en	gpm		521900 178000	Th SE corner Chiswick eyot 521900 178000		1981 Nov27	3.3x2.1cm, dk, poss waste flake
flake	81.99/6	en	gpm		521900 178000	Th SE corner Chiswick eyot TQ		1981 Nov27	4x3.5cm, dk grey/brown,poss waste flake

						21907795			
scraper	83.78	n	gpm		521900 178000	Th SE corner Chiswick eyot, 6ft above low water line		1983 may31	4x4x1.2cm, dk grey/black, some cortex, striking platform, working around edges
arrowhead	66.39/85	m/n	gpm		521990 178050	Th foreshore off SE part Chiswick eyot	l/s, slightly stained	pre1966	3x1.5cm, brown, bifacially worked, on a flake, fairly thick section, Rivett Carnack coll
axe	66.39/69	n	gpm		521990 178050	Th foreshore off SE part Chiswick eyot	frag, extensive frost damage	pre1966	2.4x4.2x2.2cm, brown, cutting edge from axe, sm patch of cortex, Rivett Carnack coll
blade	76.42/1	en	gpm		521990 178050	Th foreshore off SE part of Chiswick eyot		pre 1976	
blade	81.36/1	en	gpm		521990 178050	Th SE corner Chiswick eyot		1962 Jun	dk sand, some secondary working
blade	66.39/130	n	gpm		521990 178050	Th foreshore off SE part Chiswick		pre1966	3.9x1.6cm, lt brown/grey, secondary, v sm patch cortex about striking platform, Rivett Carnack coll

						eyot			
blade	66.39/133	n	gpm		521990 178050	Th foreshore off SE part Chiswick eyot		pre1966	2.8x1cm, brown, partly cortical, Rivett Carnack coll
blade	66.39/147	n	gpm		521990 178050	Th foreshore off SE part Chiswick eyot	rolled, iron stained	pre1966	3.5x1.6cm, brown, secondary, Rivett Carnack coll
blade	66.39/155	n	gpm		521990 178050	Th foreshore off SE part Chiswick eyot	snapped at bulbar end, slightly stained	pre1966	2.9x1.9cm, lt brown, secondary, partly cortical,
blade	66.39/18	n	gpm		521990 178050	Th foreshore off SE part Chiswick eyot		pre1966	3.5x1.1cm, brown, double-ridged blade, notch on one side, Rivett Carnack coll
blade	66.39/34	n	gpm		521990 178050	Th foreshore off SE part Chiswick eyot	stained, rolled	pre 1966	4.1x1.6cm, brown, partly cortical, Rivett Carnack coll
blade	66.39/51	n	gpm		521990 178050	Th foreshore off SE part Chiswick eyot	snapped at terminal end	pre1966	3.1x2cm, brown, lustrous partly cortical, Rivett Carnack coll

blade	66.39.221	n	gpm		521990 178050	Th foreshore off SE part Chiswick eyot	rolled, single ridged	pre1966	2.3x1cm, brown, lustrous, partly cortical, Rivett Carnack coll
blade	66.39/104	n	gpm		521990 178050	Th foreshore off SE part Chiswick eyot	single ridged	pre1966	4.2x1.6cm, brown, lustrous, partly cortical, Rivett Carnack coll
blade	66.39/106	n	gpm		521990 178050	Th foreshore off SE part Chiswick eyot	snapped at terminal end, triple ridged	pre1966	4.3x1.7cm, brown, lustrous, non-cortical, 2 bulbs of percussion; notch in one side = ?unfinished saw, Rivett Carnack coll
blade	66.39/107	n	gpm		521990 178050	Th foreshore off SE part Chiswick eyot	double ridged, stained, slightly rolled	pre1966	4x1.7cm, brown, lustrous, some cortex, Rivett Carnack coll
blade	66.39/111	n	gpm		521990 178050	Th foreshore off SE part Chiswick eyot	snapped at terminal end, triple ridged	pre1966	3.2x1.6cm, brown, lustrous, partly cortical, bulb of percussion flaked away, Rivett Carnack coll
blade	66.39/116	n	gpm		521990 178050	Th foreshore off SE part Chiswick eyot	double ridged, snapped at terminal end	pre1966	3.4x1.9cm, lt brown, all sides finely worked, partly cortical, Rivett Carnack coll
blade	66.39/11	n	gpm		521990	Th	single	pre1966	3.4x1.3cm, lt brown, partly cortical, notch

	8				178050	foreshore off SE part Chiswick eyot	ridged, rolled		on one side, Rivett Carnack coll
blade	66.39/119	n	gpm		521990 178050	Th foreshore off SE part Chiswick eyot	single ridged, rolled, slightly stained, sm traces of 'race' at terminal end	pre1966	3.2x1.5cm, lt brown, non-cortical, Rivett Carnack coll
blade	66.39/121	n	gpm		521990 178050	Th foreshore off SE part Chiswick eyot	hinge fracture, slightly stained, single ridged	pre1966	4.9x1.6cm, brown, partly cortical, Rivett Carnack coll
blade	66.39/122	n	gpm		521990 178050	Th foreshore off SE part Chiswick eyot	stained	pre1966	3.9x0.8cm, brown, cortical, Rivett Carnack coll
blade	66.39/123	n	gpm		521990 178050	Th foreshore off SE part Chiswick eyot	double ridged, slightly stained, point at terminal end broken	pre1966	3.2x1.2cm, lt sandy brown, non-cortical, notch in one side, bulb been flaked off, finely worked sides, Rivett Carnack coll

blade	66.39/125	n	gpm		521990 178050	Th foreshore off SE part Chiswick eyot	single ridged, traces of 'race'	pre1966	4.1x1.3cm, brown, Rivett Carnack coll
blade	66.39/126	n	gpm		521990 178050	Th foreshore off SE part Chiswick eyot	snapped at bulbar end, traces of 'race'	pre1966	3x1.4cm, brown, rounded at terminal end, Rivett Carnack coll
blade	66.39/127	n	gpm		521990 178050	Th foreshore off SE part Chiswick eyot	snapped at both ends, stained, single ridged	pre1966	2.9x1.2cm, dk brown, cortical, Rivett Carnack coll
blade	66.39/139	n	gpm		521990 178050	Th foreshore off SE part Chiswick eyot	double ridged, iron stained, snapped at terminal end	pre1966	4x1.4cm, brown, all sides finely worked, Rivett Carnack coll
blade	66.39/146	n	gpm		521990 178050	Th foreshore off SE part Chiswick eyot	double ridged, rolled	pre1966	3x1cm, brown, partly cortical, Rivett Carnack coll
blade	66.39/148	n	gpm		521990 178050	Th foreshore off SE part Chiswick	single ridged	pre1966	2.25x0.8cm, brown, non-cortical, Rivett Carnack coll

						eyot			
blade	66.39/149	n	gpm		521990 178050	Th foreshore off SE part Chiswick eyot	double ridged, terminal end snapped off	pre1966	2.8x1.8cm, brown, partly cortical, Rivett Carnack coll
blade	66.39/153	n	gpm		521990 178050	Th foreshore off SE part Chiswick eyot	stained, single ridged	pre1966	3.3x1.2cm, dk brown, Rivett Carnack coll
blade	66.39/157	n	gpm		521990 178050	Th foreshore off SE part Chiswick eyot	double ridged, snapped at terminal end	pre1966	1.8x1.1cm, brown, Rivett Carnack coll
blade	66.39/162	n	gpm		521990 178050	Th foreshore off SE part Chiswick eyot	single ridged	pre1966	2x0.9cm, lt brown, sm, bulbar scar, Rivett Carnack coll
blade	66.39/175	n	gpm		521990 178050	Th foreshore off SE part Chiswick eyot	double ridged	pre1966	3x0.9cm, yellow/brown, fine working along edges, Rivett Carnack coll
blade	66.39/176	n	gpm		521990 178050	Th foreshore off SE part Chiswick	snapped at terminal end, single ridged	pre1966	2.5x1.2cm, lt brown, fine working on sides, Rivett Carnack coll

						eyot			
blade	66.39/181	n	gpm		521990 178050	Th foreshore off SE part Chiswick eyot	single ridged	pre1966	2.1x0.9cm, brown, notched, fine retouch on all sides, Rivett Carnack coll
blade	66.39/216	n	gpm		521990 178050	Th foreshore off SE part Chiswick eyot	terminal end broken, rolled, stained, single ridged	pre1966	2x1.2cm, brown, Rivett Carnack coll
blade	66.39/241	n	gpm		521990 178050	Th foreshore off SE part Chiswick eyot	snapped at bulbar end, traces of 'race', single ridged	pre1966	2.2x1cm, brown, two notches in one side = ?saw, fine working on edges, Rivett Carnack coll
blade	66.39/245	n	gpm		521990 178050	Th foreshore off SE part Chiswick eyot	frag, single ridged	pre1966	1.4x0.9cm, lt brown, terminal end of blade, edges finely worked, Rivett Carnack coll
blade	66.39/264	n	gpm		521990 178050	Th foreshore off SE part Chiswick eyot	double ridged, snapped at terminal end, frag	pre1966	0.9x0.9cm, top part of blade, grey, Rivett Carnack coll
blade	66.39/55	n	gpm		521990 178050	Th foreshore	single ridged,	pre1966	4.7x2cm, brown, lustrous, partly cortical, Rivett Carnack coll

						off SE part Chiswick eyot	snapped at terminal end		
blade	66.39/58	n	gpm		521990 178050	Th foreshore off SE part Chiswick eyot	single ridged	pre1966	4.3x1.1cm, brown, non-cortical, Rivett Carnack coll
blade	66.39/59	n	gpm		521990 178050	Th foreshore off SE part Chiswick eyot	single ridged, snapped at terminal end	pre1966	3.7x2cm, brown, lustrous, non-cortical, Rivett Carnack coll
blade	66.39/60	n	gpm		521990 178050	Th foreshore off SE part Chiswick eyot	single ridged, snapped at bulbar and terminal ends	pre1966	3.8x1.3cm, brown lustrous, non-cortical, retouch at bulbar end, Rivett Carnack coll
blade	66.39/62	n	gpm		521990 178050	Th foreshore off SE part Chiswick eyot	double ridged, snapped at terminal, battered platform	pre1966	3.1x1cm, brown, cortical, Rivett Carnack coll
blade	66.39/64	n	gpm		521990 178050	Th foreshore off SE part Chiswick eyot	single ridged	pre1966	5.1x2.2cm, brown, parlty cortical, Rivett Carnack coll
blade	66.39/72	n	gpm		521990	Th	single	pre1966	5x1.9cm brown, non-cortical, Rivett

					178050	foreshore off SE part Chiswick eyot	ridged, snapped at bulbar end		Carnack coll
blade	66.39/73	n	gpm		521990 178050	Th foreshore off SE part Chiswick eyot	single ridged	pre1966	3.2x1.7cm, brown, partly cortical, Rivett Carnack coll
blade	66.39/78	n	gpm		521990 178050	Th foreshore off SE part Chiswick eyot	single ridged, slightly stained, snapped at bulbar end	pre1966	3.7x1.3cm, brown, non-cortical, Rivett Carnack coll
blade	66.39/79	n	gpm		521990 178050	Th foreshore off SE part Chiswick eyot	double ridged, stained	pre1966	4.5x1.9cm, brown, non-cortical, Rivett Carnack coll
blade	66.39/83	n	gpm		521990 178050	Th foreshore off SE part Chiswick eyot	double ridged, battered platform, snapped at terminal end	pre1966	2.8x1.6cm, brown, non-cortical, poss retouch along one edge, Rivett Carnack coll
blade	66.39/262	n	gpm		521990 178050	Th foreshore off SE part Chiswick	double ridged, broken part of blade,	pre1966	0.9x0.5cm, brown, partly cortical, Rivett Carnack coll

						eyot	frag		
core	66.39/82	n	gpm		521990 178050	Th foreshore off SE part Chiswick eyot	slightly stained and rolled	pre1966	3.8x2.8x1.8cm, sm, brown, two platformed core, partly cortical, Rivett Carnack coll
flake	76.42/2	en	gpm		521990 178050	Th foreshore off SE part of Chiswick eyot		pre 1976	secondary
flake	76.42/3	en	gpm		521990 178050	Th foreshore off SE part of Chiswick eyot		pre 1976	secondary
flake	66.39.220	n	gpm		521990 178050	Th foreshore off SE part Chiswick eyot	hinge fracture, sm traces of 'race'	pre1966	2.2x2.2cm, brown, secondary, cortical partly on one face, Rivett Carnack coll
flake	66.39.222	n	gpm		521990 178050	Th foreshore off SE part Chiswick eyot	stained	pre1966	5.1x3.5cm, brown, secondary, cortex on striking platform, ?edges worked, partly cortical, Rivett Carnack coll
flake	66.39/101	n	gpm		521990 178050	Th foreshore off SE part		pre1966	2.9x2.9cm, brown, tertiary, poss retouch on on edge

						Chiswick eyot			
flake	66.39/102	n	gpm		521990 178050	Th foreshore off SE part Chiswick eyot	poss misstruck or broken	pre1966	2.3x2.6cm, brown, tertiary, Rivett Carnack coll
flake	66.39/103	n	gpm		521990 178050	Th foreshore off SE part Chiswick eyot	rolled, stained	pre1966	3.6x1.9cm, secondary, Rivett Carnack coll
flake	66.39/105	n	gpm		521990 178050	Th foreshore off SE part Chiswick eyot	snapped at terminal end	pre1966	3x2.2cm, brown, lustrous, secondary, Rivett Carnack coll
flake	66.39/108	n	gpm		521990 178050	Th foreshore off SE part Chiswick eyot	snapped at terminal end, battering along both sides	pre1966	3.7x3.3cm, brown, secondary, Rivett Carnack coll
flake	66.39/109	n	gpm		521990 178050	Th foreshore off SE part Chiswick eyot	stained, snapped at bulbar and terminal ends	pre1966	2.8x3.7cm, tertiary, poss a side struck core rejuvenation flake, Rivett Carnack coll
flake	66.39/110	n	gpm		521990 178050	Th foreshore off SE part	slightly stained	pre1966	2.4x1.9cm, brown, primary, Rivett Carnack coll

						Chiswick eyot			
flake	66.39/112	n	gpm		521990 178050	Th foreshore off SE part Chiswick eyot	hinge fracture	pre1966	2.7x2.6cm, brown, secondary, Rivett Carnack coll
flake	66.39/113	n	gpm		521990 178050	Th foreshore off SE part Chiswick eyot	one side broken	pre1966	3.5x1.6cm, brown, secondary, Rivett Carnack coll
flake	66.39/114	n	gpm		521990 178050	Th foreshore off SE part Chiswick eyot		pre1966	3.3x1.8cm, brown, secondary, Rivett Carnack coll
flake	66.39/115	n	gpm		521990 178050	Th foreshore off SE part Chiswick eyot	snapped at bulbar end	pre1966	4x3cm, brown, secondary, Rivett Carnack coll
flake	66.39/117	n	gpm		521990 178050	Th foreshore off SE part Chiswick eyot		pre1966	4.2x2.4cm, lt brown, secondary, partly cortical, fine retouch on sides, Rivett Carnack coll
flake	66.39/120	n	gpm		521990 178050	Th foreshore off SE part Chiswick	hinge fracture, some traces of	pre1966	3.6x2.3cm, lt brown, tertiary, notch in side, Rivett Carnack coll

						eyot	'race'		
flake	66.39/124	n	gpm		521990 178050	Th foreshore off SE part Chiswick eyot	snapped at terminal end	pre1966	3x2.4cm, lt brown, tertiary, Rivett Carnack coll
flake	66.39/128	n	gpm		521990 178050	Th foreshore off SE part Chiswick eyot	v slightly stained	pre1966	3.5x3.5cm, lt sandy brown, secondary, partly cortical, finely worked sides, Rivett Carnack coll
flake	66.39/129	n	gpm		521990 178050	Th foreshore off SE part Chiswick eyot	slightly stained, rolled	pre1966	3.6x1.8cm, mottled brown/grey, secondary, Rivett Carnack coll
flake	66.39/131	n	gpm		521990 178050	Th foreshore off SE part Chiswick eyot	slightly stained, snapped at terminal and bulbar end	pre1966	2.7x2.1cm, brown, secondary, Rivett Carnack coll
flake	66.39/132	n	gpm		521990 178050	Th foreshore off SE part Chiswick eyot	stained	pre1966	2.4x1.8cm, dk brown, secondary, partly cortical, Rivett Carnack coll
flake	66.39/134	n	gpm		521990 178050	Th foreshore off SE part Chiswick	slightly stained, traces of 'race',	pre1966	5.9x2.4cm, brown, tertiary, Rivett Carnack coll

						eyot	battered platform,		
flake	66.39/135	n	gpm		521990 178050	Th foreshore off SE part Chiswick eyot	rolled	pre1966	3.6x2cm, lt brown, secondary, patch cortex about striking platform, Rivett Carnack coll
flake	66.39/136	n	gpm		521990 178050	Th foreshore off SE part Chiswick eyot	rolled	pre1966	3.7x2cm, ?natural, dk brown, secondary, Rivett Carnack coll
flake	66.39/137	n	gpm		521990 178050	Th foreshore off SE part Chiswick eyot	iron stained	pre1966	4.5x2.1cm, brown, secondary, partly cortical, Rivett Carnack coll
flake	66.39/140	n	gpm		521990 178050	Th foreshore off SE part Chiswick eyot	piece at terminal end snapped off	pre1966	3.8x2.1cm, lt brown, secondary, partly cortical, thick sectioned, Rivett Carnack coll
flake	66.39/141	n	gpm		521990 178050	Th foreshore off SE part Chiswick eyot	stained	pre1966	2.8x1.3cm, dk brown, sm, cortical, worked on one edge, Rivett Carnack coll
flake	66.39/142	n	gpm		521990 178050	Th foreshore off SE part Chiswick	stained, slightly rolled	pre1966	3.5x1.6cm, dk brown, tertiary, Rivett Carnack coll

						eyot			
flake	66.39/143	n	gpm		521990 178050	Th foreshore off SE part Chiswick eyot	traces of 'race', rolled	pre1966	2.7x2cm, lt brown, tertiary, Rivett Carnack coll
flake	66.39/144	n	gpm		521990 178050	Th foreshore off SE part Chiswick eyot		pre1966	3x1.4cm, dk brown, tertiary, Rivett Carnack coll
flake	66.39/151	n	gpm		521990 178050	Th foreshore off SE part Chiswick eyot	iron stained	pre1966	2.2x1.2cm, sandy brown, tertiary, Rivett Carnack coll
flake	66.39/152	n	gpm		521990 178050	Th foreshore off SE part Chiswick eyot		pre1966	2.2x3.5cm, dk brown, secondary, partly cortical, notch on one side, Rivett Carnack coll
flake	66.39/154	n	gpm		521990 178050	Th foreshore off SE part Chiswick eyot	hinge fracture at terminal end	pre1966	3x1.9cm, dk brown, secondary, heavily cortical, Rivett Carnack coll
flake	66.39/156	n	gpm		521990 178050	Th foreshore off SE part Chiswick eyot	deeply scarred bulb	pre1966	1.9x2.6cm, brown, tertiary, fine working round sides, Rivett Carnack coll

flake	66.39/158	n	gpm		521990 178050	Th foreshore off SE part Chiswick eyot	frost damaged, rolled	pre1966	2.5x2.2cm, brown, secondary, heavily cortical, irreg shape, ?recent notches, Rivett Carnack coll
flake	66.39/161	n	gpm		521990 178050	Th foreshore off SE part Chiswick eyot	stained	pre1966	6x2.2cm, brown, secondary, coticalled at terminal end, deep notch, Rivett Carnack coll
flake	66.39/163	n	gpm		521990 178050	Th foreshore off SE part Chiswick eyot	calcined	pre1966	2.4x1.4cm, tertiary, Rivett Carnack coll
flake	66.39/164	n	gpm		521990 178050	Th foreshore off SE part Chiswick eyot	snapped at both ends	pre1966	2x1.2cm, brown, tertiary, fine retouch along edge, Rivett Carnack coll
flake	66.39/165	n	gpm		521990 178050	Th foreshore off SE part Chiswick eyot	stained, rolled	pre1966	2.6x1.9cm, sandy brown, secondary, fine working on sides, heavily corticalled, Rivett Carnack coll
flake	66.39/166	n	gpm		521990 178050	Th foreshore off SE part Chiswick eyot	snapped at terminal end	pre1966	1.6x1.8cm, lt brown, tertiary, sm patches of cortex, Rivett Carnack coll
flake	66.39/16	n	gpm		521990	Th	rolled,	pre1966	2.5x1.8cm, lt brown, secondary, partly

	7				178050	foreshore off SE part Chiswick eyot	patinated		cortical, Rivett Carnack coll
flake	66.39/168	n	gpm		521990 178050	Th foreshore off SE part Chiswick eyot	rolled, stained	pre1966	2.1x1.8cm, secondary, bulb flaked off, partly cortical, Rivett Carnack coll
flake	66.39/169	n	gpm		521990 178050	Th foreshore off SE part Chiswick eyot	slightly stained	pre1966	2.4x1.2cm, brown, secondary, fine working along one side = ?natural, Rivett Carnack coll
flake	66.39/17	n	gpm		521990 178050	Th foreshore off SE part Chiswick eyot		pre1966	2.5x2.8cm, secondary, brown, some flaking at terminal end, RIVETT CARNACK COLL
flake	66.39/170	n	gpm		521990 178050	Th foreshore off SE part Chiswick eyot	patinated, snapped at terminal end,	pre1966	2.7x1.9cm, brown, tertiary, finely worked at sides, Rivett Carnack coll
flake	66.39/172	n	gpm		521990 178050	Th foreshore off SE part Chiswick eyot	snapped off one end	pre1966	2x3.4cm, brown, secondary, heavily cortical, fine retouch along sides, Rivett Carnack coll
flake	66.39/173	n	gpm		521990 178050	Th foreshore	snapped at terminal	pre1966	3.2x3.6cm, brown, tertiary, flaked platform, Rivett Carnack coll

						off SE part Chiswick eyot	end		
flake	66.39/174	n	gpm		521990 178050	Th foreshore off SE part Chiswick eyot	stained, slight patina	pre1966	3.4x2.6cm, brown/speckled black, secondary, partly cortical, large flake scars, fine working along sides, irreg shape, Rivett Carnack coll
flake	66.39/177	n	gpm		521990 178050	Th foreshore off SE part Chiswick eyot	stained, traces of 'race'	pre1966	5x2.5cm, brown, secondary, partly cortical, battered bulb of percussion, Rivett Carnack coll
flake	66.39/179	n	gpm		521990 178050	Th foreshore off SE part Chiswick eyot		pre1966	1.3x1.5cm, lt brown, tertiary, flaked platform, fine working around edges, Rivett Carnack coll
flake	66.39/180	n	gpm		521990 178050	Th foreshore off SE part Chiswick eyot	rolled	pre1966	1.8x2.5cm, brown, secondary, partly cortical, Rivett Carnack coll
flake	66.39/182	n	gpm		521990 178050	Th foreshore off SE part Chiswick eyot		pre1966	3.3x2cm, brown, secondary, partly cortical, Rivett Carnack coll
flake	66.39/183	n	gpm		521990 178050	Th foreshore off SE part	traces of 'race', slitting =	pre1966	2.2x2.7cm, brown, tertiary, thick sectioned, Rivett Carnack coll

						Chiswick eyot	?heating		
flake	66.39/184	n	gpm		521990 178050	Th foreshore off SE part Chiswick eyot	snapped at terminal end,	pre1966	1.5x2.2cm, brown, primary, partly cortical, Rivett Carnack coll
flake	66.39/185	n	gpm		521990 178050	Th foreshore off SE part Chiswick eyot	rolled	pre1966	2.7x3cm, lt brown, secondary, partly cortical, retouched into point on bulbar end, Rivett Carnack coll
flake	66.39/186	n	gpm		521990 178050	Th foreshore off SE part Chiswick eyot	patinated, extensive damage on bulbar scar, snapped at terminal end	pre1966	2.4x1.8cm, brown, secondary, fine retouch on one side, partly cortical, Rivett Carnack coll
flake	66.39/187	n	gpm		521990 178050	Th foreshore off SE part Chiswick eyot	slightly stained	pre1966	2.6x1.7cm, lt brown, tertiary, fine working on all sides, Rivett Carnack coll
flake	66.39/188	n	gpm		521990 178050	Th foreshore off SE part Chiswick eyot	traces of 'race'	pre1966	2x2.3cm, brown, tertiary, working on all edges, Rivett Carnack coll
flake	66.39/18	n	gpm		521990	Th	rolled	pre1966	4x2.6cm, brown, lustrous, secondary,

	9				178050	foreshore off SE part Chiswick eyot			Rivett Carnack coll
flake	66.39/19	n	gpm		521990 178050	Th foreshore off SE part Chiswick eyot	snapped at bulbar end	pre1966	4.2x2.4x1.2cm, brown, secondary flake, Rivett Carnack coll
flake	66.39/19 0	n	gpm		521990 178050	Th foreshore off SE part Chiswick eyot	traces of 'race'	pre1966	2.9x2.1cm, brown, partly cortical, core rejuvenation flake, Rivett Carnack coll
flake	66.39/19 1	n	gpm		521990 178050	Th foreshore off SE part Chiswick eyot		pre1966	3.2x3.9cm, brown, tertiary, 2 bulbs of percussion, Rivett Carnack coll
flake	66.39/19 4	n	gpm		521990 178050	Th foreshore off SE part Chiswick eyot	traces of 'race'	pre1966	3.2x3.2cm, brown, core rejuvenation flake, Rivett Carnack coll
flake	66.39/19 5	n	gpm		521990 178050	Th foreshore off SE part Chiswick eyot	iron stained, rolled	pre1966	4.5x4.3cm, brown, secondary, partly cortical, one face badly flaked, Rivett Carnack coll
flake	66.39/19 6	n	gpm		521990 178050	Th foreshore	traces of 'race',	pre1966	4x2.9cm, brown, dense, secondary, partly cortical, thick sectioned, Rivett Carnack

						off SE part Chiswick eyot	patinated		coll
flake	66.39/197	n	gpm		521990 178050	Th foreshore off SE part Chiswick eyot	traces of 'race'	pre1966	2.8x3.5cm, brown, tertiary, thick sectioned, bifacially worked, Rivett Carnack coll
flake	66.39/198	n	gpm		521990 178050	Th foreshore off SE part Chiswick eyot	stained	pre1966	3x3.8cm, brown, primary, one face completely cortical, flaked platform, Rivett Carnack coll
flake	66.39/199	n	gpm		521990 178050	Th foreshore off SE part Chiswick eyot		pre1966	1.7x2.1cm, brown, tertiary, partly cortical, all edges finely worked, Rivett Carnack coll
flake	66.39/20	n	gpm		521990 178050	Th foreshore off SE part Chiswick eyot		pre1966	2.7x1.8x0.8cm, secondary, banded grey/brown, bulb of perc flaked away, Rivett Carnack coll
flake	66.39/200	n	gpm		521990 178050	Th foreshore off SE part Chiswick eyot	stained, rolled, sm traces of 'race'	pre1966	2.2x1.6cm, tertiary, flaked platform, Rivett Carnack coll
flake	66.39/202	n	gpm		521990 178050	Th foreshore off SE part	snapped at terminal end	pre1966	1.7x1.4cm, lt brown, tertiary, Rivett Carnack coll

						Chiswick eyot			
flake	66.39/203	n	gpm		521990 178050	Th foreshore off SE part Chiswick eyot		pre1966	5.9x2.9cm, lt brown, secondary, partly cortical, ?edges worked, Rivett Carnack coll
flake	66.39/204	n	gpm		521990 178050	Th foreshore off SE part Chiswick eyot	stained	pre1966	2.3x3.2cm, brown, secondary, partly cortical, Rivett Carnack coll
flake	66.39/205	n	gpm		521990 178050	Th foreshore off SE part Chiswick eyot	patinated	pre1966	1.9x2cm, brown, secondary, shows 2 period working, Rivett Carnack coll
flake	66.39/207	n	gpm		521990 178050	Th foreshore off SE part Chiswick eyot	slightly stained, hinge fracture	pre1966	1.9x1.8cm, brown, secondary, edges worked, partly cortical,Rivett Carnack coll
flake	66.39/208	n	gpm		521990 178050	Th foreshore off SE part Chiswick eyot		pre1966	1.9x1.8cm, lt brown, secondary, partly cortical, Rivett Carnack coll
flake	66.39/209	n	gpm		521990 178050	Th foreshore off SE part Chiswick	frost damage, slightly stained	pre1966	2.4x2.2cm, brown, secondary, partly cortical, edges worked, Rivett Carnack coll

						eyot			
flake	66.39/21	n	gpm		521990 178050	Th foreshore off SE part Chiswick eyot	slightly stained	pre1966	3.8x2.1cm, secondary, reverse face mainly cortical, brown, RIVETT CARNACK COLL
flake	66.39/210	n	gpm		521990 178050	Th foreshore off SE part Chiswick eyot	slightly stained, snapped at terminal end, bulbar end battered	pre1966	2.6x1.9cm, brown, secondary, Rivett Carnack coll
flake	66.39/211	n	gpm		521990 178050	Th foreshore off SE part Chiswick eyot	broken at both ends	pre1966	1.8x1.8cm, brown, tertiary, fine retouch on edges, Rivett Carnack coll
flake	66.39/212	n	gpm		521990 178050	Th foreshore off SE part Chiswick eyot	stained	pre1966	2.9x1.6cm, brown, secondary, partly cortical, ?edges worked, Rivett Carnack coll
flake	66.39/213	n	gpm		521990 178050	Th foreshore off SE part Chiswick eyot		pre1966	2.3x1.4cm, brown, secondary, partly cortical, Rivett Carnack coll
flake	66.39/214	n	gpm		521990 178050	Th foreshore off SE part		pre1966	3.4x2.6cm, brown, lustrous, primary, one face completely cortical, fine working on edges, Rivett Carnack coll

						Chiswick eyot			
flake	66.39/215	n	gpm		521990 178050	Th foreshore off SE part Chiswick eyot	rolled, patinated, sm traces of 'race'	pre1966	2.7x2.1cm, brown, secondary, partly cortical, Rivett Carnack coll
flake	66.39/217	n	gpm		521990 178050	Th foreshore off SE part Chiswick eyot	iron stained, sm traces of 'race'	pre1966	3x2.6cm, brown, secondary, partly cortical, thick sectioned, edges worked, core rejuvenation flake, Rivett Carnack coll
flake	66.39/218	n	gpm		521990 178050	Th foreshore off SE part Chiswick eyot	slightly stained, hinge fracture, sm traces of 'race'	pre1966	2.3x1.5cm, brown, tertiary, Rivett Carnack coll
flake	66.39/219	n	gpm		521990 178050	Th foreshore off SE part Chiswick eyot	iron stained	pre1966	1.8x1.6cm, brown, secondary, partly cortical down one edge, Rivett Carnack coll
flake	66.39/22	n	gpm		521990 178050	Th foreshore off SE part Chiswick eyot	snapped at terminal end	pre1966	3.2x2.2cm, brown, secondary, RIVETT CARNACK COLL
flake	66.39/223	n	gpm		521990 178050	Th foreshore off SE part	patinated, stained, hinge	pre1966	3.8x2.9cm, brown, primary, Rivett Carnack coll

						Chiswick eyot	fracture		
flake	66.39/224	n	gpm		521990 178050	Th foreshore off SE part Chiswick eyot	recent break on edge, hinge fracture, broken at bulbar end	pre1966	2.3x1.2cm, lt brown, tertiary, Rivett Carnack coll
flake	66.39/225	n	gpm		521990 178050	Th foreshore off SE part Chiswick eyot	stained slightly	pre1966	2.3x2.5cm, brown, tertiary, flaked platform, Rivett Carnack coll
flake	66.39/226	n	gpm		521990 178050	Th foreshore off SE part Chiswick eyot	slightly stained	pre1966	2.9x2.5cm, brown, secondary, retouch at bulbar end, thick sectioned, partly cortical on one edge, Rivett Carnack coll
flake	66.39/227	n	gpm		521990 178050	Th foreshore off SE part Chiswick eyot	stained, sm traces of 'race'	pre1966	3.9x2.4cm, secondary, partly cortical, Rivett Carnack coll
flake	66.39/228	n	gpm		521990 178050	Th foreshore off SE part Chiswick eyot	rolled, frost damage on one face	pre1966	3.9x2.1cm, brown, secondary, flaked platform, partly cortical, Rivett Carnack coll
flake	66.39/229	n	gpm		521990 178050	Th foreshore off SE part	stained, sm traces of 'race'	pre1966	2x2.2cm, brown/grey, tertiary, flaked platform, Rivett Carnack coll

						Chiswick eyot			
flake	66.39/23	n	gpm		521990 178050	Th foreshore off SE part Chiswick eyot	slightly stained	pre1966	5.2x3.1cm, tertiary, poss retouch/wear on edges, RIVETT CARNACK COLL
flake	66.39/230	n	gpm		521990 178050	Th foreshore off SE part Chiswick eyot	patinated, sm traces of 'race'	pre1966	1.7x1.4cm, brown, secondary, partly cortical, Rivett Carnack coll
flake	66.39/231	n	gpm		521990 178050	Th foreshore off SE part Chiswick eyot	sm traces of 'race'	pre1966	1.1x1.8cm, brown, sm, teriary, Rivett Carnack coll
flake	66.39/232	n	gpm		521990 178050	Th foreshore off SE part Chiswick eyot	hinge fracture, sm traces of 'race'	pre1966	1.8x1.6cm, brown, primary, one face heavily cortical, Rivett Carnack coll
flake	66.39/233	n	gpm		521990 178050	Th foreshore off SE part Chiswick eyot	stained	pre1966	2.1x1.4cm, lt brown, secondary, partly cortical, Rivett Carnack coll
flake	66.39/234	n	gpm		521990 178050	Th foreshore off SE part Chiswick	stained, slightly rolled, traces of	pre1966	3.6x2.6cm, brown, secondary, flaked platform, partly cortical, Rivett Carnack coll

						eyot	'race'		
flake	66.39/235	n	gpm		521990 178050	Th foreshore off SE part Chiswick eyot	badly battered in one part, poss struck from hammerstone	pre1966	2.3x3.2cm, brown, tertiary, flaked platform, Rivett Carnack coll
flake	66.39/236	n	gpm		521990 178050	Th foreshore off SE part Chiswick eyot	sm traces of 'race'	pre1966	2.4x1.1cm, brown, tertiary, edges finely worked, Rivett Carnack coll
flake	66.39/237	n	gpm		521990 178050	Th foreshore off SE part Chiswick eyot	slightly stained	pre1966	1.8x2cm, lt brown, tertiary, Rivett Carnack coll
flake	66.39/238	n	gpm		521990 178050	Th foreshore off SE part Chiswick eyot	slightly stained	pre1966	3x1.6cm, brown, dense, secondary, thick sectioned, partly cortical on one edge, Rivett Carnack coll
flake	66.39/239	n	gpm		521990 178050	Th foreshore off SE part Chiswick eyot	stained patinated, hinge fracture, sm traces of 'race'	pre1966	4.2x4.6cm, brown, core rejuvenation flake, Rivett Carnack coll
flake	66.39/24	n	gpm		521990 178050	Th foreshore	snapped at terminal	pre1966	3x3.15cm, brown, tertiary, RIVETT CARNACK COLL

						off SE part Chiswick eyot			
flake	66.39/240	n	gpm		521990 178050	Th foreshore off SE part Chiswick eyot	snapped at terminal end, rolled, stained	pre1966	1.9x1.2cm, tertiary, Rivett Carnack coll
flake	66.39/242	n	gpm		521990 178050	Th foreshore off SE part Chiswick eyot	iron stained, rolled	pre1966	1.8x2.2cm, lt brown, secondary, partly cortical, Rivett Carnack coll
flake	66.39/243	n	gpm		521990 178050	Th foreshore off SE part Chiswick eyot	hinge fracture, sm traces of 'race'	pre1966	2.3x1.4cm, brown, tertiary, Rivett Carnack coll
flake	66.39/244	n	gpm		521990 178050	Th foreshore off SE part Chiswick eyot	iron stained	pre1966	2.7x2cm, dk brown, tertiary, thick sectioned, Rivett Carnack coll
flake	66.39/246	n	gpm		521990 178050	Th foreshore off SE part Chiswick eyot	rolled, traces of 'race'	pre1966	1.7x1.4cm, brown, tertiary, Rivett Carnack coll
flake	66.39/247	n	gpm		521990 178050	Th foreshore off SE part	stained	pre1966	2.4x2.7cm, brown, secondary, partly cortical, thick sectioned, Rivett Carnack coll

						Chiswick eyot			
flake	66.39/248	n	gpm		521990 178050	Th foreshore off SE part Chiswick eyot	stained	pre1966	4.9x4cm, brown, secondary, partly cortical, Rivett Carnack coll
flake	66.39/249	n	gpm		521990 178050	Th foreshore off SE part Chiswick eyot	stained, rolled, trcaes of 'race'	pre1966	5.1x3.8cm, brown, secondary, partly cortical on one face, Rivett Carnack coll
flake	66.39/25	n	gpm		521990 178050	Th foreshore off SE part Chiswick eyot		pre 1966	3.1x2.8cm, brown secondary RIVETT CARNACK COLL
flake	66.39/250	n	gpm		521990 178050	Th foreshore off SE part Chiswick eyot	sm traces of 'race' on edges	pre1966	2.1x1cm, brown, secondary, Rivett Carnack coll
flake	66.39/251	n	gpm		521990 178050	Th foreshore off SE part Chiswick eyot	sm trcaes of 'race'	pre1966	4.6x2.5cm, dk brown, secondary, heavily cortical, Rivett Carnack coll
flake	66.39/252	n	gpm		521990 178050	Th foreshore off SE part Chiswick	traces of 'race'	pre1966	2.3x2cm, brown, tertiary, Rivett Carnack coll

						eyot			
flake	66.39/253	n	gpm		521990 178050	Th foreshore off SE part Chiswick eyot	rolled	pre1966	1.9x1.53cm, brown, tertiary, Rivett Carnack coll
flake	66.39/254	n	gpm		521990 178050	Th foreshore off SE part Chiswick eyot	stained, hinge fracture	pre1966	6.3x6.2cm, brown, secondary, cortex on platform, Rivett Carnack coll
flake	66.39/255	n	gpm		521990 178050	Th foreshore off SE part Chiswick eyot	traces of 'race'	pre1966	2x2.5cm, brown, secondary, partly cortical, Rivett Carnack coll
flake	66.39/256	n	gpm		521990 178050	Th foreshore off SE part Chiswick eyot	iron stained, traces of 'race', rolled	pre1966	2.2x2.1cm, brown, secondary, lustrous, partly cortical, Rivett Carnack coll
flake	66.39/257	n	gpm		521990 178050	Th foreshore off SE part Chiswick eyot	slightly rolled, sm traces of 'race', iron stained	pre1966	1.9x1.3cm, brown, lustrous, tertiary, Rivett Carnack coll
flake	66.39/258	n	gpm		521990 178050	Th foreshore off SE part Chiswick eyot	traces of 'race'	pre1966	1.3x1.8cm, brown, secondary, partly cortical, Rivett Carnack coll

flake	66.39/259	n	gpm		521990 178050	Th foreshore off SE part Chiswick eyot	rolled, slightly patinated	pre1966	1.8x1.4cm, brown, tertiary, Rivett Carnack coll
flake	66.39/26	n	gpm		521990 178050	Th foreshore off SE part Chiswick eyot	retouch at terminal end, bulb ?frost shattered	pre 1966	5.8x3.6x1.2cm, secondary, mottled brown/grey, Rivett Carnack coll
flake	66.39/260	n	gpm		521990 178050	Th foreshore off SE part Chiswick eyot	rolled	pre1966	1.7x1.8cm, brown, tertiary, Rivett Carnack coll
flake	66.39/261	n	gpm		521990 178050	Th foreshore off SE part Chiswick eyot	rolled	pre1966	1.8x0.9cm, brown, lustrous, secondary, partly cortical, Rivett Carnack coll
flake	66.39/263	n	gpm		521990 178050	Th foreshore off SE part Chiswick eyot	rolled	pre1966	1.2x1.4cm, brown, lustrous, secondary, Rivett Carnack coll
flake	66.39/265	n	gpm		521990 178050	Th foreshore off SE part Chiswick eyot	stained, rolled	pre1966	1.2x1.9cm, brown, secondary, partly cortical, Rivett Carnack coll
flake	66.39/26	n	gpm		521990	Th	sm traces	pre1966	1.5x1.5cm, brown, lustrous, tertiary, Rivett

	6				178050	foreshore off SE part Chiswick eyot	of 'race'		Carnack coll
flake	66.39/267	n	gpm		521990 178050	Th foreshore off SE part Chiswick eyot		pre1966	0.8x1.2cm, dk brown, lustrous, tertiary, Rivett Carnack coll
flake	66.39/268	n	gpm		521990 178050	Th foreshore off SE part Chiswick eyot	stained, rolled	pre1966	0.9x1.3cm, brown, tertiary, Rivett Carnack coll
flake	66.39/269	n	gpm		521990 178050	Th foreshore off SE part Chiswick eyot	stained, traces of 'race'	pre1966	1.9x1.4cm, brown, tertiary, Rivett Carnack coll
flake	66.39/270	n	gpm		521990 178050	Th foreshore off SE part Chiswick eyot	sm traces of 'race'	pre1966	1.5x1.5cm, brown, tertiary, Rivett Carnack coll
flake	66.39/271	n	gpm		521990 178050	Th foreshore off SE part Chiswick eyot		pre1966	1.5x1cm, brown, tertiary, Rivett Carnack coll
flake	66.39/272	n	gpm		521990 178050	Th foreshore	stained, terminal	pre1966	2.1x1.7cm, brown, tertiary, waisted, Rivett Carnack coll

						off SE part Chiswick eyot	end broken		
flake	66.39/273	n	gpm		521990 178050	Th foreshore off SE part Chiswick eyot	'race' on both faces	pre1966	10.5x6cm, brown, secondary, large, Rivett Carnack coll
flake	66.39/274	n	gpm		521990 178050	Th foreshore off SE part Chiswick eyot		pre1966	3.4x6.4cm, brown, secondary, Rivett Carnack coll
flake	66.39/275	n	gpm		521990 178050	Th foreshore off SE part Chiswick eyot		pre1966	6.3x6x2cm, brown, side struck, partly cortical, core rejuvenation flake, Rivett Carnack coll
flake	66.39/276	n	gpm		521990 178050	Th foreshore off SE part Chiswick eyot		pre1966	6.1x5.6cm, brown, secondary, Rivett Carnack coll
flake	66.39/278	n	gpm		521990 178050	Th foreshore off SE part Chiswick eyot	slightly stained	pre1966	5.5x5.1x2.2cm, brown, secondary, thick section, Rivett Carnack coll
flake	66.39/279	n	gpm		521990 178050	Th foreshore off SE part	11	pre1966	Rivett Carnack coll

						Chiswick eyot			
flake	66.39/28	n	gpm		521990 178050	Th foreshore off SE part Chiswick eyot		pre 1966	3x2.8x1.1cm, brown, secondary, cortex on platform, RIVETT CARNACK COLL
flake	66.39/29	n	gpm		521990 178050	Th foreshore off SE part Chiswick eyot		pre 1966	2x2.5x1.3cm, mottled brown/grey, secondary, bulb flaked away, RIVETT CARNACK COLL
flake	66.39/30	n	gpm		521990 178050	Th foreshore off SE part Chiswick eyot		pre 1966	3.8x2.7x1.4cm, brown, core rejuvenation flake, partly cortical, RIVETT CARNACK COLL
flake	66.39/31	n	gpm		521990 178050	Th foreshore off SE part Chiswick eyot		pre 1966	2.3x2.6cm, brown, secondary, RIVETT CARNACK COLL
flake	66.39/32	n	gpm		521990 178050	Th foreshore off SE part Chiswick eyot	slight staining	pre 1966	2.5x2.5cm, brown, tertiary with hinge fracture, RIVETT CARNACK COLL
flake	66.39/33	n	gpm		521990 178050	Th foreshore off SE part Chiswick		pre 1966	3.9x3.5cm, brown, primary, hinge fracture, RIVETT CARNACK COLL

						eyot			
flake	66.39/35	n	gpm		521990 178050	Th foreshore off SE part Chiswick eyot	slightly stained	pre 1966	4.5x5.8cm, secondary, brown, RIVETT CARNACK COLL
flake	66.39/37	n	gpm		521990 178050	Th foreshore off SE part Chiswick eyot	rolled, stained	pre 1966	2.8x2cm, brown, secondary, RIVETT CARNACK COLL
flake	66.39/38	n	gpm		521990 178050	Th foreshore off SE part Chiswick eyot	slight sand polish	pre 1966	1.5x2cm, brown, tertiary, RIVETT CARNACK COLL
flake	66.39/39	n	gpm		521990 178050	Th foreshore off SE part Chiswick eyot		pre1966	3.6x3.3cm, secondary flake, brown, cortex on striking platform Rivett Carnack coll
flake	66.39/40	n	gpm		521990 178050	Th foreshore off SE part Chiswick eyot	large fracture	pre1966	3x2.8cm, brown, secondary flake, Rivett Carnack coll
flake	66.39/41	n	gpm		521990 178050	Th foreshore off SE part Chiswick eyot		pre1966	3.8x2.9cm, brown, secondary, bulb flaked away with striking platform Rivett Carnack coll

flake	66.39/42	n	gpm		521990 178050	Th foreshore off SE part Chiswick eyot	slightly stained	pre1966	2x1.4cm, brown, secondary, Rivett Carnack coll
flake	66.39/43	n	gpm		521990 178050	Th foreshore off SE part Chiswick eyot		pre1966	1x2.3cm, brown, secondary, Rivett Carnack coll
flake	66.39/44	n	gpm		521990 178050	Th foreshore off SE part Chiswick eyot		pre1966	2.1x1.9cm, brown, primary Rivett Carnack coll
flake	66.39/45	n	gpm		521990 178050	Th foreshore off SE part Chiswick eyot		pre1966	4.6x6cm, mottled brown/grey, secondary Rivett Carnack coll
flake	66.39/46	n	gpm		521990 178050	Th foreshore off SE part Chiswick eyot	snapped at bulb end	pre1966	3.5x1.9cm, brown, narrow secondary Rivett Carnack coll
flake	66.39/47	n	gpm		521990 178050	Th foreshore off SE part Chiswick eyot		pre1966	4.5x3.3x1.6cm, mottled brown/grey, secondary, thick sectioned, poss retouch on one edge, Rivett Carnack coll
flake	66.39/48	n	gpm		521990	Th	slightly	pre1966	3.5x3.6cm, brown, lustrous, secondary,

					178050	foreshore off SE part Chiswick eyot	stained, rolled		Rivett Carnack coll
flake	66.39/50	n	gpm		521990 178050	Th foreshore off SE part Chiswick eyot	rolled	pre1966	2.3x1.7cm, brown, tertiary lustrous, Rivett Carnack coll
flake	66.39/52	n	gpm		521990 178050	Th foreshore off SE part Chiswick eyot	slightly stained, battered edges	pre1966	3.8x3.1cm, brown, secondary, Rivett Carnack coll
flake	66.39/53	n	gpm		521990 178050	Th foreshore off SE part Chiswick eyot	slightly stained	pre1966	4.8x2.9cm, brown, secondary, poss worked at terminal end, Rivett Carnack coll
flake	66.39/56	n	gpm		521990 178050	Th foreshore off SE part Chiswick eyot	frost damaged	pre1966	4x2.1x1cm, brown, lustrous, secondary, Rivett Carnack coll
flake	66.39/57	n	gpm		521990 178050	Th foreshore off SE part Chiswick eyot	rolled	pre1966	2.5x3cm, brown, lustrous, secondary, Rivett Carnack coll
flake	66.39/61	n	gpm		521990 178050	Th foreshore		pre1966	3.2x2.9cm, brown, secondary, cortex on striking platform, Rivett Carnack coll,

						off SE part Chiswick eyot			
flake	66.39/65	n	gpm		521990 178050	Th foreshore off SE part Chiswick eyot		pre1966	2.1x3.6cm, brown, secondary, retouch at terminal end, Rivett Carnack coll
flake	66.39/66	n	gpm		521990 178050	Th foreshore off SE part Chiswick eyot		pre1966	1.5x2cm, brown, secondary, cortex on platform, Rivett Carnack coll
flake	66.39/67	n	gpm		521990 178050	Th foreshore off SE part Chiswick eyot	slightly stained with traces of 'race'	pre1966	3x2.5cm, brown, secondary, Rivett Carnack coll
flake	66.39/68	n	gpm		521990 178050	Th foreshore off SE part Chiswick eyot	one edge broken, hinge fracture	pre1966	3.9x3.3cm, brown, secondary, cortex on striking platform, Rivett Carnack coll
flake	66.39/71	n	gpm		521990 178050	Th foreshore off SE part Chiswick eyot	hinge fracture	pre1966	2x3.3cm, brown, secondary, cortex on platform, Rivett Carnack coll
flake	66.39/74	n	gpm		521990 178050	Th foreshore off SE part	striking platform damaged,	pre1966	3.6x1.9cm, brown, secondary, Rivett Carnack coll

						Chiswick eyot	stained		
flake	66.39/75	n	gpm		521990 178050	Th foreshore off SE part Chiswick eyot	slightly stained	pre1966	2.8x3.3cm, brown, tertiary, poss core rejuvenation, Rivett Carnack coll
flake	66.39/76	n	gpm		521990 178050	Th foreshore off SE part Chiswick eyot	signs of battering along one edge	pre1966	3.9x2.8x1.1cm, brown, bifacially worked, partly cortical, Rivett Carnack coll
flake	66.39/77	n	gpm		521990 178050	Th foreshore off SE part Chiswick eyot		pre1966	2.6x1.8cm, brown, secondary, Rivett Carnack coll
flake	66.39/80	n	gpm		521990 178050	Th foreshore off SE part Chiswick eyot		pre1966	3.7x2.1cm, brown, secondary, prob core rejuvenation, Rivett Carnack coll
flake	66.39/81	n	gpm		521990 178050	Th foreshore off SE part Chiswick eyot		pre1966	4x1.9cm, brown, secondary, Rivett Carnack coll
flake	66.39/84	n	gpm		521990 178050	Th foreshore off SE part Chiswick	snapped at terminal end	pre1966	2.2x3.1cm, brown, secondary, Rivett Carnack coll

						eyot			
flake	66.39/88	n	gpm		521990 178050	Th foreshore off SE part Chiswick eyot	slightly stained	pre1966	4.6x2.4cm, brown, pointed, secondary, Rivett Carnack coll
flake	66.39/89	n	gpm		521990 178050	Th foreshore off SE part Chiswick eyot	rolled, stained	pre1966	5.7x3.3cm, tertiary, Rivett Carnack coll
flake	66.39/90	n	gpm		521990 178050	Th foreshore off SE part Chiswick eyot		pre1966	4.3x3.2cm, brown, secondary, Rivett Carnack coll
flake	66.39/91	n	gpm		521990 178050	Th foreshore off SE part Chiswick eyot	some traces of 'race'	pre1966	3.9x2.6cm, brown, secondary, Rivett Carnack coll
flake	66.39/92	n	gpm		521990 178050	Th foreshore off SE part Chiswick eyot		pre1966	3.7x2.3cm, brown, lustrous, secondary, Rivett Carnack coll
flake	66.39/93	n	gpm		521990 178050	Th foreshore off SE part Chiswick eyot		pre1966	2.6x1.8cm, brown, tertiary, Rivett Carnack coll

flake	66.39/95	n	gpm		521990 178050	Th foreshore off SE part Chiswick eyot	slightly stained with some 'race'	pre1966	3.4x1.6x1.3cm, brown, secondary, prob core rejuvenation, Rivett Carnack coll
flake	66.39/96	n	gpm		521990 178050	Th foreshore off SE part Chiswick eyot	stained, with some 'race'	pre1966	4.2x2.7cm, brown, secondary bulb of percussion removed by single flake, Rivett Carnack coll
flake	66.39/97	n	gpm		521990 178050	Th foreshore off SE part Chiswick eyot	stained, frost cracked	pre1966	2.1x2.8cm, lustrous, primary, Rivett Carnack coll
flake	66.39/99	n	gpm		521990 178050	Th foreshore off SE part Chiswick eyot		pre1966	3.9x3cm, brown, lustrous, tertiary, Rivett Carnack coll
flake	66.39/54	n	gpm		521990 178050	Th foreshore off SE part Chiswick eyot	core rejuvenation	pre1966	4.7x3.7x1.5cm, brown, v sm patch cortex, from single platformed pyramidal core, Rivett Carnack coll
flake	66.39/63	n	gpm		521990 178050	Th foreshore off SE part Chiswick eyot		pre1966	2.9x2.4x1.2cm, brown, non-cortical, Rivett Carnack coll
knife	O.1033	n	mol		521990	Th off		1894	16.5cm long Layton

					178050	Chiswick Eyot			
scraper	66.39/160	n	gpm		521990 178050	Th foreshore off SE part Chiswick eyot		pre1966	3.7x2.7cm, brown, secondary, thick sectioned, partly cortical, Rivett Carnack coll
scraper	66.39/171	n	gpm		521990 178050	Th foreshore off SE part Chiswick eyot	rolled	pre1966	3.4x2.4cm, brown, lustrous, secondary, patches of cortex, thick sectioned, core rejuvenation flake, Rivett Carnack coll
scraper	66.39/192	n	gpm		521990 178050	Th foreshore off SE part Chiswick eyot	battered platform	pre1966	3.6x2.3cm, brown, partly cortical, finely worked edges, Rivett Carnack coll
scraper	66.39/193	n	gpm		521990 178050	Th foreshore off SE part Chiswick eyot		pre1966	4.1x2.1cm, dk brown, dense, thick sectioned, finely worked edges, partly cortical, Rivett Carnack coll
scraper	66.39/201	n	gpm		521990 178050	Th foreshore off SE part Chiswick eyot	iron stained	pre1966	5.3x4cm, brown, dense, heavily cortical, edges worked on, Rivett Carnack coll
scraper	66.39/277	n	gpm		521990 178050	Th foreshore off SE part Chiswick		pre1966	6.4x2.7x1.7cm, brown, made on secondary flake, irreg shape, irreg retouch on all edges, Rivett Carnack coll

						eyot			
scraper	66.39/49	n	gpm		521990 178050	Th foreshore off SE part Chiswick eyot		pre1966	1.6x2.8cm, banded grey/brown, poss double scraper on secondary flake, slight retouch on concavity & long edge, Rivett Carnack coll
scraper	66.39/86	n	gpm		521990 178050	Th foreshore off SE part Chiswick eyot	end scraper	pre1966	3.2x4.3x1.5cm, brown, made on a thick sectioned tertiary flake with steep retouch, Rivett Carnack coll
scraper	66.39/87	n	gpm		521990 178050	Th foreshore off SE part Chiswick eyot	end scraper, iron stained on bulbar face,	pre1966	6.3x4.5x1.8cm, brown, made on damaged secondary flake, chalcedony on bulbar face, Rivett Carnack coll
chisel	none31	l/en	private		524800 175370	Th foreshore Surrey, WW	butt only,stained, part ground, worn	1995 feb	5.9x2.8x2.2cm, cherty mottled grey, robust D shape section, LAMAS 47:11,12
axe	none3	m	private		524850 175400	Th Wandsworth TQ 2485 7540	stained yellow-brown, resharpened by tranchet blow	1990 sep	13.8x5x3.1cm grey-blue, cortex on butt, sm size/weight suggests originally hafted in an antler sleeve, LAMAS 42
blade	2358	n	gpm		525000 175300	Wandsworth River	one edge reduced by		9x3.2cm, brown with milky blue patina Sadler

						Wandle	retouch, other has retouch along full length		
core	36.217/25	m	mol		525500 175300	Th Wandsworth mouth of the Wandle		1936 rece	20x8cm
pick	O.224	m	mol		526000 175420	?'Church Marl, Wandsworth....Pier, '	blunt butt end	1846	14.5x4.5x4.5cm mottled brown tranchet on cutting edge triang cross-section, 'Church Marl, Wandsworth ...Pier, 1864' Layton
axe	none4	m	private		526900 177500	Th foreshore N.end Battersea bridge TQ 269 775	recent abrasion on one side, resharpened,	1985 aug	12.6x4.3x4.2cm tranchet dk grey some cortex, RHill, LAMAS 42
axe	none8	n	private		528300 177670	Th surrey foreshore nr Chelsea bridge TQ 2837 7767	chipped, some cortex, thermally fractured flake	1990 Feb	14x6.1x2.7cm, cherty umber-brown, Th 'race' on face, LAMAS 42
axe	A.5471	m	mol		531500 180750	Fleet river		1913	10x5cm core axe
adze	none5	m	private		532640 180420	Th foreshore St Mary Overie	resharpened	1985	23.5x6.3x4.1cm lg grey, some cortex, tranchet blow, RHill, LAMAS 42

						Dock, TQ 3264 8042			
axe	bmsc31-53	m	bm		539500 180900	Lea Valley	23, tranchet, some cortex		18x5 - 9.5x4.5cm, mottledgrey/lt mottled grey Sturge NOT DRAWN
pick	bmsc54-55	m	bm		539500 180900	Lea Valley	2, some cortex		15x5.5, 16x5cm, pale grey, lt brown/yell, Sturge NOT DRAWN
axe	1971.6-1.157	m	bm		550700 178000	Th Erith dredged TQ 507 780	tranchet, patinated	1907 Dec	19.2x5.3cm,

Appendix 2

Fish species and fishing equipment

Figure 81 Fish on the foreshore FSW12

Fish species referred to in the text

Figure 82 Trout, Litton Mill, Derbyshire (Ynys Crowston-Boaler)

Key

Type: **A**nadromous – those fish that live in saltwater but spawn in freshwater
Catadromous – those fish that live in freshwater but spawn in saltwater
Brackish – those fish that can live in water that combines salt and fresh
Freshwater – those fish that live and sawn in freshwater
Marine – those fish that live and spawn in saltwater

Some species have members within more than one type.

Common name: the locally accepted name for a fish

Latin name/species: Where possible the Latin (*linneaus*) name is recorded; otherwise the species or family group is indicated.

Type	Common Name	Latin name/species
A	Danube sturgeon or beluga	*Huso huso*
A	Dolly Varden	*Salvelinus malma miyabei*
A	Rainbow trout	*Oncorhynchus mykiss*
A	River lamprey	*Lampetra fluvialitis*
A	Rockfish N American	*Morone saxatilis*
A	Rocky Mountain whitefish	Coregonus spp
A	Salmon: chinook	*Oncorhynchus tshawytscha*
A	Chum	*O. keta*
A	Pink	*O. gorbuscha*
A	Sockeye	*O. nerka*
A	Coho	*O.kisutch*
A	N Atlantic	*Salmo salar*
A	Sea trout	*Salmo trutta morpha trutta*
A	Smelt	Osmeridae spp
A	Sterlet	*Acipenser ruthenus*
A	Sturgeon	Acipenser spp
A & F	Salmonids	Salmonidae spp
A & F	Stickleback	*Gasterosteus aculeatus*
C	Alice (or Allis) shad	*Alosa alosa*
C	Eel Australian	*Anguilla australis occidentalis*
C	Eel European	*Anguilla anguilla*
C	Shad	Alosa spp
C	Silver barramundi	*Lates calcarifer*
F	Barbel	Barbus spp
F	Bluegill	*Lepomis macrochirus*
F	Bream N American	Abramis spp
F	Bream	*Abramis brama*
F	Brown Trout	*Salmo trutta*
F	Burbot	*Lota lota*
F	Carp family	Cyprinidae spp
F	Catfish N American	*Ameiurus melas*
F	Charr	*Salvelinus alpinus*
F	Common bream	*Abramis brama L*
F	Eel-tailed catfish	Neosilurus spp
F	Fork-tailed catfish	*Hexanematichthys leplaspis*
F	Golden perch	*Macquaria ambigua*
F	Grayling	*Thymallus thymallus*
F	Humpback Salmon	*Oncorhynhus gorbouscha*
F	Ide	*Leuciscus idus*
F	Largemouth bass N American	*Micropterus salmoides*
F	Murray cod	*Maccullochella peelii*
F	Nile catfish	Clarias spp
F	Nile perch	*Lates niloticus*
F	Paiche	*Arapaima gigas*
F	Perch European	*Perca fluviatilis*
F	Pike European	*Esox licius*

F	Pike N American	*Esox amercanus*
F	Pirañha	Serrasalminae spp
F	Pollan	*Coregonus albula*
F	Roundfish N American	*Coreyonus quadrilateralis*
F	Rudd	*Scardinius erythrophthalmus*
F	Ruffe	*Gymnoce cernuus*
F	Saratoga	*Scelropages jardini*
F	Sunfish	Centrarchidae spp
F	Tench	*Tinca tinca*
F	Wels or European catfish	*Silurus glamis*
F	White bass N American	*Morone chrysops*
F & B	Roach	*Rutilus rutilus*
F & M	Bass	Perciformes spp
F & M	Drum N American	Sciaenidae spp
M	Cod	Gadidae spp
M	Flounder	*Platichthys flesus*
M	Halibut N American	Pleuronectidae spp
M	Herring	*Clupea spp*
M	White bream	*Blicca bjoerkna*
M & B	Goby	Gobiidae spp
M & B	Flatfish (plaice)	*Pleuronectes platessa*
M & F	Mullet	*Liza dusseumieri, Liza diadema*

Table 33 Fish Species

Other aquatic resources include the following short list (which is not exhaustive):

Freshwater crayfish - *Astacus fluviatilis*
Freshwater bivalves - both marine and freshwater
Beaver- both European (including Britain) and N America
Otter – both European and N America
Turtles – particularly in the Amazon Basin and Florida
Manatees or sea cows – particularly in the Amazon rivers and estuary
Cayman – found in parts of the Amazon drainage system, where they can tolerate a reasonable degree of salinity.

Fishing equipment

Figure 83 The manner of their fishing. A cannow by John White (*fl* 1566-93).
Trustees of the British Museum

The illustration below indicates part of the range of equipment that has been used by hunter-gatherer communities from in the past to modern day fishing. While the fish indicate a marine setting, the equipment (canoes and paddles, spears of various types and weirs) have all been used in freshwater fishing along with a variety of other gear. The paraphernalia used to catch fish has remained remarkably unchanged over the past 10 millennia. With the exceptions of the introduction of the reel and the use of modern construction materials such as nylon and carbon fibre, that used by Late Mesolithic communities in Denmark would be recognised by today's freshwater fisherman.

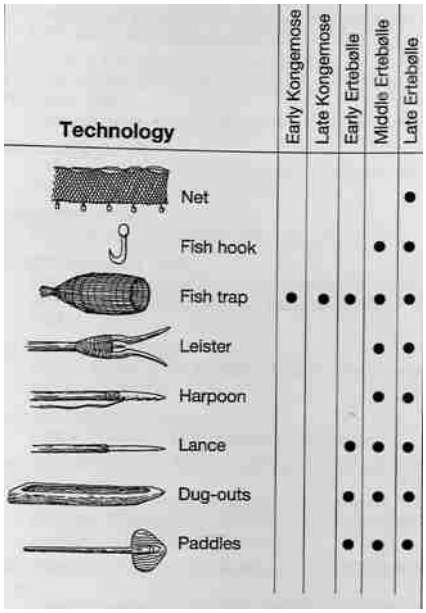


Figure 84 Range of fishing equipment (Andersen 1995, 63)

Similarly, Neolithic fishing gear could be utilised today:

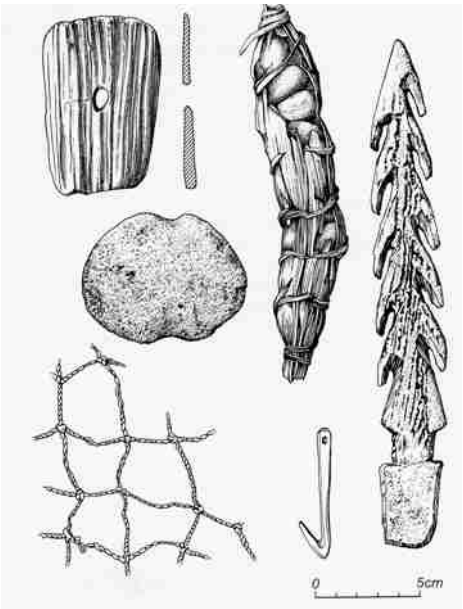


Figure 85 Float, weights, netting, hook and harpoon head.
(Coles & Coles 1989, 115)

The following pages will show examples of that equipment from the archaeological record as well as a number of reconstructions.

1 Nets

Nets were used in a multiplicity of ways.

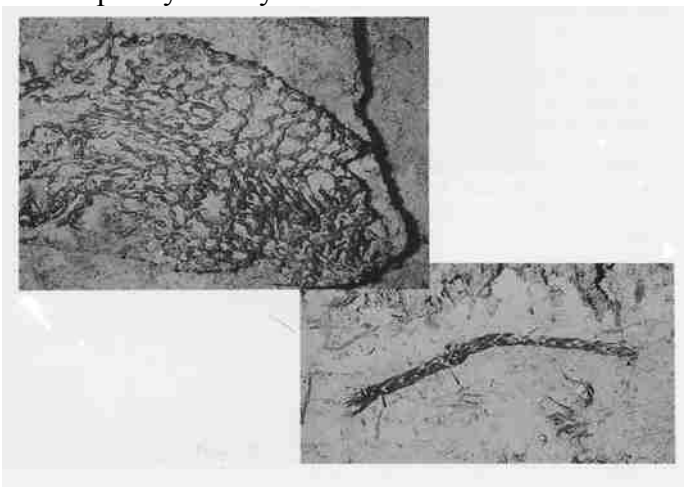


Figure 86 Small nets from Friesack made with twisted willow-bast cordage, probably used to catch fish. (Coles & Coles 1995, 14)

The weave would comprise a series of knots:

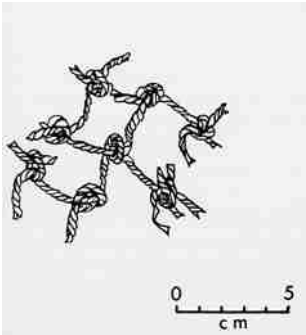


Figure 87 A fragment of cedar-bark cordage, British Columbia (Bernick 2001, 217)

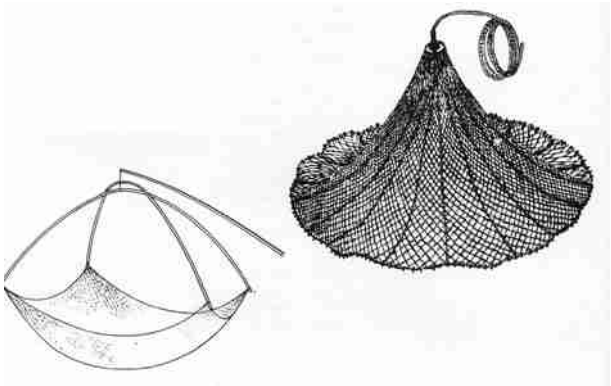


Figure 88 Hand nets (Brinkhuizen 1983, 26)

Figure 89 Hand net fishing on the Thames. Detail from a picture by Samuel Scott *Montague House, Westminster* 1749 (Trustees of the British Museum).

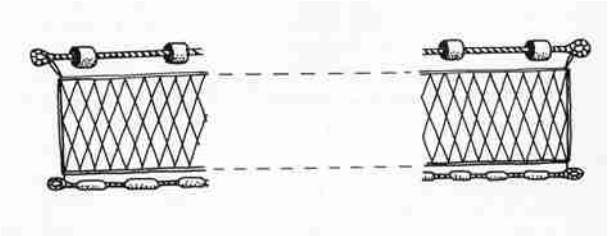


Figure 90 Long net (Brinkhuizen 1983, 26)

Long nets could be slung across the mouth of fish weirs or used on their own to trap fish midstream. The later can be seen here:

Figure 91 Long net fishing on the Thames. Detail from a picture by Samuel Scott *Montague House, Westminster* 1749 (Trustees of the British Museum)

Note the floats used on the top edge of the long net. These are made from a buoyant material – cork, birch-bark and the like. Below are examples of top floats found in the archaeological record.

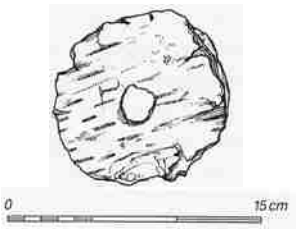


Figure 92 Birch-bark net float (Coles & Coles 1989, 93)

Figure 93 Wooden floats (Andersen 1995, 57)

At the base of the net, heavier weights are attached:

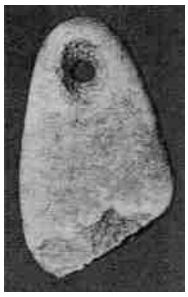


Figure 94 Limestone net weight (Andersen 1995, 57)

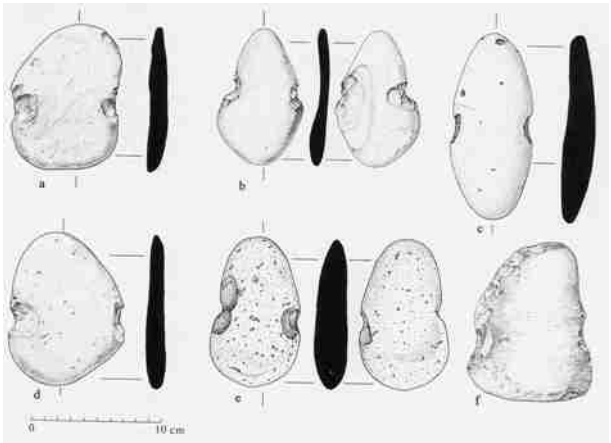


Figure 95 Notched pebbles net weights (Moore *et al* 2000, 175)

2 Fish hooks

Fish hooks have been made from a variety of materials. Illustrated here is a selection of non-metallic hooks, in keeping with the chronological periods at the centre of this study.

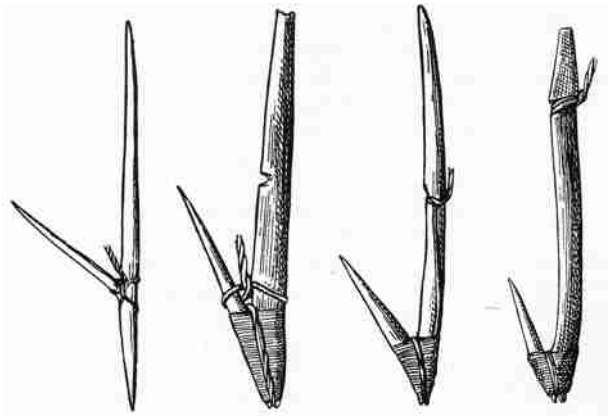
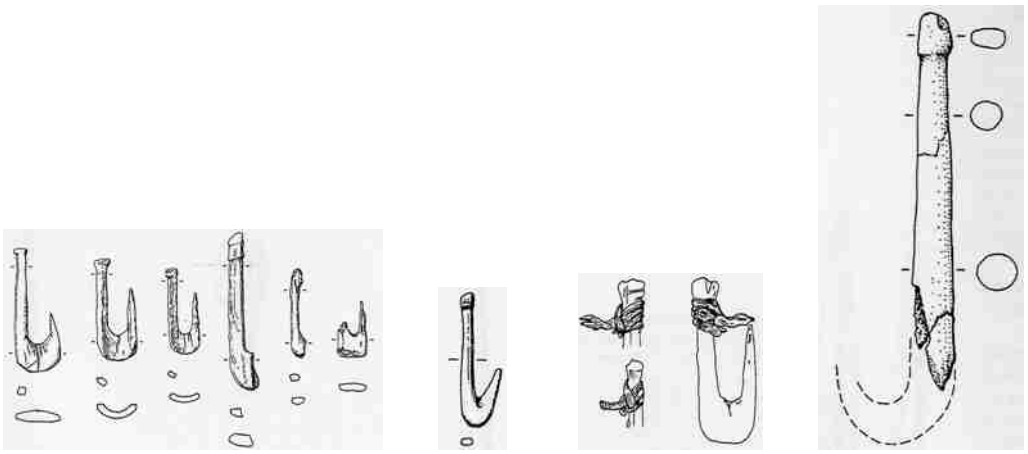


Figure 96 Wooden fish hooks (Brinkhuizen 1983, 16)

Figure 97 Wooden fish hook (Croes 1999, 61)

Figure 98 Replica wooden fish hook in use (Croes 1999, 63)



a b c d

Figure 99 Bone/ivory fish hooks
a (Andersen 1985, 62)
b, c, d (Andersen 1995, 57)

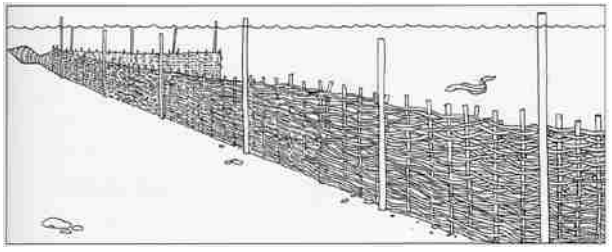
3 Fish traps and fishing weirs

Fishing weirs are generally constructed in tidal races and comprise 'arms' of stone or wooden stakes with wattle hurdles, fish traps or nets stretched across the small gap to catch the fish. Figure 82 above shows an example in N America.

Figure 100 Fishing weir (Brinkhuizen 1983, 16)

a

b



a *Figure 101 Neolithic fishing weir remnants from Oleslyst, Denmark* (Pedersen *et al* 1997, 115)
b *Figure 102 Reconstruction of the weir at Oleslyst, Denmark* (Pedersen *et al* 1997, 135)

Smaller weirs were also constructed across fast flowing rivers such as at Noyen-sur-Seine

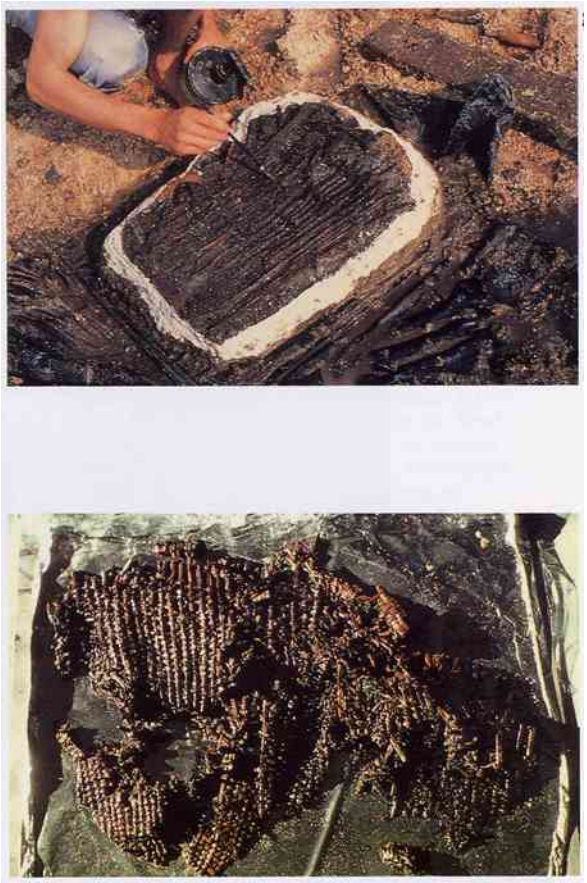


Figure 103 Trap and basket remains at Noyen-sur-Seine (Coles & Coles 1995, Colour plates If, Ig)

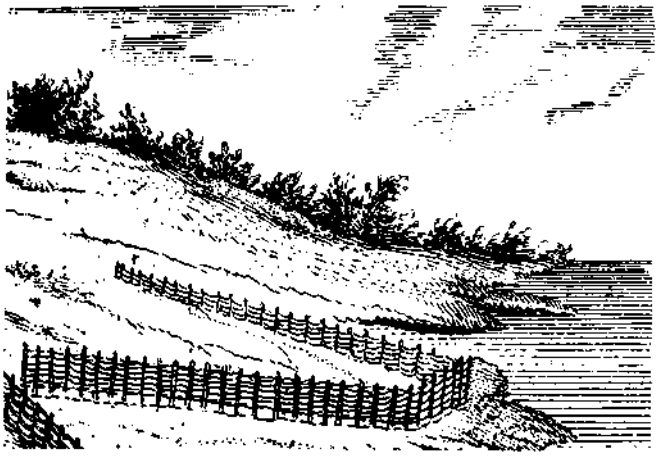
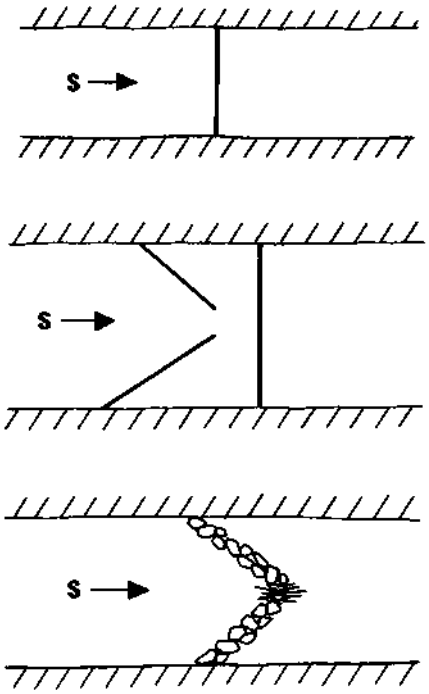


Figure 104 Weir (Brinkhuizen 1983, 16)

Figure 105 Weir (Brinkhuizen 1983, 20)

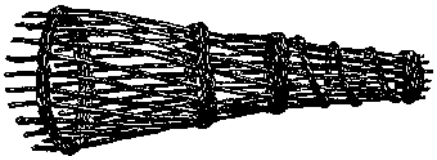


7

Figure 106 Designs of smaller weirs (Brinkhuizen 1983, 16)

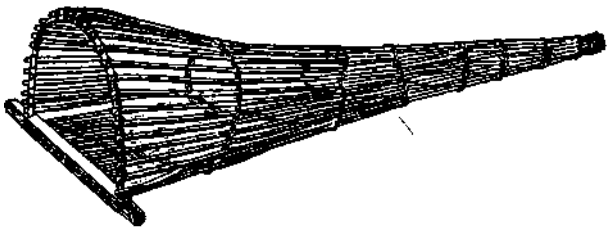
Fish trap cones come in a wide range of designs:

a



b

c



d

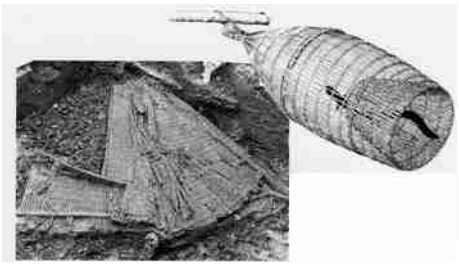


Figure 107 Trap design variations
a, b, c (Brinkhuizen 1983, 20), d (Coles & Coles 1989, 79)

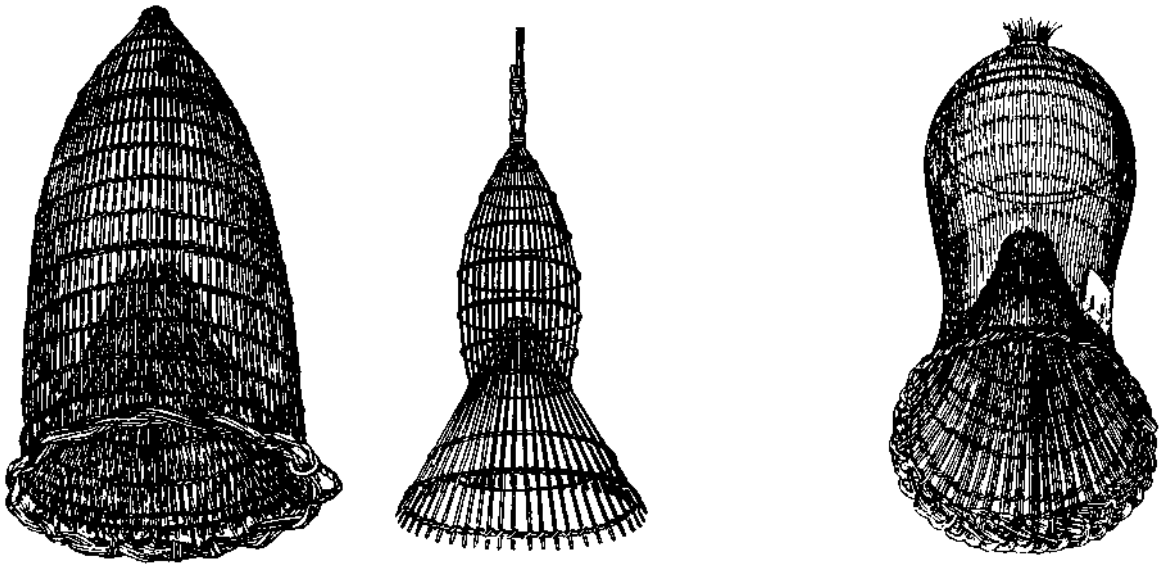


Figure 108 Fish traps (Brinkhuizen 1983, 22)

Figure 109 Reconstruction of a fish trap (Pedersen *et al* 1997, 169)

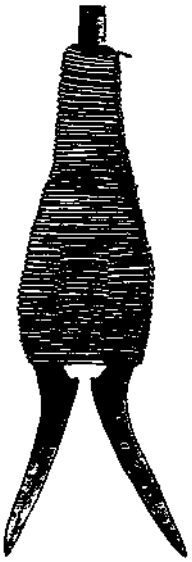
Design of weirs and traps, like the smaller equipment shows little change over time. The following two figures show the remains of a rare British Iron Age weir – one arm extant – and an Anglo-Saxon example which utilises a back-eddy on the river. Both are from the tidal stretches of the Greater London Thames.

Figure 110 Iron Age fish trap from zone FLM01 at Vauxhall on the Thames.
The two parallel rows of stakes can be seen. The larger Bronze Age structure seems to have been used to anchor the trap (now missing). Extant wattle hurdle remains were found between some of the stakes.

Figure 111 Anglo-Saxon fish trap at Isleworth FHL04 on the Thames.
The main tidal current runs from L-R across the picture but the back eddy swept the fish into the two arms of the weir and thence into the now missing trap.

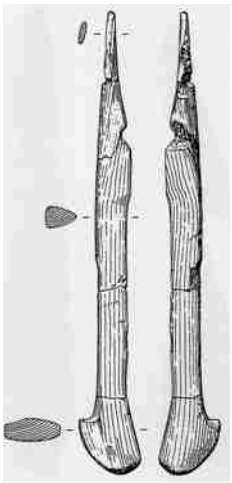
4 Leisters, spears and harpoons

Leisters are spears constructed with three prongs and they are specifically used for salmon.

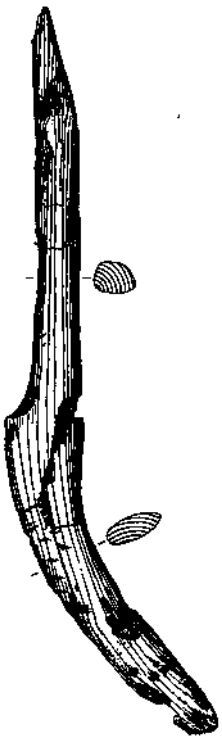


a

b



c



d

Figure 112 Leister spears.

a (Merten 1998, 44)
b Original and reconstruction of head (Coles & Coles 1989, 65)
c, d (Andersen 1995, 58)

Spears differ from harpoons in that the projectile point is permanently fixed onto the shaft. Harpoons are designed for the point to detach when piercing the prey (while being attached by some form of cordage to the shaft) and lets the fish fight without damaging the shaft. Harpoons in the Mesolithic and Neolithic were made of antler and bone. Typically they have serrated points along one side only. Holes are also often drilled through the base to attach the cord, although this may not be the only method of doing this. Some of the harpoons are long and slender which may make the drilling a difficulty, outwith a break occurs. Spears for hunting land animals do not usually use these long slender, single-sided points.

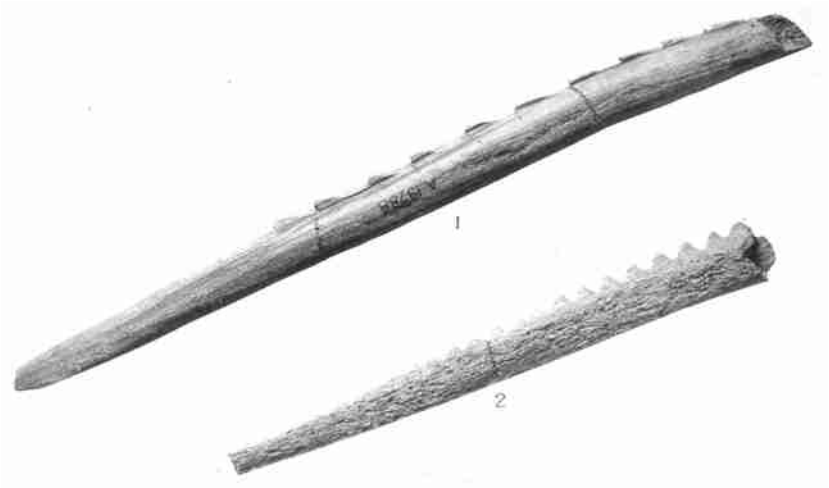


Figure 113 Two Mesolithic harpoons, found in the Thames of Greater London. Museum of London, GLSMR 100019 & 100047

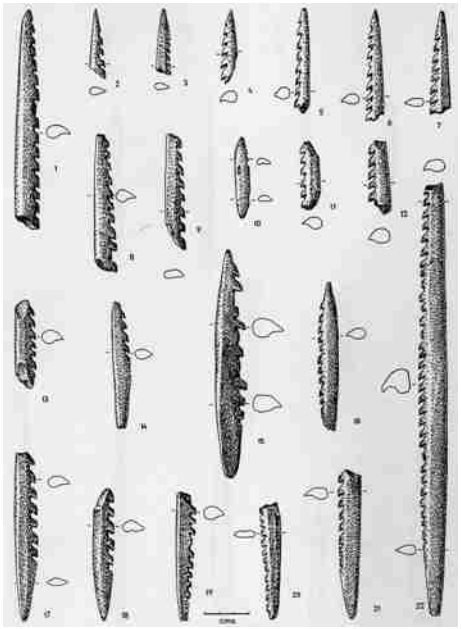


Figure 114 Harpoons from Zvejnieki II (Zagorska & Zagorskis 1989, 417)

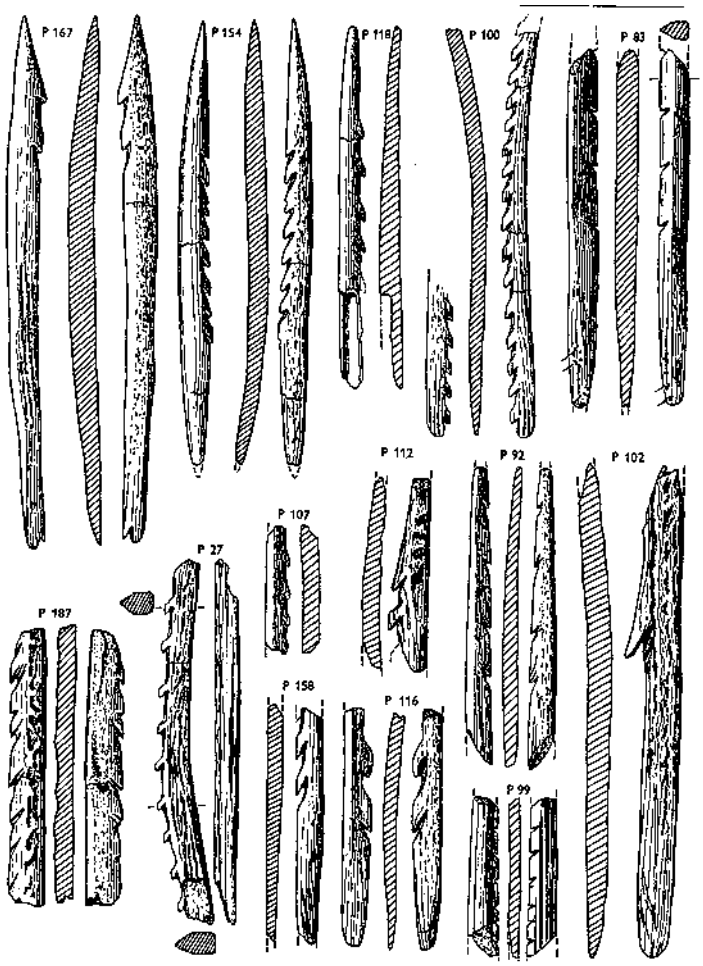


Figure 115 Possible harpoons from Star Carr (Clark 1954, 151)

5 Canoes

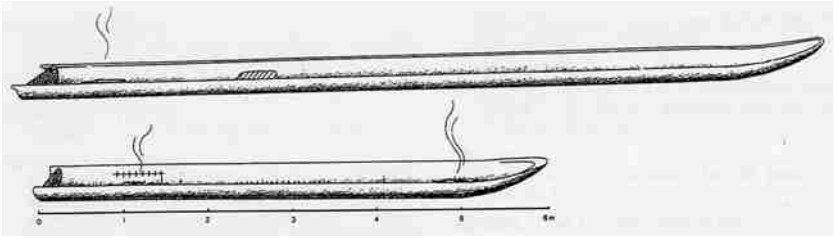


Figure 116 Reconstruction of Late Ertebølle canoes from Tybrind Vig, Denmark. Note the location of fires in the canoes. These may have been for warmth or cooking, or they may have been used during night fishing to attract the fish (Andersen 1995, 62)

6 Paddles

The best examples of these have come from Denmark.

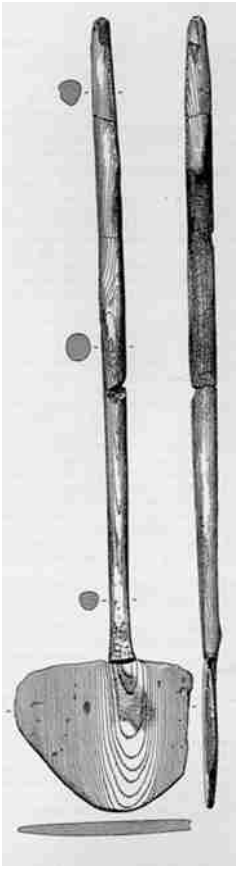


Figure 117 A paddle (Andersen 1985, 67)

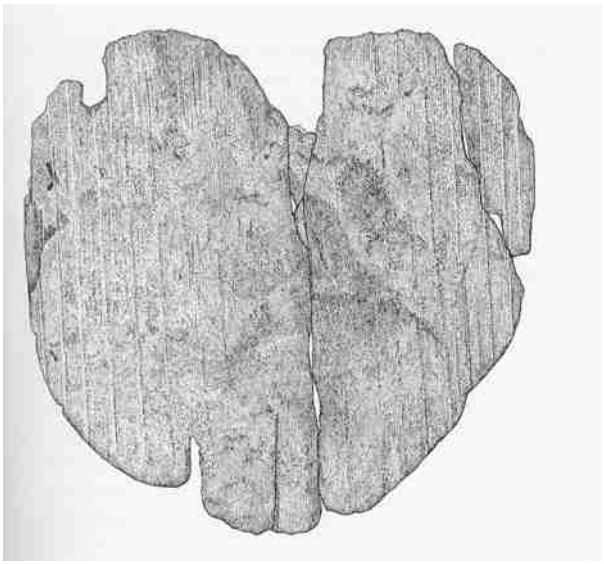


Figure 118 A paddle blade
(Pedersen *et al*, 1997 165)

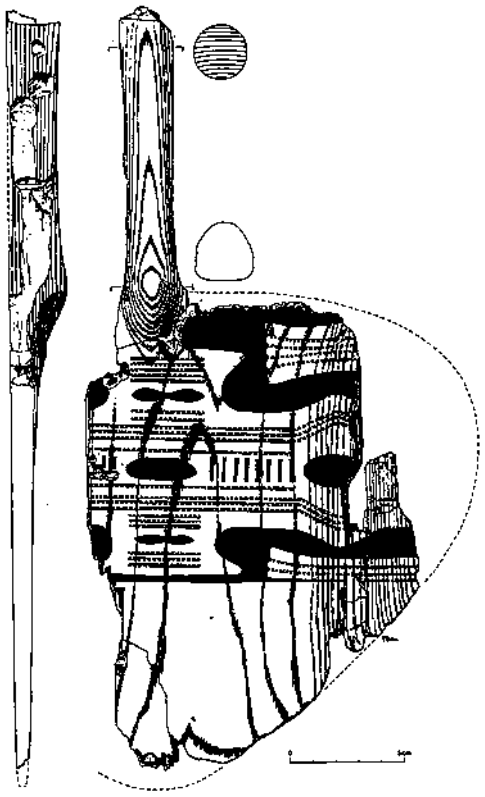


Figure 119 A decorated paddle
(Andersen 1985, 67)

7 Miscellaneous

Fish lures are used to attract the fish:

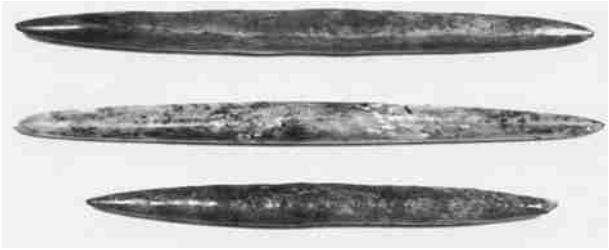


Figure 120 Bone fish lures (Brinkhuizen 1983, 32)

In addition to the above, drying racks are used to process the fish. These will only survive in the archaeological record as a series of stake holes and have therefore been interpreted as a number of other structures, rather than that associated with fish. The reconstructed site at Hoko demonstrates the use of drying racks.

Figure 121 Reconstruction of a 3000 BP fishing camp (Croes 1988, 147)

Appendix 3

Mesolithic and Neolithic archaeology of Britain, Ireland and NW Europe

Supplementary information

Figure 122 *Study of fish: Two Trench, a Trout and a Perch*
JMW Turner c.1822-4 (Tate 025462)

Mesolithic and Neolithic archaeology of Britain, Ireland and NW Europe

The following information comprises supplementary information to that contained within Ch 5 where a range of sites across Britain, Ireland and NW Europe are discussed. It provides an expansion and a context to the text contained in the various tables. The ordering of the sites is the same as that within the main text:

Britain:
Star Carr and the Vale of Pickering
The Humber estuary
The Great Ouse
The Somerset Levels
The Severn estuary
Langstone harbour
The Solent

Ireland:
Mt Sandel, County Londonderry
Lough Borra, County Offary
The Shannon estuary, Counties Clare, Limerick & Kerry
Brugh na Bóinne, County Meath

North European Plain:
Poland and eastern Baltic zones
Denmark
The Rhine/Meuse delta

Central European Uplands:
Bohemia in the Czech Republic
SW Germany
The Iron Gates Gorge on the river Danube

Seine basin:
Noyen sur Seine, France

Britain:

Excavations in the intertidal zone are different from those in other areas, as the conditions are often difficult and the pace of excavation has to be faster. (Fenwick, Chapman, Fletcher, Thomas & Van de Noort 2001, 103)

Star Carr and the Vale of Pickering
The early Mesolithic site of Star Carr is situated on the edge of the former Lake Flixton in the Vale of Pickering, North Yorkshire. It was excavated by the late Sir Grahame Clark between 1949 and 1951, and subsequently published (Clark 1954). This short discussion will be confined to those artefacts and attributes which relate to the use of the wetland within which it was located and other sites within the Vale of Pickering. Clark's excavation produced no evidence of fish – other European sites of a similar age have remains of pike, particularly the lower jaws. There has been much debate about this apparent lack. Wheeler in 1978 argued that the freshwater fish would not have yet re-colonised the waters near to Star Carr by this point in the post-glacial period

(Wheeler 1978, 87-88) and it is this argument which has held sway for the past decade or two. More recent research undertaken elsewhere in the Vale, at Seamer Carr for example, means that discussion must 'at least allow for the possibility of fish being included in the equation again' with the suggestion of evidence from microwear analysis and the presence of *Cyprinidae* from an appropriate stratum (Schadla-Hall 1988, 32). Star Carr is one of many early Mesolithic sites in North and East Yorkshire and thus needs to be considered within that context (Schadla-Hall 1988, 25-26). Mesolithic and Neolithic activity discussed below within the remit of the Humber wetlands project has bearing upon the area too, taking into account that the division between the Vale of Pickering and that further south is a modern sectioning.

An examination of some of the artefacts recovered by Clark is also suggestive of fishing being undertaken within the locality during the early Mesolithic (Ole Grøn, personal communication). The many barbed points for which the site is renowned are described by Clark as possibly being utilised as leisters for pike fishing and one of the points is noted as a harpoon on the basis of the perforation near its base (Clark 1954, 17, 131). Barbs such as these have been found in pike skeletons at Kunda in Estonia (Coles & Coles 1989, 95).

The numbers of antler points produced would suggest a manufactory site and possible trade, given the volume excavated. It is interesting to note that Holderness, in the nearby Humber wetlands also produced antler and bone points.

Bark rolls too have been found which have been used as net weights in other cultures (Clark 1954, 166). It is unlikely that the sites which have been found located so near to a major water resource were not being used for fishing (Ole Grøn, personal communication). More recent work undertaken during 1975-1997 under the direction of the Vale of Pickering Research Trust and Tim Schadla-Hall have examined a number of other sites within the Vale, often removing the overburden with the aid of a mechanical digger (Mellars *et al* 1998, 29). While column samples were taken from almost all sites that were investigated, there is no record of wet sieving being undertaken to any significant level. Taking into account the comment made by Coles & Coles in 1989 'of course, we should not forget that fishbones and fish scales rarely preserve well, and are often difficult to see in a wet excavation', it could also be observed that if you don't look, you stand no chance of finding (Coles & Coles 1989, 95).

In addition the 'paddle' found by Clark may indicate the use of watercraft. Fowling was also undertaken as evidence by a number of faunal remains of almost exclusively water birds (Clark 1954, 89). However, the numbers of bird bones were very small compared with those from both land and water animals, indicating that this may have been a subsidiary activity.

The Humber estuary

The Humber Wetlands project began in 1992 with a desk-top assessment of the archaeological potential of the area since the end of the last glaciation and the results were published the following year (Van de Noort & Davies 1993). It was the fourth major project funded by English Heritage and concludes that organisation's 'national archaeological strategy for wetlands' (Van de Noort & Etté 1995, 2). The rationale behind the national survey was two-fold. On the one hand, the archaeological remains are preserved in wetlands through a range of factors including peat growth, sediment

accretion and waterlogging. On the other, sites are under threat because of drainage and peat extraction (Van de Noort & Ellis 1999, 1-2).

The Humber wetlands survey undertaken over an eight year period concentrated on those areas adjacent to and including the main rivers and waterways within the estuary complex as well as the floodplain below the 10m OD contour. The area surveyed was divided into seven sections with the Ancholme and Lower Trent valleys surveyed together (Van de Noort & Ellis 1998). A commendable speed of publication meant that the results were available in series of volumes published at the end of each of the six regional phases followed by a synthesis (Van de Noort & Ellis 1995, 1997, 1998, 1999, 2000; Ellis *et al* 2001; Van de Noort 2004).

The six regions and their publication dates are as follows:

Holderness	1995
Humberhead Levels	1997
Ancholme and Lower Trent Valley	1998
Vale of York	1999
Hull Valley	2000
Lincolnshire Marshes	2001

The Mesolithic and Neolithic of each region known prior to the investigation will be discussed below as well as that recorded during the survey. This will then be followed by a general conclusion.

Both palaeoenvironmental and archaeological surveys were undertaken. The first involving a range of objectives including mapping and characterising the stratigraphy, examining the surviving floodplain peats, establishing a temporal framework for the development of the wetland deposits and mapping the alluvium deposits (Van de Noort & Ellis 2000, 27-28). This latter task was necessary 'in order to determine the extent to which earlier land surfaces are masked and therefore bias field results (Van de Noort & Ellis 2000, 28). The archaeological survey was undertaken in two phases – the rapid and detailed surveys. The former was designed to determine those areas for the latter. Fieldwalking was the primary method used with occasional test pitting and excavation.

Artefacts of a non-organic nature are the usual class of find from this type of survey and it is only where excavation has been undertaken that structures and features of wood and peat have been recorded. Unfortunately, very few such excavations date to the pre-metal periods and thus are not discussed here.

Holderness

A so-called lake-dwelling or crannog, first excavated in 1880 at West Furze, Skipsea was reassessed as part of the survey both as a desk-top study of all the original information (including one by Evans (1885)) and as a field exercise involving fieldwalking, coring and small test pits (Van de Noort 1995, 323-334). The lower part of the site appears to have been a causeway or trackway traversing the Low Mere at its narrowest. The facets on the piles suggest the use of stone axes and indicate a Late Neolithic or Early Bronze Age date (Van de Noort 1995, 332). The function of the later 'upper floor' is more difficult to determine and it will not be pursued here but the reader is pointed towards Van de Noort's excellent discussion (1995, 333-334).

A significant number of harpoons, 17 in all, 'with Maglemosian affinities', made from both bone and antler have been found in the Holderness region. At least 13 barbed bone points are recorded, for example, from gravel quarries around Brandesburton, within a few hundred metres of the channel that ran between Hornsea Mere and the Hull valley (Van de Noort *et al* 1995, 359). Barbed antler points have come from Hornsea beach and Earl's dyke. The authors posit that the harpoons 'represent hunting activities over possibly as much as two millennia or more' (Van de Noort *et al* 1995, 359). It would probably be more accurate to suggest that these were used for fishing rather than animals, particularly given that 'their distribution is significantly associated with wetlands in general, and specifically to the wetlands which are considered to have provided the greatest resource for fishing activities' (Van de Noort *et al* 1995, 359).

While the largest collection of non-organic artefacts comprises 147 pieces of worked flint (from a site at Aldborough), there are finds from several areas within this region. Concentrations of sites can be seen at Skipsea (7), Halsham (12) and Winestead (4) and 17 other locations (Head *et al* 1995a, 219-229; Head *et al* 1995b, 252-283). Mesolithic finds include flakes, cores, blades, bladelets, piercers and scrapers. The general Neolithic period is represented by the presence of similar material as well as axeheads with polished, ground and tranchet examples made from flint, stone and (in one case) greenstone. Three Group VI axeheads were identified (one each from Seaton, Beeford and Skipsea) and one pebble macehead with an hourglass perforation at Beeford (Head *et al* 1995a, 202, 212, 229). The late Neolithic artefacts include a piercer, a chisel arrowhead, a discoidal knife as well as various flakes, scrapers, cores and fabricators.

At another location at Skipsea (Round Hill), wood was recovered from test pits dug during the survey and an alder stake was radiocarbon dated to 8343 – 7945 cal BC (GU-5451; 9080±100 BP). The site is interpreted as 'probably an early Mesolithic structure closely related to the exploitation of fish and fowl in Skipsea Bail Mere' (Van de Noort *et al* 1995, 358). Palaeo-environmental material has been recovered from findspots contemporary with humanly modified artefacts (Van de Noort 1995, 358). Two of the sites at Winestead were examples of Neolithic sites buried beneath estuarine sediments and 'the paucity of finds from dry land adjacent to the floodplain suggests that during the Neolithic these wetlands were important focal points for exploitation and settlement' (Van de Noort *et al* 1995, 358).

The Humberhead Levels

Evidence known from before the survey of the area was undertaken covers all periods from the early Mesolithic to the late Neolithic. Findspots in the Mesolithic include sandy islands within former marshland areas and sand ridges from running alongside current and previous river channels. One such island now on Sutton Common has produced a collection of flint associated with bands of charcoal and indications are that *in situ* remains might lie beneath the adjacent alluvial sediments (Van de Noort & Fenwick 1997, 222). Rivers and their environs (such as sandy ridges and islands) were favoured locations both in the Mesolithic and early Neolithic periods with finds recorded as a result of fieldwalking from the Went and adjacent to the Torne, Idle and Don rivers (Van de Noort & Fenwick 1997, 223). Late Neolithic finds often in association with those from the Bronze Age were found away from the wetlands area although a single pit containing 269 sherds of pottery was recorded within a hundred metres of the Torne (Van de Noort & Fenwick 1997, 223).

All the Mesolithic and early Neolithic finds and sites discovered during the survey were 'closely associated with streams and rivers' whether extant or extinct (Van de Noort *et*

al 1997, 456 & fig. 19.2). Finds include a significant range and quantity of flints from both periods (for example 1919 from the Gringley area) and large numbers dating specifically to the Late Mesolithic/Early Neolithic along the Don and the Torne (Head, Chapman, Fenwick, Van de Noort & Lillie 1997, 261; Head, Fenwick, Chapman, Van de Noort & Dinnin 1997, 342-366). Two Neolithic axeheads and a possible Late Neolithic bowl barrow were also recorded (Head, Fenwick, Chapman, Van de Noort & Dinnin 1997, 292ff, 336). Early Mesolithic material was recovered from the edges of palaeochannels and adjacent sand islands whilst that from the late Mesolithic and early Neolithic 'was also exclusive to the rivers' within a distance of 100m (Van de Noort *et al* 1997, 456). While what may be termed 'general' Neolithic material was found along a number of the rivers, that which could be dated to the late Neolithic was exclusive to the Idle and to Hampton Beck. It is not possible to ascertain the relative importance of the three activities of hunting, gathering and fishing although information from the survey can suggest a changing pattern of subsistence (see below) (Van de Noort *et al* 1997, 456).

Ancholme and the Lower Trent valley

Many of the Mesolithic and early Neolithic sites known before the survey was undertaken, have been located on sandy outcrops. Early Mesolithic material was sparse but late Mesolithic and early Neolithic sites have been found at a number of sites including Flixborough where a large concentration of flint tools, polished stone/flint axes and pottery has been uncovered (Van de Noort *et al* 1998, 125). Late Neolithic evidence includes well over 100 stone axes, hammers and adzes from the area. Grooved Ware and Peterborough Ware was found at Risby Warren as were leaf-shaped arrowheads, axes and flakes (Van de Noort *et al* 1998, 126).

The survey provided additional evidence of only one early Mesolithic site – the Isle of Axholme where several collections of flint were recovered from various locations in the area (Head *et al* 1998, 265).Only one site (Scotter) showed material exclusively from the Mesolithic period; the rest had tools from both periods (Fenwick *et al* 1998, 149). A possible Mesolithic settlement site (in the Ancholme), a number of Late Mesolithic/Early Neolithic flint concentrations on 'sandy islands' (at Whitton) and a series of scatters above the 10m contour show the range of human activity in the region during this early period (Chapman *et al* 1998, 155/6, 224, 229/30). While there are a number of concentrations of flint material, it is the stone axes (8 from the Great Langdales (Group VI), 3 of greenstone and 1 from Group XX), that principally marks the Neolithic presence (Chapman *et al* 1998, 155/6, 199, 229/30, 233; Head *et al* 1998, 268ff).

Finds of the Mesolithic and early Neolithic period are all closely associated with the rivers Ancholme, Trent and Winterton Beck. That in the lower Trent valley is low in density and may have been affected by the later alluvial sedimentation and warping undertaken in the post-medieval period (Van de Noort *et al* 1998, 292). The evidence particularly from Brigg in the Ancholme valley supports 'the observation that rivers were of some importance during this period' and that there was an association between the Mesolithic and early Neolithic material (Van de Noort *et al* 1998, 292).

The Vale of York

Prior evidence proved to be more prolific than that gathered during the survey itself. A limited range of Mesolithic flints had been recorded in the Vale, from the edge of the Wolds and on higher, drier ground on sandy outcrops. Neolithic material comprising stone axes in the main with one described as a Group XVIII example, as well as

arrowheads, scrapers and chisels, had been found in the same range of locations (Head *et al* 1999, 128, 129).

The survey added one Neolithic polished stone axehead (Group VI) found 1km north of the River Aire floodplain and 2 cores with 4 flakes from Melton dating to both the Mesolithic and Neolithic periods (Chapman *et al* 1999, 144; Fletcher *et al* 1999, 238). The author noted when writing about the polished axehead that 'wear etc suggest loss, rather than deliberate discard' (Chapman *et al* 1999, 144). Aerial photography identified a possible Class II henge at Spaldington (Chapman 1999, 244).

The conclusion drawn was that there was 'a dearth of Mesolithic and early Neolithic material in the area' (Van de Noort *et al* 1999, 272).

The Hull Valley

There are no major finds pre-survey from the Mesolithic and Neolithic periods apart from an unpublished site at Brigham (Fenwick *et al* 2000, 89). A number of Neolithic stone artefacts were recorded including several stone axes and adzes. A barbed antler point (identified as Upper Palaeolithic) compares with those from the early Mesolithic sites of Star Carr (Mellars & Dark 1998, 6) and from Brandesburton in Holderness (Chapman *et al* 2000, 105). In Kingston upon Hull, casual finds of Neolithic polished stone axes and flints have been recovered from various locations around the built-up area, which may suggest forest clearance in this part of the Hull valley. A possible Mesolithic quartz macehead has also been found. Dredging in 1884, of the Alexandra dock revealed the presence of several bog oaks in a peat horizon (Evans 2000, 194). This horizon has been dated to *c.*6930 BP and suggests a possible exploitation of the area by late Mesolithic groups prior to the 'onset of estuarine conditions in *c.*4900 BC). At Stoneferry, peat formed in the Neolithic period (4350-3800 cal BC 5240 ±100 BP) alongside this part of the river (Evans 2000, 193)

The survey added 10 more locations to the 4 known early prehistoric sites with all findspots and concentrations 'closely associated with the river Hull' although from outcrops of till or levées, rather than alluvial areas (Van de Noort *et al* 2000, 244-245). Weel 2, which produced an assemblage of 785 lithics, is situated on a gravel 'island' within alluvial deposits overlooking the Hull and it has been suggested that this might be part of a larger collection of sites, perhaps associated with a nearby domestic area (Chapman *et al* 2000, 160-168).

With the marine transgression and encroachments of the intertidal zone in the lower reaches of the Humber estuary from *c.*4000 BC, it is likely that many sites have been masked by sediment accretion and so those which have been recorded both before and during the survey 'may only represent a fraction of the total number of Mesolithic and early Neolithic sites in the Hull valley' (Van de Noort *et al* 2000, 247). The location of the known late Neolithic sites show a marked shift away from the wetlands to the dryland margins, which might indicate the growing importance of agriculture and the need for access to free-draining areas (Van de Noort, *et al* 2000, 247).

The Lincolnshire Marshes

The Sites and Monuments Record for this area lists only a few casual finds from the Mesolithic period and many isolated Neolithic stone axes and adzes but no large scatters or sites (Fenwick, Van de Noort, Fletcher & Thomas 2001, 65). The situation after the survey was not greatly altered and finds (commonly less than 5 in number at single locations) include late Mesolithic cores, scrapers and flakes and Neolithic flint objects

and polished stone axes. One site, set within the intertidal zone at Grimsby produced a large, late Mesolithic assemblage in excess of 600 pieces (Fenwick, Chapman, Fletcher, Thomas & Van de Noort 2001, 116, 119).

The lack of sites may indicate a greater number buried beneath alluvial, marine and estuarine sediments and in this case, the Lincolnshire Marsh itself (Van de Noort, Lillie, Gearey, Fenwick, Chapman, Fletcher & Thomas 2001, 244).

Conclusion

At Holderness, the survey demonstrated the clear correlation between 'the distribution of late Mesolithic and Mesolithic/Neolithic material and the location of wetlands with diverse natural resources' with 9 out of the 10 of the findspots and sites of this date being in such locations (Van de Noort *et al* 1995, 359). In the Hull valley, the proximity of Mesolithic and early Neolithic activity to the river Hull 'is illustrative of the importance of river systems to people of this region, who depended wholly or largely on hunting, fishing and gathering' (Van de Noort, Lillie, Gearey, Fenwick, Chapman, Fletcher & Thomas 2000, 246). Even in the later Neolithic with the then preference for the dry land margins, wetlands would have remained important elements of stockbreeding practices as well as for fishing and transport (Van de Noort, Lillie, Gearey, Fenwick, Chapman, Fletcher & Thomas 2000, 246).

Evidence from the Ancholme and Lower Trent valleys suggest an exploitation of river resources in the Mesolithic and early Neolithic with a presumed focus on fishing and fowling. This may have been seasonal in nature with the nearby dryland sites of the Isle of Axholme and the Lincoln Edge being utilised for differing resources at other times of the year (Van de Noort *et al* 1998, 292). In the later Neolithic, sites while still in close association with the Ancholme and Winterton Beck, were located at a slightly further distance (Van de Noort *et al* 1998, 292). There was still a marked preference for the floodplain margin locations for settlement sites which might reflect the increasing importance of a pastoral economy relative to one solely relying on hunting, fishing and gathering (Van de Noort *et al* 1998, 296). Higher watertables in the winter may have limited pastoral exploitation to a seasonal summer period (Van de Noort *et al* 1998, 296).

The work on the Humberhead levels undertaken during the survey was able to indicate the changing subsistence strategies used during the Mesolithic and Neolithic periods within the wetlands of the region. The lack of early Mesolithic activity from areas away from the wetlands indicates the exploitation of 'the high biological productivity of the rivers' and that this resource may have 'attracted hunter-gatherers from a considerable distance' (Van de Noort *et al* 1997, 456). In the late Mesolithic and early Neolithic it has been suggested that exploitation might have become more specialised, that is concentrating on waterfowl and fishing, and probably seasonal, with the dryland sites noted elsewhere (such as at Axholme) being utilised for other resources (Van de Noort *et al* 1997, 456). Locations associated with late Neolithic material, and those into the Bronze age, while still closely linked with the rivers, also appear elsewhere in the dryland margins (Van de Noort *et al* 1997, 456 & fig. 19.2).

The evidence from the Lincolnshire Marshes was of a slightly different nature. Sea-level rise post-*c.*5500 cal BC meant that the former coastline, then lying some distance east of the current one, would have been swamped, and early sites subsequently buried beneath sedimentary deposits. This may explain the lack of early prehistoric sites within the area and the fact that 'no finds from the survey can be dated to before 5500

cal BC' (Van de Noort, Lillie, Gearey, Fenwick, Chapman, Fletcher & Thomas 2001, 245). During the period prior to the inundation, the wetland areas would have confined to those waterways draining off the Marshes. After 5500 cal BC, evidence from the findspots indicates that the Mesolithic and early Neolithic activity was 'without exception found close to contemporary wetlands' (Van de Noort Lillie, Gearey, Fenwick, Chapman, Fletcher & Thomas 2001, 247).

The pattern noted within the survey region, suggested a close relationship between the wetlands and rivers and the Mesolithic and Neolithic activity, which was observed in all areas of the Humber wetlands apart from the Vale of York where it could not be correlated (Van de Noort Lillie, Gearey, Fenwick, Chapman, Fletcher & Thomas 2001, 247). The evidence from the late Neolithic indicates, however, a shift in the choice of location to the dryland margins but still with a close association with the major waterways and wetlands.

The Great Ouse

There has been a significant amount of interest in the archaeology of the Ouse Basin over the past few decades building upon earlier work undertaken in a more piecemeal fashion. The wetlands survey, funded by English Heritage, covered the area of the fenlands within the counties of Cambridgeshire, Lincolnshire, Norfolk and Suffolk including the lower Ouse – 'the largest area of uninterrupted wetland in England' (Coles & Hall 1998, 1). The usual difficulties applied during the survey, that is the problem of examination of only surface material or that exposed by current water courses and ploughing but the importance of rivers as choice locations for a number of activities during the Palaeolithic, Mesolithic and Neolithic periods is evident (Coles & Hall 1998, 12, 16, 17).

The area, in particular, to the east around the rivers Kennet, Lark and Little Ouse seems to have been attractive to the early communities where sites were concentrated on the sand ridges adjacent to the water and a presence during the Mesolithic noted at Shippea Hill (Dawson 2000b, 47). To the southern end of the region, while still utilising the land near the watercourses, the slightly higher ground was more favoured 'but with a preference for the fen edge' during this period (Dawson 2000b, 47).

The middle Ouse which lies south of the fenlands and has fewer known Mesolithic sites than the region to the north, shows a range of locations but with again a preference for those near riversides although some have been found on greensand ridges and areas of clay (Dawson 2000b, 49). Investigation in the land contained in the Biddenham loop, Bedford, producing tranchet axes, flint implements and debitage has shown extensive use of the area during the Mesolithic and Neolithic periods (Dawson 2000b, 48 figure 6.3). Evidence of Mesolithic activity in the upper Ouse tributaries of the Ouzel and the Loughton has been found for the most part in sealed riverine deposits (Dawson 2000b, 49).

During the Neolithic, locations either adjacent to a watercourse or partially surrounded by water were selected for the building of monuments and barrows as well as the deposition of artefacts. The trapezoidal structure with its cursus and ring ditch features at Godmanchester, Cambridgeshire, for example, is bounded to the east by hills of boulder clay and to the north, west and southwest by the main river Ouse and its subsidiary channels (McAvoy 2000, 52). The slightly sinuous nature of the river and

some of its tributaries resulted in a carving up of the landscape and formed part of what Malim describes as a ritual landscape in the lower and middle Ouse during the Neolithic and Bronze Age (Malim 2000). The Biddenham complex, for example, is surrounded on three sides by the Ouse with ring ditches 'guarding' the entrance on the fourth side (Malim 2000, 80). The Octagon Farm complex lies in a rectangular shaped piece of land bounded on one long and two short sides by the Ouse with enclosures across the long fourth side to the south (Malim 2000, 75ff).

The spatial distribution of the various types of monuments will not be discussed here as Malim has covered this within his article (Malim 2000). What is important to note is the obvious link between the rivers and the ceremonial and burial sites. Malim sees the complexes as being at the territorial boundaries of the communities who built them (Malim 2000, 81). He does however also mention *en passant* the possibility that they may have been placed at 'the centre of the home-base', a concept which is discussed in more detail in **6.0** below (Malim 2000, 82).

The Somerset Levels

'The levels may be seen as a broad trough, edged by the hills of the Mendips to the north and the Quantocks to the south, blocked by the gently rising hinterland of Somerset to the east and wide open to the sea on the west' (Coles & Coles 1986, 9). This area has undergone a cycle of inundation by both salt- and freshwater with the deposition of a range of peat formations over much of the lowland. Peat cutters have exploited the resultant landscape for many centuries. Formal archaeological interest in the area began in the mid-1800s with the discovery of the Abbot's Way, a wooden trackway but it was the work at the site of the Glastonbury Lake village begun in the 1890s under the direction of Arthur Bulleid, later joined by H St. G Grey for which the Somerset Levels was first known. Since then Godwin, Clark and the Coles' have undertaken research ahead of the peat cutters as well as on the islands originally set within the wetlands. Publication of this work has been prolific (for example, Coles 1975ff, Coles 1992; Coles & Coles 1986, 1989, 1995).

With much of the archaeology buried beneath a considerable layer of peat, finds have come from either fieldwalking surveys or as a direct result of exposure by the peat cutters, followed by excavation. Trackways across the Levels date from the early Neolithic onwards, the earliest of which is the Sweet Track constructed to connect the rock 'island' of Westhay to the dryland to the south (Coles & Coles 1986, 40ff). It was in use for only 15 years before being abandoned in 3791 BC (Coles & Coles 1995, 27). The majority of the trackways were built prior to 2500 BC (Coles 1989, 19). In addition there are structures that have been interpreted as platforms, such as that to the west of Westhay, which often mark the conjunction of a number of trackways. One suggested use of this platform is as a mooring area for boats and a slipway situated as it was as a major entry/exit to the marshlands and, in addition, it could have been used as a blind for catching waterfowl, a fishing flat and as a collecting centre for reeds and plants – none of these activities being exclusive. While there is no direct evidence for fishing prior to the Iron Age, the Somerset Levels have been exploited for many thousands of years and there is no indication that the environment during the early prehistoric periods would have been less of an aquatic resource.

Polish formed by wood working, cutting of reeds and hide scraping has been identified by microwear analysis of 26 flint flakes recovered during excavation of the Sweet Track (Morris 1984, 97). Many hundreds of pieces of worked flint and chert were found by

fieldwalking in the Brue Valley, not only from the peats but also from the islands within them and those which are datable are almost all from the Mesolithic and Neolithic periods (Brown 1986, 12). Those from the Mesolithic outnumber all other periods and are to be found as the dominant remains on the islands of Shapwick and Edington Burtles with a series of Early Mesolithic finds on the nearby ridge of higher ground of the Polden Hills (Brown 1986, 20).

During the later Mesolithic estuarine conditions were prevalent in the Brue Valley, 'supporting fish, waterbirds, shellfish and possibly seal' with deer and pig in the woods on the valley sides (Brown 1986, 25).

Some finds are interpreted as deliberate depositions (such as the Alpine jadeite axe found adjacent to the Sweet Track) and others as accidental loss (Brown 1986, 20, 27; Coles & Coles 1995, 27). Carinated black burnished pottery of the early Neolithic period was found by the Sweet Track. At least one of the pieces had contained something at the time of deposition (in this case hazelnuts) and others found with wooden stirrers (Coles & Coles 1986, 59-60). Worked wood from this period includes bows made from yew and hazel (recovered with flint arrowheads), mattocks, a comb, paddles, a box and digging sticks (Coles & Coles 1986, 62, 77, 79, 81). Another wooden artefact with a possible ritual connotation is the so-called 'god-dolly' – 'a roughly carved block of ashwood, 16cm high' – found beneath one of the trackways lying upside-down (Coles & Coles 1986, 81). The ambiguity of this piece which has a head, two arms or breasts and a remaining leg, is reflected in the comments by Coles and Coles 'Was it a joke? A lost toy? Or a carefully deposited ritual object?' (Coles & Coles 1986, 81). It has been dated to the Early Neolithic by its close association with the trackway (Coles & Coles 1986, 71).

Severn estuary

The Severn estuary forms the head of the inlet of the Bristol Channel that divides England and South Wales. Building on the work undertaken in the Somerset Levels on the south side of the estuary primarily by Bryony and John Coles (as discussed above) and the activities of Derek Upton who was the initiator of investigation on the Welsh coast, inter-tidal archaeology has been recorded along the Gwent Levels, which run from Cardiff in the west to Caldicot in the east (Bell 2000a, 1). In the Early Mesolithic, the mouth of the Severn was about 80km west of today's position but by c6600 cal BC, this had moved significantly eastwards (Bell 2007). This shift resulted in a loss of early sites and those from the Late Mesolithic being found in what is now the inter-tidal zone (Bell 2007). The Severn Estuary Levels Research Committee (SELRC) was formed in 1985 in a response to the work undertaken by Upton and sedimentary studies by Professor John Allen, and in the face of the proposed Severn Barrage (Bell & Neumann 1997, 99ff; Bell 2000a, 5). The work on the Severn marked the beginning of organised inter-tidal research in Britain. Prior to this accidental artefact finds and the more deliberate actions of mudlarkers and the like, were the only 'method' of work on the tidal foreshore and there was no attempt to link any results with that to be found inland.

Although much research has been undertaken over the past 20 years within the Severn Estuary what is remarkable is the limited amount of Neolithic evidence that has thus far been recorded (Bell 2007). Substantial material has been retrieved from the remainder of the prehistoric periods and from the historic eras and yet only environmental evidence for the most part has been found from the Neolithic (Bell & Neumann 1997, 101). Sites from the later part of the Mesolithic have been found in the hinterland (such

as that at Birdcombe on the river Land Yeo (Gardiner 2000, 199-207). An examination setting the Mesolithic and Neolithic of the Severn estuary as a whole within that found in both the English and Welsh hinterlands is expected to be published shortly (Bell 2007).

Goldcliff

Goldcliff, on the Welsh side of the estuary, was selected initially as a research area to examine the peat sequence (Bell & Neumann 1997, 98; Bell with Allen *et al* 2000, 6). The subsequent discoveries, which began following a major storm in 1990 were unpredicted and by the time the work at Goldcliff ended in 1994 it had 'produced probably the greatest concentration of inter-tidal archaeological finds round the British coast' (Bell 2000a, 9). It marks one of the two sites in the estuary that have a Late Mesolithic presence. Its finding in 1987 marked the first prehistoric inter-tidal site at Goldcliff – an 'earnest' of things to come. In fact, it was not until after the storm referred to above, that the peat layers were revealed when the overlying mud had been swept away (Bell 2000a, 6). The location comprises a layer of charcoal with lithics and bone, a peat stratum between 5 and 20cm in depth with some charcoal, a flint, woody inclusions and tree stumps whose roots penetrate the underlying clay level and a possible hearth (Bell with Allen *et al* 2000, 35-36). One willow stump in the higher part of the peat has charcoal scattered around it (Bell with Allen *et al* 2000, 36). The density of finds (which are of Late Mesolithic date) falls off towards the south-west, indicating the likely edge of the former island the site sits upon (Bell with Allen *et al* 2000, 36). Three seasons of excavation on the Mesolithic site (1990-92) and surface survey (1987-1994) produced 1650 artefacts, the majority of which were flint debitage, unidentifiable bone and two adzes (Bell with Allen *et al* 2000, 36, 39, 46ff). From an assemblage of 1000 bones, 423 can be identified as to species (Bell with Allen *et al* 2000, 49). While the majority are land-based red deer and pig, a small number include those species that preferred water; that is otter, waterfowl and fish. These last three 'reflect the adjacent estuarine/riverine environment' (Bell with Allen *et al* 2000, 52). The 2 bird bones are thought to be from mallard (*Anas platyrhynchos*), usually found in coastal and estuarine habitats, of which one piece was burnt (Bell with Allen *et al* 2000, 54). The material from which the fish bones came was taken from context 1202, the charcoal layer, with one sample being taken from each 1m square (Bell with Allen *et al* 2000, 36). The difficulties of working in the inter-tidal zone meant that sieving was limited with some undertaken off-site and 'with hindsight, it is particularly regretted that more resources were not put into overcoming these problems as they produced both plant macrofossils and fish bones' (Bell with Allen *et al* 2000, 36). From this sieved material and from one metre square in particular, came 811 bones which could be identified as to five species (Bell with Allen *et al* 2000, 53). More than half (56%) were from eel (*Anguilla anguilla*), goby (*Gobiidae*) 29%, smelt (*Osmeridae*) 8%, sticklebacks (*Gasterosteus aculeatus*) 6% and flatfish 1% (Bell with Allen *et al* 2000, 53). The goby and flatfish could only be identified to family. With both heads and caudal vertebrae present, this suggests that the fish were initially whole at the site and not brought in a processed condition (Bell with Allen *et al* 2000, 53). 105 of the fish bones, along with one bird bone, were in a burnt condition, probably indicating the method of cooking (Bell with Allen *et al* 2000, 54). The majority of the fish were small in size, suggesting that they may have been caught by trap or from tidal pools (Bell with Allen *et al* 2000, 55).

Examination of both the land animal bone as well as those from the estuarine/coastal representatives indicates an autumn-winter occupation (Bell with Allen *et al* 2000, 54).

In the Late Mesolithic, the site would have been on dry land at the head of an island and appears (with the lack of structural evidence) to have been of short duration although 'other occupation sites may, of course, have existed beyond the excavated area' (Bell with Allen *et al* 2000, 63). With Goldcliff the only known dryland within a 6km area, it has been suggested that some of the footprints mentioned below may form part of the history of those who did occupy the island (Bell with Allen *et al* 2000, 62).

Caldicot Levels

The Nedern river flows into the Severn estuary from the Welsh side, having risen near the Brecon Beacons. The lower part of the river cuts across the Caldicot Level, which forms the 'major eastern element of the Gwent Levels between the River Usk at Newport and the River Wye in the east' (Nayling & Caseldine 1997, 1). In the early part of phase I (Mesolithic period), the river channel formed part of a reed swamp and fen with patches of open water and mudflats. Salt-marsh/brackish conditions were also present with occasional tidal inundation and the *phragmites* reed typically edges brackish water (Nayling & Caseldine 1997, 258). Examination of other sites in the area suggests that the dryland trees comprised mixed deciduous woodland (Nayling & Caseldine 1997, 259). A small flint assemblage of flake fragments, punch-struck blades, a blade core and burnt material have been dated to the Mesolithic (Nayling & Caseldine 1997, 246, 248-249). A possible barrier bar nearby at Caldicot Pill has been dated to the Mesolithic (5480-5210 cal BC 6360 ± 70 BP Beta-79887).

Organic clays dated to the later part of phase I, the Neolithic, (3700-3360, 4670 ± 80 BP CAR-1323, 4370 ± 80 BP CAR-1322) have been noted at *c*.2.5-3m OD in the Nedern valley bottom (Nayling & Caseldine 1997, 15). The sedimentation that this suggests has been traced across the valley to the north and the east and copies that found on the Gwent Levels during the Wentlooge formation (Nayling & Caseldine 1997, 15, 128). Similar environmental conditions to those in the Mesolithic prevailed with reed swamp (identified from plant remains in the peat) and fresh water with salt-marsh nearby (Nayling & Caseldine 1997, 16). The tree cover within the area included the mixed deciduous woodland found in the Mesolithic but also shows signs of the elm decline and later regeneration of lime from *c*.4600 BP (Nayling & Caseldine 1997, 259-260). The Neolithic produced bones of amphibians (from a sieved sample) and an antler tine fragment from a red deer (McCormick 1997, 218-219). In Britain, amphibian species are only found in freshwater (Nayling & Caseldine 1997, 258). Flints dated to this period include part of an ogival leaf arrowhead, a flake from a polished axe and part of a possible Late Neolithic 'chisel' arrowhead (Nayling & Caseldine 1997, 246, 248-249).

It has been suggested that during these two periods the channels would have been used for hunting, fishing and transport (Nayling & Caseldine 1997, 259). Before *c*.4600 BP, there is some evidence of agricultural activity that returns post-4300 BP (Nayling & Caseldine 1997, 26).

Evidence of human presence in the Severn estuary

A number of human crania and other bones have been recorded at a range of locations around the estuary (in addition to those previously mentioned in caves) and these may have 'possible ritual and symbolic associations' (Bell 2000b, 64). Only one from the estuary itself dates to the period under discussion. A human skull found during work at the Alexandra Docks, Newport in 1910 has been AMS dated to the Late Neolithic 2630-2340 cal BC 3996±45 BP (OxA-7656) (Bell 2000b, 69).

At two places on the Gwent Levels, footprints have been recovered in the inter-tidal zone – at Uskmouth (to the west of Goldcliff) and Magor Pill (to the east). At Uskmouth, the footprints are found within a deposit of blue estuarine clay which lies at + 0.16 to – 0.06m OD (Aldhouse-Green *et al* 1992, 16, 20). Three trails of prints varying in length between 4–25m, have been recorded at Uskmouth with two heading in parallel *c*.10m apart in a south-easterly direction across the foreshore and the third in reverse direction (Aldhouse-Green *et al* 1992, 33, 43). An examination of all the footprints has ascertained that they were made by those 'habitually unshod' (Aldhouse-Green *et al* 1992, 33). Estimation of stature and speed of movement of the walkers suggests that the Uskmouth trails represent the path of three individuals – two adult males (trails I and II) and one (trail III) a child or young person (Aldhouse-Green *et al* 1992, 33, 36). The footprints at Magor Pill appear to represent a number of individuals including a large footed male and a child (Aldhouse-Green *et al* 1992, 46). Dating the footmarks has involved radiocarbon dating the layers above the prints. Those at Uskmouth are immediately overlain by the lowermost peat layer (5350-4800 cal BC 6140 ± 100 OxA-3307) and at Magor Pill, the peat above the footprints (4730-4360 cal BC 5720 ± 80 OxA-2626) is at + 2.19m OD (Aldhouse-Green *et al* 1992, 20, 50).

An antler mattock with a perforation at right angle to the trez tine was recovered some time after the discovery of the Uskmouth footprints at approximately the same level and *c*.370m away in an ESE direction (Aldhouse-Green *et al* 1992, 46). It has been dated to 5320-4930 cal BC (6180 ± 80 BP OxA-4574) (Bell with Allen *et al* 2000, 62). The only other specimen from Wales was found in the inter-tidal zone at Splash Point, Rhyl, on the North Welsh coast, which has been dated to5640-5360 cal BC (6560 ± 80 BP OxA 1009). It has been suggested that the mattock may have been used for digging out cockles from the mudflats (Aldhouse-Green *et al* 1992, 46).

Langstone harbour, Hampshire

Location and background

Langstone harbour is a large, shallow, marine inlet on the south coast of England, situated between Portsmouth harbour to the west and the much larger Chichester harbour to the east. Drainage is by means of one main and several smaller channels with the advantage of fast-running tides (Allen *et al* 1993, 1). The Langstone Harbour Archaeological Survey project (LHASP) was begun in 1993 and was intended to be 'a moderate-sized intertidal project' but the unexpected rich results caused the work to expand and it only came to a conclusion in 2000 with the publication of a CBA research report (Allen & Gardiner 2000a, 1; 2000b).

Langstone harbour contains large areas of mudflat islands and shingle banks which are exposed at low tide. The four islands (remains of what were previously much larger dryland features) are situated in the northern part of the harbour and have surviving saltmarsh as does the neighbouring Farlington Marshes (Allen *et al* 1993, 1). It covers some 23km^2 and is not so industrialised as Portsmouth harbour. The four islands are part of a Royal Society for the Protection of Birds (RSPB) reserve which had a marked effect on the timing and duration of fieldwork within the area (Allen *et al* 1993, 1).

The LHASP was 'a response to increasing concern regarding the impact of coastal erosion and coastal defence works upon archaeological remains' (Allen & Gardiner 2000c, 3). While the survey, its aims and methods are discussed elsewhere and thus

will not be reported at length here, it is worthwhile noting that the aims of the survey included a provision that work both above and below water level as well as in the intertidal zone should be undertaken with a *seamless* approach (Allen *et al* 1993, 1). In other words, that the methods used should be the same and therefore the results compatible and comparable – an approach not always taken when working in different environments.

Previous work had been confined to chance finds which had indicated the archaeological potential (Allen *et al*, 1993, 3; Allen & Gardiner 2000c, 35, fig 7). Details of the survey have been published at length elsewhere and will not be outlined here (Allen *et al*, 1993; Allen & Gardiner 2000e). Suffice it to say that restraints imposed by the tide and the RSPB ensured that fieldwork had to be 'systematic, small scale and targeted' (Allen & Gardiner 2007).

Mesolithic and Neolithic results from the survey

Palaeoenvironmental evidence from the post-glacial period, obtained during the survey has shown that Langstone harbour was 'a low-lying inland basin drained by freshwater rivers, with fen and fen carr forming in peats with local pools of standing water' (Allen & Gardiner 2000e, 214; 2007). Previously it had been thought that the harbour had formerly been a drowned valley (Bradley & Hooper 1973, 17). The islands on which the majority of the artefacts were recorded were 'relict remains of a former, much larger, land mass' with the area that should have been between them, lost via erosion (Allen & Gardiner 2000e, 214).

Two small relict areas of submerged trees were noted in the survey both Neolithic in date but separated by a millennium (Allen & Gardiner 2007). They formed part of the original dryland surface now either eroded or buried beneath silts in the harbour (Clapham & Allen 2000, 88). The species identified were oak (*Quercus* sp.), yew (*Taxus baccata*) and alder (*Alnus glutinosa*) on Baker's Rithe and oak (*Quercus* sp.) and willow (Salicaceae) on Russell's Lake (Clapham & Allen 2000, 90-91). Most of the wood was removed later during 1999 following storms and others were uncovered too late for inclusion in the main publication (Clapham & Allen 2000, 88, 89). This underlies the speed of erosion on intertidal sites.

The collection policy applied to the faunal material kept numbers low. The result was of either Bronze Age or indeterminate date, with the exception of some cattle and sheep/goat pieces (Smith P. & Allen M. 2000, 166, table 21).

The flint, with no obvious discrete groupings was treated as 'one mixed assemblage' with the survey producing 4119 pieces with 95% from the intertidal zones of the four main islands, dating from Mesolithic to Bronze Age (Gardiner 2000, 129). There was a wide range of tools and cores, including blades, tranchet adzes and arrowheads (Gardiner 2000, 129-134). This material added to a substantial collection of chance finds from the Mesolithic at Langstone, with the early part of the period currently not represented and most artifacts restricted to the 6^{th}-5^{th} millennia BC or Late Mesolithic (Gardiner & Allen 2000, 203, 206).

Two of the Islands, Baker's and Long, have shown to have 'the principal surviving Mesolithic component' as far as the flint assemblage is concerned although it is not possible to express this amount in absolute numeric terms (Gardiner 2000, 142; Allen M. & Gardiner J. 2000e, 217). Small, dense clusters of a limited range of flintwork

were noted and some that were excavated may have formed hearths (Allen M. & Gardiner J. 2000e, 217-8). Waste material and scrapers dominate that which has been found. Tranchet adzes and flakes as well as picks 'suggest some heavy work' (Gardiner 2000, 142). Whatever they were used for, it is clear that the tools were not made on the island but transported here from elsewhere as the flint is not from a local source (Allen M. & Gardiner J. 2000e, 218). Indications are that in the Mesolithic the islands were probably used for 'little more than basic maintenance activity for small parties who may have been resident for a few days at a time' (Allen M. & Gardiner J. 2000e, 218; Gardiner & Allen 2000d, 204).

Pre-survey Neolithic material covered a similar spread of sites to those of the Mesolithic and included a number of hearths, flint tools and arrowheads, particularly from the Farlington Marshes and the north-east foreshore (Allen & Gardiner 2000c, 37).The dryland margins, however, did not have many finds with just occasional numbers of sherds of Grooved or Peterborough Ware and flint artefacts (Allen & Gardiner 2000c, 37). The exception to this paucity of evidence seems to be polished stone axes which have been recorded from both east and west coastal plain areas (Allen & Gardiner 2000c, 38).

The results of the latest work have shown that the Early Neolithic period does not seem to be in evidence within the harbour and instead there is a hiatus before the late Neolithic (Gardiner & Allen 2000, 206). Gardiner & Allen postulate the use of the area for short-term visits and/or grazing probably for cattle as long term occupation sites are to be found on the nearby chalklands (Gardiner & Allen 2000, 206).

Conclusion

The primary difficulty with the evidence presented to the reader is the fact that the survey, while producing a range of results, is deficient in information in those areas that would have added a greater layer of clarity to an understanding of Langstone harbour in the Mesolithic and Neolithic. While accepting the level of work that was possible given the extraneous difficulties of coping with the twice daily tidal incursion and the fact that the islands were under the control of the RSPB, it seems notable that bulk samples were not taken when small scale excavation and test pitting were undertaken. If this had occurred, it is possible that fishbones might have been retrieved as seen in the work at Goldcliff above, after wet sieving the material. The amount of erosion that has taken place within the harbour appears to preclude the possibility of finding early prehistoric structures such as fishtraps or trackways (Gardiner & Allen 2000, 212).

The palaeoenvironmental evidence indicates the presence of 'low-lying, largely freshwater rivers' but there is no suggestion made that one of the resources exploited during the Mesolithic and Neolithic could be that of fish and eels (Gardiner & Allen 2000, 205). Instead the authors discuss that value of the area as 'an ideal hunting ground' for both flint and animals in the Mesolithic and in the Neolithic with the latter addition of a grazing area for domesticated cattle (Gardiner & Allen 2000, 204,206). Reference is made in the discussion about the Early Mesolithic period to the recent work on the Isle of Wight (Gardiner & Allen 2000, 203). While comparisons are made with the *in situ* flints and microliths, no mention is made of the Neolithic fishtraps which are a feature of the Wootton-Quarr foreshore (see below) and the rivers and wetlands are only referred to in terms of providing a resources for terrestrial animals (for example, Gardiner & Allen 2000, 203, 206).

The Solent

Wootton Quarr, Isle of Wight

Wootton Creek flows into the Solent via the north-east coast of the Isle of Wight. Following the survey in the 1990s of a stretch of coastline 6kms in length with the creek at its centre by the Isle of Wight Council's Archaeological Unit as a case study of heritage-loss and coastal change, this area was selected for its 'wide array of eroded archaeological features (Loader *et al* 1997, 3). The project was funded by English Heritage and 'combined intertidal survey with a study of the hinterland and the offshore zone of this stretch of coast' (Loader, 2007). The Wootton Creek is a major waterway in this part of the island and Fishbourne lies at its mouth. Three other outlets include one that which flows through Kings Quay (along the coast to the north) and two others to the south towards Ryde (one passing by the remains of Quarr Abbey and the other near Binstead church).

The work undertaken in the intertidal zone produced an unexpected number of artefacts and features dating from the Neolithic to the post-medieval period. Palaeoenvironmental results included former channels of rivers and streams, peatbeds and evidence of sealevel change. Inland, an area of 270 hectares was surveyed by fieldwalking resulting in 9 scatters of flint implements and 17 of burnt flint being recorded as well as those of later material (Loader *et al* 1997, 11).

The evidence from the Neolithic period demonstrated the use that had been made of the intertidal zone as well as indicating the landscape in which the people lived at this time. By 4000 BC, the Isle of Wight was already separated from the English mainland but the sea-level was lower than that of today, by several metres (Loader *et al* 1997, 12). The Solent (known as the river Solent at this stage) flowed further north than at present and so the contemporary northern coastline was situated 2-4kms from that of today (Loader *et al* 1997, 12). The current streams and creeks flowing into the sea in the study area would have also been extant during the Neolithic and evidence of human activity can be seen in the fishtraps constructed in the palaeochannels. The posts, set in a V-shape and used to support the now-missing conical traps, can be observed in the intertidal zone. These seem to have been simple fishtraps and there do not appear to have been any guiding 'arms' to channel the fish into the basket trap. Availability of wood appears not have been a problem as there was extensive forest cover over most of the north coast at this time (Loader *et al* 1997, 12). These structures as well as others that might have been jetties have been dated to the early Neolithic and the timbers used still have bark surviving and tool marks visible on the sharpened points (Loader 2007).

During the middle to late Neolithic period, oak woodland developed in the area, traces of which were found lying on the foreshore. Dendrochronological dating has produced 'a 770 year tree-ring sequence spanning 3463-2694 BC' (Loader 2007, Hillam 1994). Also the growth of the peat beds occurred during this time and the stress on the trees observed in the rings, indicated the gradual inundation of the woodland with the rising sea-level (Loader 2007). This change in the shoreline marked the use of trackways around *c*.3500 BC (now visible at extreme low tide) which were placed at the junction of peat with salt marsh (Loader *et al* 1997, 15). Five trackways were recorded with 3 at Quarr within 150 metre stretch and were constructed variously of longitudinal roundwood, split timbers and brushwood of oak, willow and hazel (Loader 2007). They were not in use for long before they were buried beneath the silt, judging by the good condition in which they were found (Loader *et al* 1997, 15). These were all dated to the

first half of the 4th millenium cal BC whereas two others nearer to Binstead were dated to some 500 years later (Loader 2007).

Evidence of the use of flint has been recorded not only during the survey but also in the past. The northern coast of the Isle was renowned during the early part of the last century for the flint tranchet axes and picks which were found on its foreshore (Loader 2007). Hubert Poole, a local antiquarian, noted that 'their distribution may point to the submergence of an old land surface on which men who made the implements had their hunting grounds' (Poole 1929, 657). During the survey an additional 98 tranchet axes and picks were recovered from the 3kms of foreshore between Binstead and the Creek (Loader 2007). The majority were flint (80) with a further 17 of chert and one unidentified, and while some were very crude, others were showed fine flaking (Loader *et al* 1997, 15).

Other lithic material was noted, in scatters, within the research area and particularly adjacent to the palaeochannels which crossed the beach with the Quarr appears to have being a favoured location as it is the site of the largest concentration of both worked and burnt flint (Loader 2007). A close examination of the site noted that the flints, first observed on a shingle bank, were in fact eroding out from below a peat layer slightly to the north (Loader 2007). So far this location has produced a large number of worked flints (4384 flakes, 65 microliths, 3 leaf-shaped arrowheads and 2 picks) (Loader *et al* 1997, 12, 14; Loader 2007).

Late Neolithic material, in the form of lithic material and pottery, has been recorded at on the summit of Puck House Hill, an inland site near to Wootton Creek (Loader *et al* 1997, 16). The Wootton-Quarr area continued to be used during the subsequent Bronze Age.

Further work around the island has shown that this prolific site is not unique. Unfortunately, the results of the rapid Coastal Audit of the entire Isle of Wight coast and estuaries remain unpublished (Isle of Wight County Archaeological Unit, 1999).

Bouldner Cliff

This Early Mesolithic site is situated at the base of a cliff once adjacent to the Solent river, now encompassed in the channel which runs passed the west end of the Isle of Wight (Momber 2000, 90, fig 2). It now lies underwater and in spite of 10000 years of erosion, still sits in a forest of oak with hazel , produced a range of flint flakes and tools, as well as charcoal and remains of a meal containing the bones of freshwater fish, as yet unidentified (British Archaeology 2002). Rodents have nibbled hazel nuts and these latter are still to be found on the hazel trees. The site has been dated to 8565-8345 cal BC and appears to be near to a river bank (Willard 2005).

IRELAND

Introduction

The topography of Ireland illustrates its history over the past 12000 years. The recurrent glaciation phases have left unevenly distributed drift sheets across the country that range from irregular deposits of boulder clay to water-sorted sands and gravels (Aalen 1997, 7-8). On the north and west of the central region (the Central Lowlands), this appears as 'a tightly packed mass of rounded hillocks, called drumlins, interspersed with a multitude of diminutive lakes and bog patches' which cut a broad swathe right

across the country from the Irish Sea to the Atlantic (Aalen 1997, 8). Drainage is generally poor with many streams and lakes, the latter undergoing encroachments by fen and bog. The waterlogging has facilitated the extensive peat bogs for which the country is renown.

During the Mesolithic and Neolithic, the sealevel was lower than at present with a coastline significantly different to that of today. During the last glaciation Ireland was joined to the rest of Britain but this land bridge gradually disappeared with the eustatic rise (Woodman 1986, 7). There is no evidence of human presence in Ireland until *c*.7000 BC, some time after this severance, although evidence does indicate that there was range of flora and at least two mammals (giant deer and reindeer) for some 5000 years prior to this date (Woodman 1986, 7-8; Aalen 1997, 9). Freshwater aquatic species are a recent introduction to Irish inland waters with only 2 glacial relict examples (charr, *Salvelinus alpinus* and pollan, *Coregonus albula*) found in some of the lakes (Van Wijngaarden-Bakker 1985, 73; AAI 1987). Anadromous fish, however, which seasonally moved inland from the coast up the rivers, would have been available and, as the waters warmed, lampreys (Anderson 1993, 17; AAI 1987). These latter also were found in post-glacial Scottish waters. Coastal sites would have been able to utilise the rich marine resources available offshore (Van Wijngaarden-Bakker 1989, 129). In fact the major shift between Early and Late Mesolithic 'was not so much a shift in economic base as an alteration of procurement strategies whereby much more emphasis was placed in the Later Mesolithic on making facilities such as traps, particularly in fishing' (Cooney & Grogan 1994, 16-17). Glendhu, Co. Down is one example where paired post holes over a 10m length have been interpreted as holding the uprights for drying racks (Cooney & Grogan 1994, 17).

The spread of Mesolithic sites in Ireland has shown an apparent predilection for the north-east of the island but this may only be part of the actual picture due to research bias and the masking effects of the peat layers (Stout & Stout 1997, 32-33). Most Mesolithic sites show an affinity to water, being situated in 'low-lying areas close to water, along the island's coastline, rivers and lakes' and with a subsistence based primarily on fishing, foraging and hunting wild pig and hare (Anderson 1993, 16; Cooney & Grogan 1994, 13; O'Sullivan 1998, 43). With a restricted number of mammals in Ireland in the post-glacial period, the locations with access to freshwater resources may have been particularly attractive (Cooney & Grogan 1994, 15).

An interesting observation in the distribution of Early and Late Mesolithic locations is the fact that the later sites are more low-lying than the earlier ones (Woodman 1986, 15). As Cooney and Grogan note this could be a change in locational choice or alternatively it could indicate that the earlier sites are buried beneath alluvium in the valley bottoms (Cooney & Grogan 1994, 16).

The Neolithic, too, has suffered from a blinkered view. Formerly, it was considered to have appeared in *c*.4000 BC with the arrival of the 'tomb builders' but evidence in the form of individual 'Linkardstown type' burials, for an early Neolithic presence is becoming more common (Stout & Stout 1997, 33). What is interesting about these individual burial sites is the fact that they are found, often in low-lying positions, for the most part adjacent to rivers and streams (Stout & Stout 1997, 33). The current spread of these early Neolithic sites is in a band across the south-eastern part of the country.

The most impressive monuments within Irish prehistory are the later Neolithic megalithic tombs which are scattered across the country in four types – court, passage,

portal and wedge (Cooney & Grogan 1994, 53ff). Those situated at Brugh na Bóinne are discussed below.

Cooney expresses the view that subsistence in the Neolithic may have continued in much the same way as in the earlier period. 'In wetland areas it is very likely that a gathering and fishing lifestyle continued to represent the most successful subsistence mode' (Cooney 2000, 43). While there is evidence of agricultural practices at this time in the form of macro-plant remains and pollen data, wild resources which includes plants such as berries and hazelnuts, fish, shellfish and birds were also still important both on coastal and inland sites (Cooney 2000, 73-74).

There are a large number of sites known from both the Mesolithic and the Neolithic period, of which only a small number will be mentioned below. Those discussed from the Mesolithic (Mount Sandel and Lough Boora) both had direct evidence of the use of the adjacent water for subsistence (rather than the remainder for which it was implied). The number of sites by rivers and lakes does, however, show a selection of site which implies a range of uses other than subsistence. The ease of transport and trade may have been factors as well as those more ritual in outlook. A site which spans the Mesolithic/Neolithic transition is that at Carrigdirty rock on the Shannon estuary (O'Sullivan 2000a, 156ff; 2001 69ff).

'The density of finds of stone axes in Ireland is currently three times that of Wales/mid-west England and four times that of Scotland' (Cooney & Mandal 1998, 28). The number in Ireland has now reached over 20,000 and they date from not only the Neolithic period but also the Mesolithic and Bronze Age (Cooney & Mandal 1998, 1, 28). It has established that flaked and ground stone axes can be dated from the Early Mesolithic in Ireland (Sheridan *et al* 1992, 400, 404). An important aspect of the Irish Stone Axe Project (ISAP) set up in 1990 has been the number of axes recovered from rivers bed contexts (44.5%) and bogs (11.8%) as well, to a lesser extent, from banks of rivers, lake shores, lakes and coastal settings (Cooney & Mandal 1998, 34-36; Sheridan *et al* 1992, 406).

The majority of the axes are found in former antiquarian collections, so the bias of location of these finds probably has been as result of the collectors' focus rather than a reality (Cooney & Mandal 1998, 30). Dredging and draining operations in major drainage programmes which have taken place over the past 160 years have produced 47% of the axes from various parts of the country, particularly the Bann, Shannon and Barrow rivers (Sheridan *et al* 1992, 392-393; Cooney & Mandal 1998, 32-33). While 90% of the total number of axes can be classed as 'accidental discoveries' (the remainder are from archaeological excavations), their mode of deposition can range from accidental loss to deliberate deposition (Cooney & Mandal 1998, 33). The comparison with the finds from the tidal Thames is evident (see **Ch 5**).

Mount Sandel, County Londonderry.

The site at Mount Sandel is located on a ridge of fluvio-glacial gravels lying parallel to the east bank of the river Bann, just south of the town of Coleraine (Woodman 1985, 1). The Bann flows north from Lough Neagh to the north-east coast of county Londonderry. The Cutts which currently mark the inland end of the estuary are situated a kilometre upstream from the site and are a complex of salmon weirs built in the 17th century (Van Wijngaarden-Bakker 1985, 74). They were originally a number of natural rapids and are likely to have been a waterfall at least 4m deeper during prehistory than

at present (Hamilton 1985, 105,). It is probable that during the Mesolithic, with the then lower sealevel, the Bann would have been freshwater at least within the area of Mount Sandel, while diatom evidence has shown saline conditions had begun to reach 1.5km downstream at Sandelford during the Boreal (Van Wijngaarden-Bakker 1985, 74).

Although there was an element of evidence from the Neolithic period onwards, the dominant feature at the site was that from the early Mesolithic. Mount Sandel is the earliest site discovered this far in Ireland (*c*.9000BP) and has been described as a 'base camp' (Woodman 1986, 8; Aalen 1997, 33). Findings included several circular hut sites, hearths, a number of pits and a substantial flint manufacturing assemblage which is dominated by microliths (Woodman 1986, 8; O'Sullivan 1998, 43). Mount Sandel, as well as other Mesolithic sites, appears to be located where the occupants have access to a range of resources on a year-round basis. 'It seems plausible to suggest that a sedentary pattern of settlement might have been at the core of Irish Mesolithic society' (Cooney & Grogan 1994, 21).

The faunal remains recovered during the excavation included 15% from mammals (98% were wild pig bones), 4% from birds and 81% from fish (Van Wijngaarden-Bakker 1985, 71). The avian remains have the largest range of species (12) compared with mammal (3) and fish (6) (Van Wijngaarden-Bakker 1989, 127). The birds, many of which are migrants, comprise both waterfowl (mallard, teal, red-throated, coot) as well as those from woodlands (capercaillie, red grouse, goshawk, wood-pigeon, snipe), indicating a range of hunting strategies (Van Wijngaarden-Bakker 1985, 72).

The fish bones dominate the assemblage with a total of 1784 from both the features on the site as well as the occupation soil (Van Wijngaarden-Bakker 1985, 71). Approximately 8% of the assemblage is from bass, 7% from eel and 1% from either plaice or trout. The majority (84%) are salmonids, with two main species represented – the salmon, *Salmo salar*, and trout, *S. trutta* (Van Wijngaarden-Bakker 1985, 73).

While the bass and flounder are sea fish found often in freshwater or estuarine conditions, the salmon and eel are migratory given to predictable behaviour. The trout sample contains both those which live in the upper reaches of rivers and lakes (the lake trout) and those which are anadromous (the sea trout) (Van Wijngaarden-Bakker 1985, 74). Eels migrate in September and October. Therefore, fish in one form or another would have been available for much of the year (for example at Mount Sandel, Stout & Stout 1997, 32, fig 4). Subsistence in the Mesolithic at Mount Sandel would have also included wild pig that would have been hunted and fruits and nuts such as hazel that would have been collected.

There is some indication of site usage during the Neolithic, primarily consisting of a number of potsherds retrieved from a series of pits on the northern edge of the site, suggesting 'that a Neolithic settlement may originally have lain to the north and east of the excavation' (Woodman 1985, 121).

Lough Borra, County Offary

Another early Mesolithic location was that at Lough Boora originally situated on a post-glacial lake connected to the Shannon by way of the river Boora and the Silver river (O'Sullivan 1998, 46). This site demonstrates 'a human presence in the Irish midlands by at least 7000 BC' (O'Sullivan 1998, 45). Later fen peat formation covered the occupation area and this in turn was inundated by the modern lake (Van Wijngaarden-

Bakker 1989, 126). Archaeological evidence consists of number of hearths and a stone working area which includes charcoal, charred food residues, stone tools, cores and flakes (Wijngaarden-Bakker 1989, 126; O'Sullivan 1998, 46). Dating has been provided by the charcoal (9300-7300 cal BC to 7610-7340 cal BC 8980±360 BP to 8475±75 BP) (Wijngaarden-Bakker 1989, 126; O'Sullivan 1998, 47). Chert and flint were knapped to produce a range of Mesolithic tools including microliths, blades, scrapers and several ground stone axes (O'Sullivan 1998, 47). Subsistence included red deer, wild pig, hares, birds and fish. The birds were primarily waterfowl or those from woodlands (Wijngaarden-Bakker 1989, 127). The fish comprised eel (which dominated) and brown trout (Wijngaarden-Bakker 1989, 127). Hazelnut shells are described as 'abundant' (O'Sullivan 1998, 47). Lough Boora seems to have been 'the wetland settlement site of a band of early Mesolithic hunter-gatherers' who utilised all the local resources available (O'Sullivan 1998, 48).

The Shannon estuary, Counties Clare, Limerick & Kerry

The river Shannon, at some 320km in length, is one of the longest rivers in Britain and Ireland and dominates the drainage system within the central lowlands region (O'Sullivan 2000b, 118). It undergoes changes as it moves somewhat sluggishly through the area, altering from braided channels in the drumlin zone to a series of lakes in the midlands often subject to extensive flooding before draining into the wide estuary below Lough Derg (Aalen 1997, 10-11; O'Sullivan 1998, 37-40). Palaeoenvironmental studies have suggested that during the early prehistoric period this was 'a freshwater wetland landscape mosaic of sedge fens and carr woodland, possibly dissected by tidal creeks' (O'Sullivan 2000a, 157). Submerged Neolithic forests have been recorded from a number of sites around the estuary indicating a drowned land surface (O'Sullivan 2001, 56ff). Peat formation at Meelicks rocks, Bunratty has been dated to the late Neolithic period (2883-2623 cal. BC, 4160±20 BP, GrN-21930). At the western end of this foreshore, a deposit of peat formed against a low ridge was dated to 5312-5077 cal. BC (6240±25 BP, GrN-21929) which suggests peat formation in this area in the later Mesolithic period (O'Sullivan 2001, 61). Lying on the surface of this peat was a schist stone axe that had been finely pecked and then ground. The dating of the axe is unclear as it could date to either the Mesolithic or Neolithic periods. Further upstream on the Shannon at Killaloe, Co. Clare, a thousand stone axes have been dredged from the river (O'Sullivan 2001, 61-63).

At Carrigdirty Rock co. Limerick, early prehistoric finds in a number of locations, have eroded out of a narrow band of blue-grey alluvial clays and palaeoenvironmental evidence indicated the presence of both freshwater reed-beds and woodland scrub (O'Sullivan 2000a, 157). Archaeological data includes a possible brushwood trackway structure and a plank of poplar which may be part of a dugout canoe (O'Sullivan 2000a, 157; 2001, 71-73). These are dated to the late Mesolithic while the remainder of the finds are attributed to the early Neolithic. A finely woven reed basket was also found embedded in the clay dating to 3695-3510 cal. BC (GrA-6520; Beta-102087) and a number of broken and whole hazelnuts. At Carrigdirty Rock 5, faunal remains include wild pig, swan and a jawbone from young cattle (O'Sullivan 2000a, 158). Also a structure was recorded, made from roundwood stakes in a curving arc, with fragments of charred wood and charcoal, and some worked wood were noted at this point in the clay (O'Sullivan 2001). Two fragments of human bone were found (a piece of a skull and one of a clavicle) and a Neolithic date was obtained from the skull fragment (3634-3370 cal BC 4710 ± 60 BP, Beta-102086). Near the skull fragment, a small stone axe or chisel was recovered. The early Neolithic finds were found in close proximity within a

30m stretch of the foreshore and are interpreted as being contemporary. O'Sullivan suggests that this might be a short stay site where– 'these people may well have been amongst the first Early Neolithic farmers in this immediate region, and they could have combined pastoral farming and crop cultivation with a seasonal 'forager-fisher lifestyle' in their flexible economy' (O'Sullivan 2000a, 160-162). They compare well with those in the Rhine-Meuse delta where there was a deliberate choice to exploit the coastal wetland resources (Louwe Kooijmans 1993; O'Sullivan 2001).

Brugh na Bóinne, County Meath

The largest of the megalithic monuments are found at Brugh na Bóinne ('the bend of the river Boyne') in one of the four passage tombs cemeteries in Ireland (Waddell 1998, 57). The remains of forty mounds are extant including the three most well-known of Dowth, Newgrange and Knowth and lie on the northern bank of the river (Eogan 1986, 13-14). The whole complex lies between 6km and 8km from the Irish Sea to the east in an elongated bend of the Boyne caused as it flows around a ridge of carboniferous shales (Eogan 1986, 11). To the north of this ridge, the Mattock River, a tributary, almost cuts off the bend on the Boyne with the Knowth tomb complex standing in the one gap (see Map 12). Newgrange is situated in the centre of the bend and overlooks the river at c.40m above sealevel with Knowth to the west and Dowth to the east at *c*.60m (Cooney 2000, 29). There has been a great deal written about these tombs (for example, Eogan 1986, O'Kelly 1982) which will not be repeated here. What is noteworthy is the fact that they played only a part in the use of the early prehistoric landscape within the bend on the Boyne.

Activity in the area can be traced back to the Late Mesolithic with the presence of butt-trimmed flakes and the like which had been subject to later disturbance and was recovered from an assemblage including Neolithic and Beaker material (Cooney 2000, 30). Cooney goes on to suggest that 'given what would have been a rich array of wild resources in the area, not least the salmon of the river Boyne itself, it would not be surprising if this area was a locus of human activity before the Neolithic' (Cooney 2000, 30). Early Neolithic evidence (that is the early part of the fourth millennium BC) indicates long term settlement initially in the Knowth area and the major monuments and henges were built in the middle and later Neolithic period and beyond (Eogan 1991, 108; Cooney & Grogan 1994, 44; Cooney 2000, 29-30). The heavy tree cover in the Neolithic would have meant that only the slightly higher ground may have been visible from any distance which suggests that by the time that the first of the large monuments was constructed clearance of the land may have taken place (Eogan 1991, 107). The earlier remains often extend under the later monuments, such as at Knowth (Eogan 1991, 108; Waddell 1998, 40). The first use of the site was, therefore, not as a ritual location but one utilised for its rich resources both on land and from the river (Eogan 1991, 107). This richness, which would have extended into the early farming period, would have been also one of the main attractions of the area given the requirements of those erecting the passage-tombs (Eogan 1986, 15).

EUROPE

Introduction

The European landmass comprises many different physiographic zones within its boundaries with the majority of features (plains and uplands) running in an east-west direction. Rivers run in a variety of directions. The Elbe and the Rhine, for example,

flow approximately south-east to north-west to drain into the North Sea. The Danube on the other hand snakes its way for 2832km across the centre of Europe in a west to south-east direction to reach the Black Sea. Many of the rivers flow across modern political boundaries and the division of the land through which they pass relate more to periods of warfare over the past thousand years or so than to any natural sectioning. It, therefore, seems more apposite to centre the following discussion within some of the physiographic zones rather than political boundaries.

Examples from three regions will be examined in this section: the North European Plain, the Central European Uplands and the Seine basin. The decision to exclude those areas that bordered the Mediterranean was taken for two main reasons. Firstly, was on practical grounds, as the amount of information available was already proving to be too large. Secondly, it was felt that the material from these countries was climatically one step removed from that in NW Europe.

Given the size of the area under consideration and the breadth of material available, decisions were made as to presentation of the data. Within each section, relevant background or location information will be outlined, followed by details of sites often in tabular form.

The North European Plain

The North European Plain is a continuous physiographical unit stretching eastwards from the lower Rhine as it enters the North Sea in the southern Netherlands to where it 'merges imperceptibly into the vast Plains of Russia' (Midgley 1992, 1). It is crossed by many rivers flowing north and north-west into the Baltic and North Seas. These rivers break up the landscape into smaller zones which demonstrate a range of differences in the form of peat, heathland, marshland, black and brown soils for example, all of which have been inhabited by early people. Preservation of features and artefacts, too, has varied across the region with the best organic material unsurprisingly, being recovered in the peat and marshlands areas.

The land to the west of the Elbe as it flows into the North Sea at Hamburg, lies beyond the glacial maximum and is 'the result of fluvioglacial processes and later Holocene marine transgression' (Midgley 1992, 3). In the area to the east of the Elbe, the main rivers follow for the most part the channels carved out by the glacial melt-waters, although they do not fill the 'ancient valleys' to anywhere near their capacity. Post-glacial action led to the formation of large-scale sand dunes across the Plain, which, during the warmer periods, were chosen sites for habitation particularly in the Mesolithic period (Midgley 1992, 2-3). Organic remains have not preserved well on the sand dunes and evidence is mostly gleaned from stone and flint tools such as at Mokracz (Niesiołowska-Śreniowska 1990, Sulgostowska 1998, 103, 108). The landscape of the northern forest zone in north-east Europe includes rivers, lakes and lagoons at the coast as well as large tracts of peat. The productivity of the various ecological zones is highest in the inland lakes and rivers, and in coastal waters and salmon bearing rivers (Zvelebil 1987, 99). Rivers and lakesides were other sites of choice for Mesolithic habitation (Midgley 1992, 17). Peat development is normally in two forms – under poorer and favourable conditions. In the latter case, the cultural layers are to be found in strata that contain evidence of reeds (*typha sp, phragmites*), alder and hazel all of which were utilised by early communities (Zvelebil 1987, 98).

Pollen analysis 'indicates the existence of well-developed water-edge vegetation and alder-dominated woodland at the time of human settlement' (Zvelebil 1987, 101). By examining evidence from wetland sites it has been possible to reconstruct the local subsistence patterns, from which three have emerged: the importance of plant gathering and refinement of processing; the 'great importance of fishing and fowling' along with associated technology; the importance of shore-line/water's edge environment for food procurement (Zvelebil 1987, 101). The immense combined resources available from land, river and lake along with migratory birds suggest that permanent settlement was possible in many locations in the Plain from the Mesolithic period onwards (Midgley 1992, 18).

Deposits of what have been interpreted as votive material in the form of pots and sherds from the early and late Neolithic periods have been retrieved from both dry and wetland locations across the Plain (for example, Midgley 1992, 52, 94, 120, 198). Places of choice include both naturally formed sites (such as bogs) and those humanly constructed (graves and pits). Other types of votive offerings include axes, which have been found in 'carefully arranged deposits' (Midgley 1992, 282). The value of an axe as a suitable offering may lie not just in it being a social item but also as a practical object – 'the prestigious value of an axe was in its potential as a work tool' (Midgley 1992, 282)

Tringham refers to the many barbed bone and antler points recovered in the eastern area from the northern Polish coast to the Finnish borders (Tringham 1971, 60). Some have been interpreted as harpoon heads that would have been attached by a line to a spear 'in order to retain contact with the victim' and others as parts of leister spears (Tringham 1971, 61). She suggests that they would have been difficult to use in a thickly wooded location, commenting that they would have been particularly efficient in dealing with aquatic fauna (beavers, seals and fish) (Tringham 1971, 61).

A number of sites within Poland and eastern Baltic zones, Denmark and N Germany will be discussed as well as those on the Rhine-Meuse delta.

Poland and eastern Baltic zones

Research underwater in the lakes and rivers in Poland has produced a range of structures and artefacts dating from the Neolithic period onwards. Those from the basins of the Vistula and the Odra have included settlements generally on sandy inlets or wide river valleys, bridges, wooden boats, pottery and metal artefacts, and cult figures (Bukowski 1980, 181, 184,187). In north-west Poland, survey has been undertaken in the region between the lower Vistula and Neman rivers, building on accidental finds previously noted. The study area is within the Mazurian Lakes region, which has a wide variety of wetland environments (Brzeziński 1992, 74). Attention is centred on four sites as listed in Table 18 in **Ch 5**.

Evidence suggests that in the Mesolithic fishing was a major occupation with fishbone exceeding 50% of all other bone assemblages in the later end of the period but during the Neolithic the proportion declines until it reached only 10% (Gumiński 1998, 105). In reverse ratio the number of animal bones increased in the same period to 90% (Gumiński 1998, 106).

These four sites represent a range of locations - large (Dudka) and small (Lajty) islands, the shore of large (Miluki) and small (Tlokowo) lakes – utilising both aquatic and terrestrial resources over a substantial period of time.

Other sites in Poland include Mokracz, referred to above as being sited on a sand dune and so no organic finds remaining and Całowanie on an old river bar of the Vistula. In her discussion of the 'chocolate' flint in the Mesolithic and final Palaeolithic throughout the areas between the rivers Odra and Neman, Sulgostowka's distribution plans seem to indicate the use of the water as transportation routes particularly in the Vistula basin (Sulgostowka 1990, 317, 320). A view also expressed by Kobusiewicz in his paper on the procurement of flint in the Polish plain (Kobusiewicz 1985, 442). This flint was also available in the early Neolithic. The Holy Cross Mountains (Góry Świętokrzyskie) is the nearest source of the chocolate flint and has shafts dated to the Mesolithic periods (Midgley 1992, 235).

This usage of water resources is mirrored further east on the fringes of the Plain, where a significant amount of bone and antler hunting and fishing equipment has been noted from sites near to water sources. Research published by Zagorska and Zagorskis in 1989 concentrates on the rich bone and antler assemblage at Zvenjnieki II which totals some 1000 organic artefacts but also notes the much larger spread of similar pieces throughout the countries of the eastern Baltic within what was at the time the Eastern Bloc (Zagorska & Zagorskis 1989). Flax cord has been retrieved from Sventoji in one of the dwellings which was probably used to make nets as well as other equipment for fishing and Zvelebil suggests that ' rather than producing cereal staples, cultivation was in this case employed to maintain and improve the hunting-fishing economy' (Zvelebil 1987, 104). The range of fishing gear recovered from the eastern wetlands includes nets with bark floaters and stone sinkers, fishing traps and weirs, bone harpoons with hooked tips and barbs, harpoons with detachable line and socket, fish hooks of carved bone and slate rods and creels. Dugout canoes, paddles and other watercraft have also been recovered (Zvelebil 1987, 105-106). Fish bone and scales are found in abundance with the addition, at coastal sites, of seal bones, which underlines the importance of these resources in the Mesolithic and Neolithic periods.

The presence of waterfowl bones on most forest Neolithic sites attests to another component of the diet. Zvelebil suggests that the numbers of bones on specific sites indicate there may have been 'specialized water-fowling stations' which would have utilized the migration routes taken by the birds annually (Zvelebil 1987, 106). Specialist tools for fowling can be seen with wooden projectiles that have blunted tips.

Hunter-gatherer settlements have been found in the wetlands at a range of sites, comprising remains of wooden rectangular-shaped houses, resting on timber beams and commonly with floor coverings of pine or birch bark. Some have stone-lined hearths; others have wooden logs sunk into the peat. Wooden platforms have also been recovered (Zvelebil 1987, 108). Janislawice, near Warsaw is the site of a Mesolithic burial in a grave pit that had been cut into alluvial sand. The skeleton, placed in a sitting position was accompanied by microlith blades, long blades and cores (Tringham 1971, 47).

A group of settlements with Mesolithic and Neolithic strata, discovered near Soroki in the middle Dniestr valley are situated on a narrow bank between the river and the slope of the lowest terrace. Apart from animal bone, there is much evidence for usage of

freshwater piscine and molluscan resources. The majority of the fish are from the carp family, particularly the roach (*rutilus frisii*) (Tringham 1971, 48).

In the early Neolithic, settlement sites were often located by or near rivers and wetlands. The campsite at Łącko, for example, was situated on a sandy elevation less than 500m from the edge of a lake to the west and from a boggy stream valley to the east (Midgley 1992, 307). Sarnowo, a slightly later site, comprises a settlement and a barrow cemetery, and is located on narrow sandy terrace 4-5m above the boggy valley of the Zgłowiączka river (Midgley 1992, 308). "The importance of the wet environment is evident not only in the spatial proximity to the site, but also in the use of riverine deposits in burial rituals at the cemetery' (Midgley 1985, 238). Short-lived occupation sites have been found, for example, along sandy terraces of the Kamienna River, as well as along the upper Bug and Dniestr in the Polish lowlands both of which drain southwards into the Black Sea (Midgley 1992, 309).

The wetlands have preserved many organic artefacts including household utensils (ladles, bowls, spoons etc) as well as effigies. Some of the finds include decoration, particularly in the form of zoomorphic sculpture (including, for example, elk-headed terminals, bears, snakes, fish, beaver and water-birds) as well as designs on bone and, occasionally, wood. Polished stone, amber and clay are other mediums used as surfaces for artwork. Human effigies have been found in clay, amber and bone but the two life-sized wooden idols found at sites near the Latvian coast are exceptional (Zvelebil 1987, 110).

Denmark

Fifty of the findspots that have good organic preservation have produced evidence of wooden fishing equipment, while only 29 sites have hunting gear (Mertens 1998, 43). While the majority of locations are coastal, some are inland (Mertens 1998, 51). Wood (including oak, willow and hazel) was the most widely used material for fishing equipment while stone was utilised for net sinkers. Bast fibres (often from willow) and birch and pine bark were also used. This heavy use of forest resources indicates woodland management during the Mesolithic period. Leister spears were made with prongs from bone and seem to be a characteristic of the Early Mesolithic period with a shift to all wood in the later period (Larsson 1990, 291-292).

Bog deposits in Denmark have included a wide range of artefacts (both organic and inorganic) and human remains dating from the Neolithic period through to the Iron Age. Findspots of pots can be divided into four categories – all connected with watercourses: fjords, wetland areas around watercourses, wetland areas around the sources of watercourses and small lakes/kettle-hole bogs (Koch 1998, 135). Some of the deposits appear to be associated with topographic features, although this is a somewhat subjective view. While it is true that most were deposited in open water (as can be seen by the surrounding deposit), the location of the finds are often spread in wide patterns which may or may not be seen as groups (for example Koch 1998, 136-138). While some deposits are connected with settlements and causewayed enclosures (see below), it appears that sites used for hunting and fishing which have been recorded on headlands and small islands are 'most closely connected with bog pots' (Koch 1998, 142-143). These locations are often ones associated with the Ertebølle culture and there is still discussion as to whether the depositing of pots could have begun in the Late Mesolithic (Koch 1998, 143, 149). Neolithic deposits can be found singly or in groups, as complete pots or smashed and while it is accepted that they must have contained food,

only one example has identifiable contents with 'burnt and unburnt bones of two pike, one tench, one duck, one beaver and remains of eggshells' Tilley 1996, 100). Koch interprets single findspots as being loss sites, perhaps from dishwashing – again, a subjective viewpoint (Koch 1998, 132).

While most deposits are found at some distance from the bank, some are associated with wooden platforms and stone pavements, possibly used to make access to the water easier. In Salpetermosen, North Zealand, a platform of branches and twigs was found adjacent to a small headland of a former lake and only 60m from a Late Ertebølle settlement on a floating island (Koch 1998, 143). Finds from near the platform included two funnel beakers, cow and lamb bones, a small slate axe and a heavy greenstone axe.

It is not the intention here to discuss the deposits of human remains which have been recorded in the various bogs that are found within Denmark and N Germany. They begin to appear in the early Neolithic and several have been found with dugout canoes suggesting that these may actually be burials rather than sacrifices (Koch 1998, 156). Some show 'clear traces of violent death' and include men, women and children found both singly and in groups (Tilley 1996, 97, 99).

Denmark also saw the appearance, in the earlier part of the Neolithic period, of causewayed enclosures (where large areas of ground are separated off by means of a number of interrupted ditches), similar to those in Britain. Those which have been identified are 'characteristically located on low promontories at valley bottoms surrounded on two or three sides by rivers, streams or bogs' (Tilley 1996, 280). While it is not part of this research to discuss the contents of the enclosures, their location so close to water seems pertinent, as does the fact that their construction forms a 'protected place' within the landscape (see **Ch 6**).

Tybrind Vig, Ertebølle and Ringkloster

Three locations are examined more closely in Table 19 (**Ch 5**) – Tybrind Vig (a small cove or small bay, *vig*) , Ertebølle (the type-site for the late Mesolithic culture), and Ringkloster (an inland, freshwater site).

Sites on the Storebælt

The Storebælt ('*Great Belt*') is a major channel which lies between the islands of Fyn and Zealand, and was the site of the main routeway for water draining from the Ancylus Lake to the Kattegat during period *c*.8400 BC (Pedersen *et al* 1997, 23). Archaeological investigations were undertaken in the years 1987-1990 in advance of the building of a bridge and tunnel spanning the Storebælt. A number of sites dating to both the early and late Mesolithic periods were recorded both on the seabed and on dryland. Finds include settlements, votive offerings, casual losses, evidence of fishing (weirs), graves and evidence of trade (Pedersen *et al* 1997). Some of the locations and finds will be discussed here. Waterlogging had preserved many prehistoric forests including for example, those at Halsskov fjord where dendrochronological dates have shown there were two major phases between 6000 and 5000 BC (Pedersen *et al* 1997, 41). Logboats were found at many locations, such as Horsekær with 3 made from limewood and one at Halsskov dated to *c*.4070 BC (Pedersen 1995, 76; Pedersen *et al* 1997, 42).

Lindholm 1 was a site where later sediments obscured the underlying late Mesolithic landscape which was revealed after extensive coring (Pedersen *et al* 1997, 88). Underwater excavation by means of a series of test pits produced a range of artefacts made from flint (which dominated), greenstone, pottery, bone wood and antler (Pedersen *et al* 1997, 89). A limewood logboat fragment was uncovered with evidence of a fireplace visible. Other organic finds include paddles, leister spears, a digging stick and the remains of what could have been a fish weir (Pedersen *et al* 1997, 89-90

Another site, that at Korsør Nor, is unique in that it had already produced burials in work undertaken in the 1940s (Pedersen *et al* 1997, 93ff). Only one grave was excavated properly and the contents from which are on display in the National Museum but the other remains of at least seven people, were kept as a 'jumbled collection of bones' (Pedersen *et al* 1997, 99).

Not all of the sites examined were underwater – some were found on the land at either end of the bridge and tunnel and one of these locations produced evidence of a settlement site (Pedersen *et al* 1997, 109ff). Halsskov Overdrev is an area of land reclaimed during the middle of the 19th century (Pedersen *et al* 1997, 109).). Fish traps found within the area date from a range of periods from the Mesolithic and into the Neolithic. The fish weir at Oleslyst is dated to 3220 BC and has been examined in detail (Pedersen *et al* 1997, 53, 124-136). Two examples have been recorded on Halsskov Island with the one on the southern side dated to the early Ertebølle period, *c*.5400 BC and the one on the east to the middle, *c*.4800 BC (Pedersen *et al* 1997, 136-138). The building of these fishtraps indicates the woodland management that would have been necessary to produce the correct size of wattle (Pedersen 1995, 83-84; Pedersen *et al* 1997, 124). A range of such structures have been found in many places around Denmark [figure 23 from Pedersen *et al* 1997, 142]. Eels would have been one of the many fish caught in these traps.

The Rhine/Meuse delta

There are a substantial number of sites overall in the Netherlands and so it was decided to produce the relevant data in a series of tables as seen above in **Ch 5**.

In the Neolithic period the dune sites continued to be important settlement and subsistence bases. The table above gives details of sites from the Neolithic period. With the exception of Hekelingen III and Kolhorn, the fish bone results were obtained from partly sieved samples, suggesting that possibly more species and greater numbers would have been recorded had the full sample been processed.

It was only in the late Neolithic period that fully settled farming communities could be found on the surrounding uplands of the delta. The waterlogged nature of the delta meant that even in the Neolithic period, agriculture was only partially practised although animal husbandry can be seen to varying degrees in the form of cattle, pig, and sheep/goat (Louwe Kooijmans 1993, 102-103). What is interesting here is the fact that the dunes provided evidence for both short term and long term occupancy. Winter camps such as the Early Neolithic site at Bergschenhoek and the Late Neolithic fresh tidal sites of Vlaardingen and Hekelingen III show the importance of fowling of migratory birds – bones from these can amount up to 10% of the wild animal assemblages (Louwe Kooijmans 1993, 81-82). This proportion might in fact be much higher if better retrieval policies were practical.

Species recorded at a range of sites are as follows:
Bergschenhoek - mallard, tufted duck and bittern, migratory birds include Bewick's swan, goosander, golden eye, widgeon, eider
Vlaardingen - both winter migrants (divers, geese, widgeon, duck) as well as those present in the delta during the summer months
Kolhorn - where samples were completely sieved, fowling (predominantly of duck and geese) can be seen to be 'a 'a very prominent activity' in addition to cattle herding
Swifterbant - mallard, crane, mute swan, white-tailed eagle and cormorants.
Wateringen 4 - mallard (which dominates), teal (summer migrant) , duck, widgeon with very small numbers of eider, goose, coot, grey heron and plover

Apart from widgeon which wintered in the Netherlands and teal (summer), all the other species would have been available all year round (Louwe Kooijmans 1987, 240, 250; Raemaekers *et al*, 1997, 161-162).

Central European Uplands

Bohemia, the Czech Republic

The survey work undertaken during ALRNB has produced a large quantity of pottery fragments that form over 95% of collected material, which compares with flint-rich collections in Britain (Kuna *et al* 1993, 116). The earliest pottery is that of the *Linearbandkeramik* (LBK) dated to *c*.4500-3900 bc or Middle Neolithic and other relevant periods as well represented (Kuna *et al* 1993, 113, 118). Unfortunately no distribution graphs have so far been published of the pottery or the small number of flints and axes that have also been recovered. Upper Palaeolithic finds (but not specified either by type or number) are noted as having been recovered near Prague (Kuna *et al* 1993, 113). The next phase of the project involves excavation, which may produce evidence of burials as well as stratified deposits.

Dreslerová's substantial article published in 1995 has produced the most comprehensive study of the archaeology of the middle Labe area to date and it is from this that much of the following information has been taken (Dreslerová 1995). At the end of the last glaciation, the river had a braided character within a floodplain covering up to two-thirds of the middle Labe study area between the rivers Jizera and Vltava (Dreslerová 2001). The valley gradually deepened as the Labe commenced meandering resulting in a lower floodplain during the Mesolithic period. During the eighth millennium BC, as the river began downcutting, 75% of the Mesolithic floodplain was destroyed, the remains of which currently lie some 6m above that of the Neolithic (Dreslerová 2001). The stretch of the river at Borek near Mělník has produced ten different locations of finds all found within former channels of the Labe dating from the prehistoric period onwards (Dreslerová 1995, 109). Dredging undertaken in a sand and gravel quarry yielded both middle and late LBK pottery (with one whole globular vessel), a single Neolithic stone axe and a large number of Michelsberg sherds (*c*.5100 BP) which probably were damaged by the action of dredging (Dreslerová 1995, 108, Beneš & Zvelebil 1999, 81). The same sandy-gravel layer yielded several oak trunks as yet undated by either radiocarbon or dendrochronology due to laboratory mismanagement. Nearby a retouched biface of Baltic flint was recovered dating to the late Neolithic in a deposit of topsoil 30-40cm thick (Dreslerová 1995, 110). On the opposite bank of the river a small siliceous schist quarry has produced 2 early-middle Neolithic battle-axes

(Dreslerová 1995, 108). Further south of these sites, a palaeochannel excavated in the 1980s was bridged by fishing weirs - 7 posts sunk vertically into the bed and fastened by wattle at 0.5m below water-level (Dreslerová 1995, 112). 5 axes and 2 battle-axes from the late Neolithic have been recovered from the same channel allegedly near the posts and 5 other axes were dredged out of sands adjacent to the channel (Dreslerová 1995, 112-113). Dunes at the northern most part of the area have yielded a battleaxe and a possible Mesolithic flint scraper.

Further upstream near Tišice, as discussed in **Ch 5**, a flooded sand and gravel quarry has yielded via dredging late Neolithic pottery fragments from coarse cauldron shaped vessels and from semi-globular bowl, pear-shaped vessels (*c*.5800-5600 BP), a lower part of a barrel-shaped vessel, 2 stone axes and an antler hoe (Dreslerová 1995, 116). These are all from near a palaeomeander of the Labe. Less than a 100m away from the recovery site is the edge of the so-called 'Riss' river terrace on which prehistoric settlement was concentrated throughout the prehistoric period (Dreslerová 1995, 117).

The third site is upstream near the confluence of the Labe and the Pšovka rivers and has produced a part of an Early-Middle Neolithic vessel found during the deepening of a well. This must be set in the context of other similar dated material form the area both on the 'Riss' terrace and also from the 'Wurm' terrace – a settlement on a low terraced spur). A battle-axe from the same period was dredged from the Labe during the course of modification. It is possible all this material relates to a larger settlement complex but this requires further investigation to determine the character of its activity during the Neolithic (Dreslerová 1995, 118; 2001).

Further north of the river Ohře in the Czech Republic, the Lomský-Potok project began in the 1970s in an area that was undergoing destruction by opencast lignite mining (Beneš 1991, 178). No Mesolithic evidence was uncovered but a series of sites of the early and middle Neolithic periods were found all in the 'immediate vicinity of the main watercourses' but not on tributaries or minor watercourses (Beneš 1991, 180). The sites are substantial in size, *c*.15 hectares, and have architecture in the form of post-holes, silos, pits etc (Beneš 1991, 180). Burial locations also follow the line of the rivers apart from a small number situated on a tongue of land between two main groups and visible from the rivers (Zvelebil & Beneš 1997, 34-35). Unfortunately the nature of the research did not include details of any artefacts uncovered or any organic or environmental evidence but the specific locating of each site on a watercourse is significant.

Other sites include a series of late Neolithic Corded Ware burials found at Dolní Počernice, Prague (35m above the Rotytka valley) and at Hrdovka in the north (on a slightly elevated plateau connected to the alluvium of the Loučenský creek) (Beneš 1995, 135). Sherds from the same period have been found 3-4m above the Vranský valley floor at Kamenný Újezd to the northwest of Prague (Beneš 1995, 137).

SW Germany

The three sites near Rottenburg (Rosi I, II, III) do have faunal remains and artefact assemblages and, although Jochim notes the presence of salmon and other piscine species in the river, there is no evidence of fish bone (Jochim 1998, 67-69). Jägerhaushöhle, in the Swabian Alb, has 6 Beuronien layers, separated by levels with lower densities of artefacts. The flint tools suggest that this may have been a 'single-focus hunting camp' (Jochim 1998, 72). Poor preservation hampered faunal

identification, with results showing that birds and fish comprised *c*.1% in the lower levels but as the samples were not sieved the total could be higher (Jochim 1998, 72). Shellfish were also gathered (river mussel) and hazelnuts.

Two sites add extra dimensions to the picture in the Early Mesolithic period. At Dietfurt Cave, fish vertebrae and teeth have been used in the production of ornaments along with fossil shells and a deer incisor (Jochim 1998, 74). Hohlenstein Stadel and Kleine Scheuer are a cave and adjacent rock shelter situated in the valley Lone, once a tributary of the Danube. At the entrance to the cave is a pit that contained three skulls (a male, a female and a child), partially covered in red ochre, dated to the Early Mesolithic c9875 bp (Jochim 1998, 77). Cutmarks on the two adult skulls and associated vertebrae suggested that the heads had been forcibly removed from the bodies (Jochim 1998, 77). They all faced southwest and the female was surrounded by ornamental fish teeth as at Dietfurt and Fohlenhaus.

Siedlung Forscher, a Bronze Age site, like Taubried situated in the southern part of the lake, has also produced finds contemporary with the Beuronien in the form of the bones of a pike (weighing 4-5 kilograms) along with a smaller fish (1.4 kilograms) and a smooth bone point, sharpened at one end and 6.7cm in length, which suggests line fishing using bait (Jochim 1998, 82). Other similar bone points have been found at Henauhof Northwest and Tannstock (Jochim 1998, 105). A 2 metre long smoothed and sharpened spear made of hazelwood has been found with the remains of two large fish, in a shallow bay behind a gravel bank (Jochim 1998, 82).

The Late Mesolithic is of a shorter duration than the Early period with fewer sites – lasting from *c*.7800 – 6500/6000 bp disappearing with the arrival of agricultural settlements within the area (Jochim 1998, 87). Among the finds associated with this period is the addition of antler working kit which produced amongst other things, barbed harpoons such as that found at Bernaufels Cave, near the Danube, as well as axes/adzes (Jochim 1998, 94). With little exception all the sites are located adjacent to water sources with valley floor/edge and lakeshore predominating (Jochim 1998, 89 Table 5).

In this later phase, Falkensteinhöhle has produced up to 16% fish bone, a single bird bone and some shellfish. It is, however, a site that is rich in organic artefacts with antler (harpoons, sleeves and worked), bone (worked and awls) and boar's tusk as well as a partially polished stone axe hafted in an antler sleeve retrieved from the upper layers of the Late Mesolithic material (Jochim 1998, 95). Perforated shells and teeth have also been recorded with the shell having been transported from the Mainz Basin (200 kms. to the north-west) and the Mediterranean (possibly via the Rhone over a distance of 600 kms.) (Jochim 1998, 95).

Other Late Mesolithic sites include:
Inzigkofen – large mammals, 12% fishbone, 7% bird (waterfowl and game), shellfish; 2 barbed antler harpoons, 1 bone point
Lautrech – (5480-5320 cal BC 6440 ± 45 bp), 830 bones comprising 85% fish (spring catches), bird 1%; 2 bone points, 1 bone pendant
(Jochim 1998, 96).

The Federsee in the Late Mesolithic appears to be sparsely populated. Evidence for fishing is indirect and found only on two sites – Henauhof Nord I and II. Both of them have been interpreted as short-term spring/summer fishing camps. At Henauhof Nord II

a roll of birch bark filled with clay and gravel has been interpreted as a net weight for fishing (Jochim 1998, 96, 98). Jochim excavated a series of sites at Henauhof in the 1980s using a combination of trenches and coring (Jochim 1998, 111-180). These were called Henauhof Nordwest (HNW), Henauhof West (HW) and Henauhof Nordwest 2 (HNW2). While HW produced no fish remains and only one bird bone in the Mesolithic, the other two sites have more. The earliest levels at HNW2 are dated to the Late Mesolithic (6500-5750 cal BC 7260 ± 180 BP Beta 46907). There are 156 bone fragments of which 20 were fish and 3 were bird (Jochim 1998, 180).

HNW on the other hand has several well-defined strata, some of which have evidence of fish and bird bone. Stratum 6 has been dated to the Late Palaeolithic and has 5 fish and 1 bird bone – the majority of the fish are pike (Jochim 1998, 117). Stratum 5 has recorded dates of the Early Mesolithic (10100-9300 cal BC to 9250-8450 cal BC 10080 ± 100 to 9500 ± 130 bp) with the archaeology sealed in peat suggesting that discard from a lakeside camp was the reason for the placement of the artefacts (Jochim 1998, 118). Eighty-eight out of a sample of 206 faunal remains could be identified including 27 fish (15 pike) and 10 birds (mute swan 1, tufted duck 1) (Jochim 1998, 121). The bone represents body parts rather than whole animals, indicating possibly a long-term residential camp instead of a kill site, according to Jochim (Jochim 1998, 122). Worked bone and antler were also found in Stratum 5 including 12 fragmentary bone points (Jochim 1998, 123). Stratum 4 has been radiocarbon dated to 7530-7080 cal BC to 7450-6450 cal BC (8290 ± 90 to 8000 ±185 bp) and represents 'an accumulation of materials over a considerable period of time' (Jochim 1998, 126). The faunal assemblage comprises 811 bones with only 117 able to be identified or 14% of the total. Fish (63) and waterfowl (47) amongst the identified material, are the most numerous with 22 pike and 2 wels (European catfish); 3 tufted duck, 4 coot, and 1 each of teal, goldeneye, gooseander, cormorant and jay (Jochim 1998, 131). There are 122 pieces of worked bone within this stratum of which 119 could be classified as 'points' although the variation in size and shape. All but two are made from deer metapodial shaft with polished surfaces. Wear marks include striations from the action of stone tools. The other two are from antler and have more porous surfaces (Jochim 1998, 133).

The Late Mesolithic period is to be found in Stratum 3 (radiocarbon dated to 5470-5030 cal BC 6720 ± 70 bp) with a faunal assemblage of 972 bones. Twenty-eight percent of the total (272) could be identified, reflecting the better preservation in this stratum (Jochim 1998, 140). Fish bone account for 133 of the assemblage with pike (23), wels (14) and bream (1) and 55 bird bone include 3 coot, 3 pochard and 1 each for teal and grey heron (Jochim 1998, 141). The fish were relatively important for subsistence 'given the large size of some of the fish' (Jochim 1998, 148). Antler remains include several worked pieces including ones which appeared to have been used in hide processing, some have been used as axes/adzes and others as handles (Jochim 1998, 144). As in stratum 4, there are a large number of bone points – a total of 50 fragments have been found. With the relative abundance of fish remains, it seems likely that they were used for fishing in the lake (Jochim 1998, 144-145). Jochim interprets the evidence as discard into the lakeside similar to stratum 5.

The deliberate choice in middle Germany of riverine locations can be seen in the early Neolithic period. TRB pottery has been recovered from large burial mounds between the Elbe and Saale rivers, following for the most part the many tributaries of each as well as the Ohre, Bode and Unstrut Rivers (Midgley 1992, 184).

In his discussion on the changes through time at HNW, Jochim notes that with remains of both fish and bird, by placing (as he does) an emphasis on the weight of the recovered bone, the amount and size of actual species and their importance to diet may be underestimated (Jochim 1998, 166, 168). There is no denying the volume of large mammal material in each of the strata and hence their importance in the food chain. Assessing the importance of certain foodstuffs by weight is a method comparable to sherd counts in ceramics. When discussing the subsistence value differences between a fish and a deer using bone weight as a key element gives an obvious bias to the larger animal. The deliberate choosing of lakeside or riverside venues, however, cannot be ignored along with the availability of piscine and avian resources. Plant remains, too, are currently missing from the archaeological record, although two grindstones found in Stratum 3 suggests links with farming communities (Jochim 1998, 166).

The Iron Gates Gorge on the Danube

The current and highly productive archaeological work here was precipitated by the building of two dams across parts of the gorge (in 1960 and 1970 respectively) to form accumulative lakes upstream and the large numbers of sites discovered during this rescue work has meant a continued interest in the area (Radovanović 1996, 3-8). One reason for this is that it is possibly the only area in southeast Europe where the Mesolithic-Neolithic transition can be studied in detail (Bonsall *et al* 2000, 119). Ivana Radovanović (1996) undertook a study of the Iron Gates Mesolithic for her doctoral research in the early 1990s and others have continued examining a range of aspects from the region (eg Bonsall *et al* 1997, 2000, Borić 1999, Roksandić 2000). There is, however, no full publication of any of the sites or a detailed overview of the whole Gorge. Srejović's 1972 volume on Lepenski Vir lacks both detailed botanical and faunal work, and section drawings, for example, and, in fact, today it would be described as a 'popular' publication. Since then a range of analyses has been published piecemeal but until a detailed site report is produced it is difficult to interpret the evidence with a high degree of certainty (Borić 1999, 48-49).

The houses were not the constructions of a mobile community (see section below). Radovanović's attitude to the anadromous fishing (as discussed in **Ch 5**) needs to be set against the differing levels of preservation and extraction of fishbone, as well as the modern perceived view of the value of fish amongst the hunter-gatherer groups and that by her own admission the evidence Radovanović uses is in no sense complete with often lack of information or published material (Radovanović 1996, 45-46).

The gorge is formed where the Danube cuts through the junction of the Carpathian and Balkan mountains and archaeologically consists of a number of open-air sites on both banks of the river (Bonsall *et al* 1997, 51). Many are positioned on terraces comprising mainly fluvial sediments at a similar height above the original river level, with those on the Serbian bank remnants when compared with that at Schela Cladovei (Bonsall *et al* 1997, 51). While it has been accepted that evidence of Upper Palaeolithic, Mesolithic and Neolithic occupation levels have been uncovered during the rescue operations, interpretation of this evidence has often been coloured by the personal stances of the excavators involved (Borić 1999, 44). Polarisation of viewpoints of what is described as 'the classic version of the phenomenon specific to the sites on the Danube Gorges' has led to thinking in terms of mainly Mesolithic *or* Neolithic. The speed of excavation with the threat of rising water levels and the fact that important information (such as section drawings) has not so far been published combined with a minimal number of radiocarbon dates has hampered interpretation of some of the key sites within the Gorge

(Bonsall *et al* 1997, 53-55; Borić 1999, 47, 51). At Lepenski Vir, for example, photographs taken during the original excavation are being used in lieu of section drawings – an unsatisfactory state of affairs, which has provided the opportunity for misinterpretation of the Early Neolithic strata (Borić 1999, 51, 52). Recent work utilising the known radiocarbon dates (by Borić (1999) and Roksandić (2000), for example) has begun to cast more light on the evidence.

The relationship of the people to the river can be seen with the sites which were selected for the establishment of long-term settlements. The most well known of which is that at Lepenski Vir, whose relationship to the river can be demonstrated with the current name given to the settlement. '*Vir*' in Serbo-Croat means eddy or whirlpool and Lepenski Vir is the name of the large whirlpool in the middle of the Danube as well as the adjacent shelf which lies between the right bank of the river and the nearby steep cliffs of the Koršo hills (Srejović 1972, 11).

Cave sites found in the limestone mountains of Romania above the gorge have produced evidence from the Mesolithic period of hunting both forest and woodland animals as well as riverine mammals (beavers) and fish bones (Tringham 1971, 53-54). Faunal remains from the Iron Gates sites cover a wide range of animals, birds and fish. Radovanović in her study of the Mesolithic lists the species found within the various excavated sites (Radovanović 1996, 46-51). The anadromous Danube sturgeon or beluga which moves up into the Danube from the Black Sea to spawn in the early summer, is caught not only for the meat it provides but also for its roe (or caviar) and its bladder for glue (Radovanović 1996, 50). Another member of the *Acipenser* family, the sterlet, is similarly caught for these three resources and while it lives in the Danube, moves upstream to spawn. In total, ten species of fish have been identified along with other fresh water-based food resources such as the European pond terrapin, otter, beaver and mussel and snails. Migratory and non-migratory water bird faunal remains are also in evidence with species including swan, goose, mallard, teal, duck, red- and black-throated divers, egret and pelican. Avian varieties that prefer wooded riverbank (white tailed eagle, goosander, cormorant, black kite) have also been recovered (Radovanović 1996, 49). The piscine resources prefer a range of habitats varying from slow waters and whirlpools, clear and muddy waters, deep and shallow depths, indicating that all parts of the river provided elements of the diet during the Mesolithic.

Part of the problem concerning the investigation in the Iron Gates Gorge is the difference in excavation techniques, publication records, preservation bias and methods of extraction between the various sites and countries involved. Schela Cladovei, for example, was the first site in the Iron Gates to produce evidence via wet sieving for fishing in the prehistoric period when excavation was undertaken in two small trenches during 1992-1994 (Bartosiewicz *et al* 1995, 4). Until this point collection was undertaken by hand, resulting in the possibility that smaller fishbones were missed. Evidence that is available suggests that the beluga was caught in the earliest Mesolithic periods, only at Padina, a site slightly further upstream from Lepenski Vir, although Radovanović and Voytek intimate that this might not be the reality of the case (Radovanović 1996, 56; Radovanović & Voytek 1997, 23). Radovanović and later Roksandić suggest that such data as is available indicates that fishing in the earliest periods 'was not systematic' (Radovanović 1996, 56; Roksandić 2000, 18). It is certainly noticeable that the number of fish species represented by the faunal remains dropped from ten in the Mesolithic to four in the Neolithic (Radovanović 1996, 56). It must be noted, however, that 'the quality as well as quantity of any of these four species

is much larger and fish remains comprise as much as 60% of osteological remains for Vlasac and Lepenski Vir I and over 87% at Padina' (Roksandić 2000, 18).

This is not say that fish were the only resource. A wide range of terrestrial animals form a major part of the diet including red and roe deer, aurochs, chamois, bison, elk, wild ass, pig and horse, (Radovanović 1996, 51-52). Differences in data apart, it seems that red deer were the primary object of hunting on the right bank and wild pig the most common on the left (Radovanović 1996, 52-53). In the Neolithic red deer remains the most common wild animal hunted albeit in lower proportions (Radovanović 1996, 53).

At Lepenski Vir, the river is shallow near the banks but drops down into deep gullies *c*.30m in depth at a distance of approximately 10m out into the Danube (Srejović 1972, 130). This creates very good conditions for fishing, as the sudden currents will drive the fish in a predictable way into the shallows where they can be caught (Srejović 1972, 130). At Lepenski Vir, direct evidence for fishing equipment is restricted to bone fishhooks (Srejović 1972, plate XII). Sandstone 'weights' with deep grooves, which could have been utilised with fishing nets, have also been retrieved (Srejović 1972, 133). These all come from the Neolithic layers. There are however clubs made from sandstone or schist that were recovered from the earlier strata onwards and ranged in size from 25 to 50 cm in length. Many are engraved with a variety of patterns including lines in waves (Srejović 1972, 132). Given the size of the aquatic resources in the river (beluga can weigh 200+ kilograms and catfish can reach more than 3 metres) it is probable that they were used as some sort of 'priest' used to dispatch fish after catching, although a similar use in hunting cannot be ruled out. It has been suggested that the long hearths found within the houses may have been specially constructed for the drying and smoking of fish (Tringham1971, 55). These are placed near the front of the houses at right angle to the entrance. Further evidence is discussed in **Ch 5** in the section on sculptures.

At Vlasac, two types of harpoon from antler have been recovered from the Mesolithic strata (with a single row of barbs and with a double row) (Radovanović 1996, 267, 269). Vlasac has the largest number of Mesolithic flat bone artefacts and antler tools (Radovanović 1996, 257, 267). Red deer and aurochs are the main sources of the basic material (Radovanović 1996, 253).

In addition to the sculptures and altars discussed in **Ch 5**, some ornamented objects have been found at a number of sites including Vlasac, Lepenski Vir, Padina and Schela Cladovie (Radovanović 1996, 283). The artefacts are made from bone, antler and stone with decoration including incisions, fish-net, hatched motifs and what has been described as zigzag lines (Radovanović 1996, 284). The latter could also be interpreted as water movement, waves or river paths.

The Seine basin, France

Noyen-sur-Seine

Other canoes discovered by sub-aqua survey at Nandy, further downstream on the Seine towards Paris, are of a similar date to the one at Noyen (*c*.7000 BC) and 'étaient certainement destinées à la pêche dans les bras peu profonds de la Seine préhistorique' (Bonnin 2000, 145).

River (beaver and otter) and terrestrial animals were also hunted. The latter include wolf, fox, aurochs and roe deer from the woodland edge and red deer, pig and wildcat from the thicker forest (Coles & Coles 1995, 17). The hides and pelts of some of these were probably of equal importance to their meat (Coles & Coles 1995, 17). While antler was used for tools on the site, the age of those from red deer utilised at Noyen were different from those that were hunted, suggesting that the Mesolithic people either collected shed antlers or brought artefacts from other sites to be used in leatherworking or as adzes (Mordant & Mordant 1992, 61). Pieces of the long bones of red deer and aurochs with two pieces show decoration (Mordant & Mordant 1992, 61).

The flint tools, made from riverbank nodules or those from the nearby chalk, comprised only 10% tools and no microliths, which makes the assemblages difficult to compare with those found on the 'dry' sandy sites in the Paris basin (Coles & Coles 1995, 17; Mordant & Mordant 1992, 61).

Human bone from at least four individuals was recovered – 4 incomplete skulls, one mandible and several long bones (femur, ulna, radius, humerus) – which is rare from sites of this period in Northern France (Mordant & Mordant 1992, 61). What is interesting is that the mandible, elbow and hip exhibit many cut marks and a femur head has burnt spots (Mordant & Mordant 1992, 63). Whittle suggests that the various bones may have been carried about by their living descendants (Whittle, 1996, 36). It is possible that the cutmarks on them are the result of a process of defleshing the bones after they had been exposed.

A tributary, the Yerres joins the Seine south-east of Paris at Villeneuve-Saint-Georges and is a valley that many megalithic monuments that have 'contact direct avec la rivière' (Bonnin 2000, 147). The sub-aqua survey undertaken along this part of the Seine has found several menhirs immersed in the Yerres adjacent to the bank side structures (Bonnin 2000, 147-149).