

THE ISLE OF WIGHT: A REVIEW OF THE LOWER AND MIDDLE PALAEOLITHIC RESOURCE

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1. INTRODUCTION

This review concentrates upon Lower and Middle Palaeolithic remains on the Isle of Wight, covering the period from its earliest occupation more than 500,000 BP (years Before Present) to the appearance of anatomically modern humans and the start of the Upper Palaeolithic *c.* 40,000 BP. It is deliberately not concerned with describing or interpreting typological or technological details. Rather, the focus is on the distribution and geological context of finds. It is study of the Pleistocene geological deposits that, sometimes, contain Palaeolithic artefacts that allows us to reconstruct the history of climatic change and landscape development through the Pleistocene. The context of finds thus provides the key to dating them, allowing sites to be placed in chronological order and construction of a model of occupation through the Lower and Middle Palaeolithic. Besides highlighting deposits and locations that have already produced material, and so are likely to contain further material, this review both summarises our current understanding of the Island's Lower and Middle Palaeolithic and identifies priority themes and projects for future research.

The main dating framework is provided by the sequence of marine isotope stages (MIS), developed from the changing proportions of O¹⁸:O¹⁶ in deep sea and ice cores. These reflect climatic change through the Pleistocene, between *c.* 1,800,000 and 10,000 BP, and have been well dated through both radiometric techniques and from calculation of the past orbital variations which were the primary driving force of climatic change (Shackleton & Opdyke 1973 & 1976; Imbrie *et al.* 1984; Petit *et al.* 1999).

The review is based mostly upon information in the Isle of Wight Sites and Monuments Record. This has 49 Lower or Middle Palaeolithic sites, of which 42 are listed by the Southern Rivers Palaeolithic Project (Wessex Archaeology 1993). The remainder represent subsequent discoveries or previously unlisted sites. Information has also been obtained from unpublished "grey" reports held by the County Archaeological Service.

A problem that needs to be confronted at the outset is the difficulty in trying to separate "Lower" from "Middle" Palaeolithic. This distinction has conventionally (eg. Roe 1981) been based on the appearance of Levallois knapping technology

and/or the manufacture of *bout coupé* handaxes. However (a) it seems that Levalloisian technology in Britain is broadly contemporary with later handaxe industries in the Wolstonian complex between *c.* 300,000 and 200,000 BP, and (b) it remains uncertain whether Levalloisian practitioners and handaxe makers were separate groups or, as on the neighbouring continent, both knapping approaches were variably applied as part of a single cultural repertoire. These factors make the presence or absence of perhaps a single Levallois flake or core a poor basis for distinguishing different cultural/chronological periods. In contrast, it seems that *bout coupé* handaxes are associated with occupation at *c.* 60,000 BP in the middle of the subsequent (Devensian) glaciation (White & Jacobi 2001), so, whether or not labelled "Middle Palaeolithic" they genuinely represent a distinct chronological and cultural phase of occupation.

Therefore it has not been attempted to distinguish Lower from Middle Palaeolithic. Occurrences of Levallois material on its own, or alongside handaxe and early flake/core industries, have been grouped under the umbrella of "Lower/Middle Palaeolithic". *Bout coupé* material has been attributed to a later period, which could be regarded as "true" Middle Palaeolithic, but has been renamed "British Mousterian" to avoid confusion.

Given these difficulties in recognising and dividing periods on the basis of (often poorly dated) artefactual material, a broad tri-partite chronological division has been adopted (Table 1), based on major Pleistocene climatic events that are (a) easily recognisable in the geological record and (b) correspond with well-established phases of hominin occupation in Britain.

<i>Period</i>	<i>Date</i>	<i>Marine Isotope Stage</i>	<i>Cultural stage</i>
pre-Anglian	pre 475,000 BP	before MIS 12	early Lower/Middle Palaeolithic (no Levalloisian)
Hoxnian /Wolstonian complex	425,000 to 125,000 BP	MIS 11 to MIS 5e	later Lower/Middle Palaeolithic (includes Levalloisian)
Devensian	115,000 to 50,000 BP	MIS 5d to MIS 3	British Mousterian

Table 1. Chronological periods and cultural correlation

2. LANDSCAPE AND TOPOGRAPHY

The Isle of Wight is divided from the mainland by narrow, but strongly tidal, saltwater straits. It is unclear exactly when in its history the Island became separated from the mainland, but it was probably connected for the majority of the Lower and Middle Palaeolithic, with the extinct Solent River flowing past what is

now its northern coast, entering the Channel between Portsmouth and Ryde (Fox 1862; Velegrakis *et al.* 1999; Bridgland 2001; Dix 2001).

For a relatively small county, the Isle of Wight has a remarkably varied physiography. The central feature of the Island is a prominent east-west Chalk ridge, formed by an almost vertically dipping stratum of Upper Chalk. To the north of this lies an undulating plain of younger Tertiary deposits, mostly Oligocene sands, clays and shales (Hamstead Beds), dissected by small rivers and streams draining north into the Solent.

To the south of the central ridge lies a truncated anticlinal basin, missing the Chalk capping, with the ground surface therefore mostly consisting of Lower Greensand. The land rises again at the southern tip of the Island, where the deposits represent the southern side of the anticlinal basin, with the high ground consisting of Chalk, and Gault clay outcropping at the base of the extreme southern tip formed by St Catherine's Point.

The Medina, the Island's largest river, drains northward into the Solent from within the southern anticlinal basin, cutting through the central Chalk ridge at Newport. Otherwise, the southern basin is mostly drained by the Eastern Yar, and its various tributary streams, which enters the eastern Solent just north of Bembridge. There are also a few minor streams which drain directly southwest into the Channel along the southwest coast of the Island.

3. PLEISTOCENE BACKGROUND AND PALAEOGEOGRAPHY

3.1 Pleistocene deposits

Despite its relatively small size, but in keeping with its physiographic diversity and the fact that the Island has never been over-ridden by glaciation, the Island contains a wide range of Pleistocene sediments (White 1921; British Geological Survey 1976). This review is based upon the mapping and attributions of the British Geological Survey, although, as will become apparent below, these are overdue revision in several cases.

Angular flint gravel: The higher parts of the central Chalk ridge and the southern hills of the Island are capped with outcrops of this deposit. Although interpreted by the BGS as a Pliocene or Early Pleistocene fluvial deposit, these are more likely residual deposits broadly analogous to the Clay-with-flints that caps Chalk downland in other parts of southern England. The deposit is thought to have been formed by weathering of the exposed Chalk over many millions of years of exposure, with washing away of finer particles, leaving flint nodules and gravel to become increasingly concentrated in a layer.

Plateau gravel: The Pleistocene gravel outcrops that occur across the Island have generally been divided into two broad groups, Plateau (or High Level) gravel and Terrace gravel (cf below) based primarily on their height above sea-level and their association (or otherwise) with current drainage patterns. Plateau gravel generally occurs at higher levels, usually above 50 m OD, and has less clear-cut, and often minimal, association with modern drainage patterns. North-south trending strips and outcrops of Plateau gravel are common in the Lower Greensand plain to the southeast of Newport, and some of these strips cut unconformably across the central Chalk ridge. Substantial spreads also occur in the northern part of the Island at Cowes, both east and west of the lower reaches of the Medina; and there are various minor outcrops in Parkhurst Forest, at Hamstead and at the extreme western tip of the Island at Hatherwood Point.

Much Plateau gravel is almost certainly fluvial in origin. Patches at high levels (above 100 m OD), and which show little relation to modern drainage patterns, are probably remnants of Pliocene or Early Pleistocene rivers. Some parts however, for instance the strip at c. 80 m OD that runs northward from Bleak Down towards Blackwater, which probably represents an early course of the Medina, are probably of Middle Pleistocene age; and in fact Bleak Down is one of the more important and most prolific handaxe findspots on the Island. The substantial strip between 25 and 50 m OD that extends across the north of the Island from Cowes to Ryde may be of fluvial or marine origin. This strip is contiguous with the marine raised beach deposits mapped further to the southeast between Ryde and Bembridge, and the interpretation of these deposits is discussed below. Other mapped Plateau gravels may be relict residual landsurfaces capping outcrops of high ground, and exposed for substantial periods of geological time.

Little work has (a) attempted to unpick the varied formational histories of the numerous gravel outcrops subsumed under the umbrella of "Plateau gravel", and (b) re-attribute them to different stages of the Pliocene and Pleistocene. This would be a useful exercise (cf. Section 6).

Terrace gravel: This consists of spreads of sand and gravel at lower levels than the Plateau gravel, often flanking current river valleys. The main areas mapped are: the Western Yar (including the deposits outcropping in the Chalk slopes above Freshwater Bay) and the Eastern Yar (including a wide patch at Hale Common). There are also small patches both sides of the Medina at Newport. Recent fieldwork has also identified at least two higher terraces at Newport, outcropping above the mapped eastern terrace at Great Pan Farm (Oxford Archaeology 2005). These Terrace gravels are without doubt associated with later Middle and Late Pleistocene rivers, probably laid down as braided channels associated with the onset and/or end of colder climatic stages.

Raised beach gravel: A substantial spread of gravel fringing the northeast coastline of the Island between Ryde and Bembridge has been mapped as marine

beach gravel. At its southeast end, where the patch of gravel that underlies Bembridge outcrops at Foreland, it can be clearly seen in the cliff section that this particular patch of gravel is indeed mostly a raised beach deposit representing the high sea-level stand of the Last (Ipswichian) Interglacial, MIS 5e c. 125,000 BP (Preece *et al.* 1990), although overlain by substantial thicknesses of reworked sand/gravel associated with solifluction during the subsequent Devensian glaciation, MIS 5d to 2 (Wenban-Smith *et al.* 2005).

However it is questionable whether the deposits mapped further to the northwest, between Bembridge Harbour and Quarr Abbey, are also of marine origin. Priory Bay is the only location where these deposits have been investigated. Preece *et al.* (1990) interpreted the main gravel beds seen in a 1986 section (Loader 2001) as of fluvial origin, but Bridgland (1999) favours a marine beach origin based on the clast angularity profile. Exposure in 2001 of longer sections than previously seen (Wenban-Smith 2003) suggested that the gravel here is mostly of fluvial origin, although containing (besides abundant Palaeolithic artefacts) reworked beach pebbles, and overlain by colluvial and solifluction deposits.

It is likely that the contiguous Plateau and marine gravels mapped between Cowes and Bembridge Harbour share a similar formational history. This may include a combination of fluvial and marine shore-line deposits, associated with the tidal lower reaches of the now-defunct Solent River, which would, for much of the Pleistocene, have flowed along what is now the Eastern Solent to enter the Channel between Bembridge and Portsmouth. Although an extensive suite of terraces is recorded for the northern bank of the former Solent River (Allen & Gibbard 1993; Bridgland 2001), it is not yet known whether, or which of, the gravel deposits on the north and northeastern part of the Isle of Wight are related to the Solent River system, and if so whether individual terraces are present and mappable (Bates *et al.* 2004).

Estuarine/intertidal deposits: The raised beach section at Bembridge is associated with two bodies of fine-grained (sand/silt/clay) estuarine/intertidal deposits. Firstly, at c. 40 m OD slightly beyond the western end of the marine gravel in the vicinity of Bembridge School, there is an organic-rich clay deposit (the Steyne Wood Clay) thought to be broadly contemporary with the pre-Anglian Goodwood–Slindon raised beach (Preece *et al.* 1990). Secondly, at the eastern end of the Bembridge raised beach, there is an outcrop of organic-rich clayey silt that represents an estuarine salt marsh contemporary with the MIS 5e raised beach.

Valley brickearth: A few areas of sandy clay-silt on the Island have been mapped as Valley brickearth. The main outcrops occur (a) associated with the upper Western Yar terrace gravels above the coastline between Compton Bay and Brighstone Bay, and (b) associated with the patch of terrace gravel on the western bank of the Medina at Newport. There are also small patches overlying the southwestern end of the Bembridge raised beach and outcropping intermittently

amongst the strip of gravel along the northeast coast of the Island between Ryde and Bembridge Harbour.

These deposits are probably mostly of colluvial origin, representing reworking and downslope movement of fine-grained sediments to infill depressions in the landscape topography and overflow braided terrace gravel floodplains. In many cases, for instance for those deposits associated with the upper Western Yar from which Poole (1939) recovered Late Prehistoric remains, the deposits are probably Holocene; although other deposits may be of Pleistocene age. In places, particularly where directly overlying fluvial terrace gravels, the Valley brickearth may also include *in situ* alluvial floodplain deposits.

Plateau brickearth: There is just one area on the Island mapped as Plateau brickearth. This is a patch several hectares in extent overlying a north–south oriented strip of Plateau gravel in the centre of the Island near Downend, c. 3 km east of Newport. The underlying Plateau gravel is probably of fluvial origin, and the overlying Plateau brickearth may be alluvial, colluvial or a combination of both.

3.2 Pleistocene landscape history

The Pleistocene history of the Island is fundamentally one of steady sub-aerial erosion of the Solid surface alongside substantial, and on occasion dramatic, changes and encroachment of the coastline caused by marine erosion. The pattern of river drainage would have altered in conjunction with the changing topography, and a dramatic alteration to drainage trends must have accompanied the creation of the Isle of Wight as an island by breaching of the Purbeck–Wight ridge.

The earliest Pleistocene deposits in the Island are probably the higher Plateau gravels, many of which were probably laid down by Pliocene and Early Pleistocene river courses. The lower and younger Plateau gravels, such as the strip extending northward towards Newport from Bleak Down, probably represent Middle Pleistocene fluvial deposition, although it is not known which of these date to before, during or after the Anglian glaciation. The Steyne Wood Clay at Bembridge is contemporary with the Goodwood–Slindon raised beach in Sussex, dated to c. 500,000 BP just before the Anglian glaciation, and associated with prolific evidence of early hominin activity at Boxgrove (Roberts & Parfitt 1999).

The strip of gravels (mapped as both Plateau and Marine) along the northeast coastline between Cowes and Bembridge may include Middle Pleistocene fluvial and/or marine beach deposits, contemporary with Boxgrove, although none has yet been recognised. The outcrop of these gravel deposits at Priory Bay has been dated by optically stimulated luminescence (OSL) to the post-Anglian Hoxnian/Wolstonian complex (Wenban-Smith *et al.* in prep. a), and the majority of these Plateau/Marine gravels, whether of marine or fluvial origin, probably also

dates to this period. Most of the Terrace gravels associated with the Eastern Yar and the Western Yar probably also date to this period, although some of the lowest terrace deposits might date to the Devensian.

The substantial body of solifluction gravels that overlies the Bembridge raised beach on the eastern tip of the Island has been dated by OSL to the Last (Devensian) Glaciation (Wenban-Smith *et al.* 2005). Many other superficial deposits on the Island probably also date to this cold phase, during which a substantial amount of colluvial and solifluction deposition would almost certainly have occurred. Also dating to this phase are the Terrace gravels at Newport, the lowest of which has provided a rich collection of handaxes, including several of *bout coupé* form, from the site of Great Pan Farm (discussed in more detail below). There may well be other patches of Last Glacial Terrace gravel associated with the lower reaches of Island rivers, although none is yet specifically mapped.

3.3 Landscape palaeo-zones

The Isle of Wight can be divided into three broad landscape palaeo-zones for considering the Lower/Middle Palaeolithic resource (Table 1; Figure 1). A fourth palaeo-zone given brief consideration is the buried offshore resource of terrace deposits associated with the Solent River.

<i>Zone</i>	<i>Name</i>	<i>Description</i>	<i>Pleistocene sediment summary</i>
1	Chalk Downland	The two areas where Chalk bedrock outcrops on the surface, ie. the east–west central ridge between the Needles and Culver Cliff (1a), and the high ground at the southern tip of the Island (1b)	Substantial patches of angular flint gravel, probably of residual origin, cap the highest points of the Chalk Downland. There are also a few places where strips of Plateau gravel either cross it (eg. south of Newport) or emanate from it (eg. southwest of Calborne)
2	Northern Plain	The whole part of the Island lying to the north of the central Chalk ridge	There is a substantial strip of intermittent gravel patches stretching along the northeast coast between Cowes and Bembridge, partly mapped as Plateau gravel and partly mapped as marine gravel, culminating in the Bembridge raised beach. There are also occasional patches of Plateau gravel in the centre of this zone (eg. in Parkhurst Forest and at Hamstead) and emanating from, or crossing into it over, the central Chalk ridge

3	Southern Plain	The southern half of the Island lying between the two Chalk Downland areas	<p>At its western side, there is the stretch of terrace gravel along the coastline between Compton Bay and Brighstone Bay.</p> <p>In the centre there are north–south trending strips of (a) Plateau and (b) Terrace gravel, both probably representing early Medina deposits.</p> <p>In the eastern part, there are strips of Terrace gravel along the Eastern Yar Valley and its major tributary Scotchells Brook, as well as a major patch at Hale Common.</p> <p>Also in the Eastern part, there are several southwest–northeast trending patches of Plateau gravel, most of which probably relate to much earlier manifestations of the Eastern Yar.</p>
4	Solent	Eastern and Western Solent straits	Solent River terraces submerged offshore in the Eastern and Western Solent

Table 1. Landscape palaeo-zones

4. LOWER/MIDDLE PALAEOLITHIC RESOURCE

4.1 Inventory and investigation

Over 60 Lower/Middle Palaeolithic sites (ie. findspots of at least one recognisable artefact or Pleistocene fossil) are known on the Island (Appendix 1). Several handaxes and Pleistocene fossils have also been recovered from the Solent straits as a by-product of dredging or fishing. These are mostly in private hands and uncatalogued, although the White collection has recently been recorded by Wessex Archaeology (2004).

The first Palaeolithic find on the Isle of Wight came in 1870 when Codrington reported an ovate handaxe which had fallen from brickearth in the cliff section at Howgate Farm, Bembridge (Codrington 1870). Other early finds of handaxes from Bembridge Beach were recorded by Evans (1897) and Poulton (1909). Credit should also be given to the work of Hubert Poole who pioneered, mostly in the 1920s and 1930s, systematic investigation for Palaeolithic remains on the Island, and who carried out exemplarily thorough and well-recorded field investigations at many sites (Poole 1924, 1934, 1937). More than half of the presently known Lower/Middle Palaeolithic sites were mentioned by Poole in his summary of the Island's Stone Age archaeology (Poole 1939), including the four

major sites of Bleak Down, High Down, Priory Bay and Great Pan Farm, all discussed in more detail below.

4.2 Palaeozones

4.2.1 Chalk Downland

Angular flint gravel: Two handaxes have been found on the ground surface at Cheverton Down, on the central ridge. No Lower/Middle Palaeolithic finds are known from the gravel patch capping the southern Chalk Downs, although the handaxes found on the shore beneath these downs may perhaps have slipped downslope from the top of St. Catherine's Hill. The flint gravel capping the downs is probably a residual deposit, exposed throughout the Palaeolithic, so it is not possible to date the handaxes to any specific period of the Palaeolithic.

Plateau gravel: No Lower/Middle Palaeolithic finds are known from any of the patches of Plateau gravel that cross, or emanate from, the Chalk Downs. Numerous eoliths were reported by Poole (1939) from St. George's Down, southwest of Newport, where the gravel patch has a base level of *c.* 105 m OD, but these are all regarded in the present day as naturally abraded stones, rather than artefacts. Considering the extent of quarrying at St. Georges Down, and that a close eye was kept by Poole and others for artefacts, then it seems likely that genuine artefacts are absent from this location, although not necessarily from all other patches of Plateau gravel.

Other: Numerous flint artefacts, including several handaxes, were recovered by Warren (1900) from West High Down, at the western end of the central Chalk ridge, from an unmapped deposit overlying the Chalk bedrock. This is most likely a slopewash deposit containing mixed, transported artefacts.

4.2.2 Northern Plain

Strip of Plateau/Marine gravel along northeast coast: Several finds have been made on these gravels or on the adjacent coastline. On land, handaxes have been found at Norris Castle, Wootton, Ryde and Seaview, and Levallois material has been reported from Rew Street. Finds are particularly abundant in the Bembridge area. As well as the extremely prolific site of Priory Bay, which has produced over 160 handaxes originating from the gravels capping the cliff that are slumping down to the beach, handaxes are common in the vicinity of Bembridge School and on the shore between Culver Cliff and Foreland.

Central patches of Plateau gravel: The patch of gravel at Headon Hill, at the western tip of the Island, has a flake reported, although there is no reason to be sure that this is of Palaeolithic origin. Otherwise no finds are known from any of these deposits.

Terrace gravel: Two main areas of Terrace gravel cross the Northern Plain palaeozone, one associated with the Western Yar at Freshwater, and the other associated with the Medina at Newport; both have produced artefacts. A number of handaxes have been recovered from the western bank of the Western Yar gravels, probably from the old Afton Farm gravel pits. The height of these gravels (c. 15–20 m OD) suggests a Hoxnian/Wolstonian age.

The prolific site of Great Pan Farm occurs in lower terrace deposits (at c. 4–7 m OD) on the eastern bank of the Medina at Newport. The collections from this site include numerous handaxes, including distinctive *bout coupé* forms attributable to the British Mousterian, Levalloisian material and an elephant or mammoth molar. Recent fieldwork has established that at least two higher and earlier terraces are also present, and has dated the middle (10–13 m OD) terrace to between 40,000 and 60,000 BP by OSL (Wenban-Smith *et al.* in prep, b).

4.2.3 Southern Plain

Plateau gravel: Several sites are known in the Plateau gravel of the Southern Plain. Bleak Down is a prolific handaxe site at the southern end of the north–south oriented strip of Plateau gravel that almost certainly represents a Middle Pleistocene course of the Medina. Following from Poole's work (1934) we can be sure that these gravels contain numerous handaxes (albeit many heavily abraded) from throughout their thickness, and so hominin occupation in the area must have either been contemporary with, or earlier than, their deposition.

A single handaxe has been found at Froghill, associated with a Plateau gravel patch parallel with, and at a higher level than, a longitudinal patch of terrace gravel associated with a tributary of the Eastern Yar. It is thus almost certainly another terrace gravel patch. Three handaxes have been found at Shanklin beach, two in the vicinity of Blackwater and a single handaxe at Lake Barracks, all sites associated with isolated Plateau gravel patches. These, like many of the other Plateau gravel outcrops in the vicinity, are probably also of Pleistocene fluvial origin. Likewise, although not associated with any Palaeolithic finds, the tiny outcrops on the west coast at Brook Bay are almost certainly higher terraces of the upper Western Yar.

Terrace gravel: There are two main areas of Terrace gravel in the Southern Plain, one associated with the upper Western Yar, along the coast west of Brighstone; the other associated with the Eastern Yar and its tributaries. Handaxes have been found at three sites in the Eastern Yar Terrace deposits: Newchurch, Ninham and Blackpan Farm. No handaxes are known from the upper Western Yar Terrace deposits, but Poole (1939) reports recovery of mammoth teeth, debitage and a "Le Moustier implement". Curiously, no Palaeolithic remains have been found on the

wide expanse of Terrace gravel forming Hale Common; whether this is due to a genuine absence or a lack of investigation is uncertain.

Valley brickearth: Large patches of Valley brickearth overlie the upper Western Yar terrace deposits on the southwest coast. No Lower/Middle Palaeolithic remains are associated with these, and Poole (1939) reported Mesolithic remains, suggesting a Holocene date for their deposition. However these deposits may include buried Pleistocene deposits in places.

Other: There are also two handaxe findspots not associated with any Pleistocene outcrops, at Chale Cliffs and Yaverland. Both sites have Plateau gravel mapped in the wider vicinity, and it is likely that they are associated either with small unmapped Plateau gravel outcrops, or with unmapped bodies of Head slopewash deposits.

4.2.4 Solent

A few Palaeolithic implements have been recovered from the Solent (Eg. Wessex Archaeology 2004). These are presumed to be from buried Solent River terrace deposits, but the offshore Pleistocene resource remains largely unassessed. It is unclear to what extent it consists of unperturbed continuations of terrestrial formations, or whether it has been affected by marine transgression and submergence. Dix (2001) stresses the potential of the offshore zone for elucidating our understanding of the Palaeolithic of the Solent region, but also warns that data may not survive the dynamics of successive marine transgressive and regressive cycles, and suggests 'it may be prudent to focus investigations in the offshore on marginal, low energy, and hence high preservation potential localities' (*ibid.* 13).

4.3 Overview by context

The majority of sites are stray finds of single handaxes, occasionally more, either on the ground surface or from the coastline. Most can reasonably be associated with mapped patches of Pleistocene deposit. These are supplemented by a number of sites where erosion, quarrying or construction activity has exposed suitable deposits, and where collecting or archaeological excavation has recovered material *in situ*.

The richest area is the strip of Plateau/Marine gravels that extends from west of Cowes to Bembridge. Several finds have been made on these gravels or on the adjacent coastline. Finds are particularly abundant in the Bembridge area, where the extremely prolific site of Priory Bay has produced over 160 handaxes. As discussed above, these gravels are probably mostly of fluvial origin, apart from under Bembridge itself.

Many finds have also been made from Plateau gravel patches in the southern half of the Island, for instance at Bleak Down, Blackwater, Lake and Shanklin Beach. As previously discussed, these gravels are very likely of Middle Pleistocene fluvial origin, representing slightly older phases of deposition than the mapped Terrace gravels.

The Terrace gravels have also produced artefacts in several places, for instance at Newchurch, Great Pan Farm (Newport) and above Scotchells Brook at Ninham and Blackpan Farm. No artefacts are known from the substantial Terrace gravel patch at Hale Common, although this has perhaps been insufficiently investigated. Pleistocene faunal remains, mostly mammoth teeth, have also been found in terrace gravels at a few locations (Newtown Bay, Brook and Newport).

The Angular flint gravel, which caps the Chalk Downs in several places, has produced two handaxes from Cheverton Down. The deposit probably represents a residual landsurface upon which a palimpsest of hominin activity has accumulated throughout the Pleistocene and Holocene. It will always, therefore, be difficult to attribute material to a specific chronological period within the Lower/Middle Palaeolithic. Nonetheless, such material has useful contribution to make to research, providing information on the range of territory visited.

Findspots with no apparent Pleistocene outcrop in the vicinity, include Yaverland (on the east side of the Island), Niton Undercliff (at the southern tip) and Shalfleet (on the west side of the Island). The first two sites are handaxe findspots, and mammoth teeth have been found at the latter (Poole 1939). These locations would merit further investigation to investigate for a possible unmapped Pleistocene source.

4.4 Overview by period

The earliest site on the Island is probably Bleak Down, where numerous handaxes have been found within an early Medina terrace formation with its base at *c.* 80 m OD. There is no firm dating evidence, and it would be wrong to assume that the crude nature of many of the handaxes supports an early date. However on purely geological grounds, based on the altitude above OD of the terrace and the number of lower terraces, the Bleak Down terrace probably dates to during or shortly after the Anglian glaciation, and possibly earlier. A number of the other artefact-producing Plateau gravels may be of broadly similar age, but further research is needed to reconsider which of these can be regarded as fluvial, and whether they can be grouped to specific periods. The Steyne Wood Clay at Bembridge is reliably dated to pre-Anglian, but has not produced any artefacts. The various handaxes found in the vicinity come from younger slopewash deposits; they may have been derived from pre-Anglian deposits, but are equally likely to be post-Anglian.

The majority of Lower/Middle Palaeolithic material on the Island probably relates to occupation during the Hoxnian/Wolstonian complex. Again, little work has been done assigning terrace deposits to different stages within this time-span. The only site where a direct dating method has been applied is Priory Bay, where OSL dating of the main artefact-bearing horizons (sand and gravel beds between 29 and 33 m OD) suggests deposition in the period late MIS 11 to early MIS 9 (Wenban-Smith *et al.* in prep. a). This is consistent with (a) the geological context of the site, which indicates a date younger than the MIS 13 Goodwood–Slindon raised beach (developed at *c.* 40 m OD), and (b) longitudinal profiling, which, assuming the deposits are fluvial, equates it with Terrace 5 of the Eastern Solent terrace system, which has been independently attributed to MIS 10 (Bates *et al.* 2004). The recent field investigations at Priory Bay (*ibid.*) have suggested that the sequence of artefact-bearing sediments includes undisturbed occupation horizons at more than one level. This makes it a particularly important site, not just for the Isle of Wight, but at national level.

The Island also contains one of Britain's more important British Mousterian sites at Great Pan Farm, which has produced both *bout coupé* and Levalloisian material from Devensian terrace deposits at *c.* 4–7 m OD (Poole 1924; Shackley 1973 & 1975; Wessex Archaeology 1993). It remains unclear, particularly in light of OSL dating of an adjacent higher (and therefore older) terrace to *c.* 50,000 BP (Wenban-Smith *et al.* in prep. b), whether any of this material is contemporary with the terrace or whether it is all derived. Nonetheless it does confirm occupation on the Island in the Last Glaciation, and raises the possibility of finding better material in the vicinity, or elsewhere on the Island.

4.5 Key sites

4.5.1 Priory Bay

This site has produced the largest assemblage of Palaeolithic material from the island, with over 1000 artefacts, *c.* 200 of which are handaxes. It is also one of the most thoroughly investigated sites. In the 1880s implements were recovered from the beach and later traced to exposures of gravel in the cliff section (Poulton 1909). Implements continued to be recovered from the beach by local collectors throughout the 20th century (Samson 1976) and excavation of the *in situ* deposits at the cliff top were carried out in 1986 (Loader 2001) and 2001 (Wenban-Smith 2003; Wenban-Smith *et al.* in prep. a).

The larger-scale 2001 excavations revealed a sequence of basal gravel deposits (probably of fluvial origin, with a base level of *c.* 29 m OD) capped by colluvial or fluvial sand/silt. The basal gravels contained many abraded derived artefacts, but also contained in their top 20 cm and at their surface a rich horizon of fresh condition artefacts interpreted as a minimally disturbed occupation horizon. The

overlying sand/silt also contained mint condition material at one horizon, possibly another *in situ* palaeo-landsurface.

OSL dating has indicated a date in the time range MIS 11 to 9 for these deposits (Bates *et al.* 2004). The basal gravels been related to Terrace 5 of the Eastern Solent system by Bates *et al.* and attributed to MIS 10, although there is still some uncertainty whether the sediments are fluvial or marine.

4.5.2 Bleak Down

Bleak Down is another rich site, with over 70 handaxes recovered. Poole (1924) carried out intensive investigations, establishing (a) a good stratigraphic cross-section showing the sequence of gravel beds, and (b) relating all handaxe finds to these beds. The site has not been subject to modern research, but is particularly significant because the high base-level of the gravel (80 m OD) suggests an early date, perhaps pre-Anglian.

4.5.3 Great Pan Farm

Numerous artefacts were collected from a quarry in a low terrace of the Medina (with its base at *c.* 4 m OD) to the south of Newport by Poole in the 1920s (Poole 1924). The site, known as Great Pan Farm, has been recognised as being potentially of national importance, including both Levallois material and handaxes of *bout coupé* type (Shackley 1973; Tyldesley 1987; Roe 1981). The site is of special importance as a rare instance of British Mousterian occupation in the Devensian, and for the reported presence of organic deposits and faunal remains.

Recent investigations in advance of development (Oxford Archaeology 2005; Archaeology South East 2005; Roberts *et al.* 2006) have (a) identified at least two, and possibly three, adjacent higher terraces, and (b) identified evidence of brackish estuarine conditions and possible organic preservation within the lowest artefact-bearing terrace; it is however possible that the carbonaceous contents are derived from earlier Tertiary sediments, and thus the AMS dating of the organic deposit by Roberts *et al.* (2006) to > 42,400 BP is questionable, although it is compatible with the OSL date of *c.* 50,000 BP for the second terrace established by the Oxford Archaeology work (Wenban-Smith *et al.* in prep. b). Whilst the recent work has improved understanding of deposits in the vicinity, no further artefacts were recovered, and there remain many unanswered questions, particularly over the stratigraphic integrity and date of the artefact assemblages from different beds of the low terrace.

4.5.4 West High Down

Warren (1900) initially discovered an ovate implement in disturbed ground on West High Down. Further excavations then led to the unearthing of a layer of artefacts including several handaxes, *c.* 0.2 to 0.5 m below ground level, densely packed with "flakes sometimes almost touching each other" (*ibid.* 406). The material is mostly well-abraded, and the deposit is most likely a slopewash deposit containing a mixed concentration of derived artefacts. Fifteen boxes of material from West High Down are held in the British Museum.

4.5.5 Bembridge Foreland

The cliff section at Bembridge Foreland forms part of an extensive series of Pleistocene deposits visible in the cliff face for *c.* 2.5 km between Bembridge Lifeboat Station and the former Bembridge School. These were first investigated in the 19th century (Codrington 1870), and have since been reinvestigated in the 1920s (Jackson 1924; Reid and Chandler 1924), the 1980s (Holyoak & Preece 1983; Preece & Scourse 1987; Preece *et al.* 1990) and the early 21st century (Wenban-Smith *et al.* 2005).

Deposits of organic clay at Bembridge School were first noted during the excavation of sewer trenches in 1924. The deposits were studied in some detail during the 1980s, when they were formally named the Steyne Wood Clay, and were found to have accumulated in a pre-Anglian estuarine environment, contemporary with the Goodwood-Slindon raised beach.

At a lower altitude, between *c.* 5 and 18 m OD, a series of gravels occur which have been interpreted as a storm beach deposited during the Last (Ipswichian) Interglacial high sea level stand, *c.* 125,000 years BP, on the basis of their height OD, pollen content and OSL dating. At Bembridge Foreland pollen-rich clay-silt deposits visible in the cliff face overlie, but are broadly contemporary with, the tail end of the raised beach. These represent an estuarine salt marsh abutting the beach, and their pollen content and OSL dates confirm their Ipswichian age.

4.5.6 Newtown

Pleistocene faunal remains from Newtown (SMR 6122) were first mentioned by Adams (1877-1881). Although further material was recovered during the early 20th century it was not until 1985 that the geology of the site was systematically recorded (Munt and Burke 1986). Four sedimentary units were recorded within the intertidal zone. The earliest phase of deposition, comprising three of the units, included a rich 'warm climate' fauna, with that from the 'Blue Silt Bed' representing a full interglacial of Ipswichian character. The upper stratigraphic unit, the 'Gravel Stratum', was thought to represent a post-Ipswichian cooler

phase, possibly the subsequent MIS 5d. No evidence of associated hominin presence has been observed. Additional faunal remains have been dredged by fishermen from the seabed off the mouth of Newtown Creek (Wessex Archaeology 2004), including an elephant cheek tooth and tusks, bison horn core and limb bones, possibly from an aurochs.

5. DISCUSSION AND CONCLUSIONS

The primary task in developing understanding of the Lower/Middle Palaeolithic on the Island is to construct a basic framework of hominin presence/absence and typological/technological change through time. This is by no means an end in itself for study of the period, although it has often been considered so, and still might be by some, but this framework provides a starting point for a range of other questions concerning, for instance:

- the climatic and environmental context of hominin settlement;
- the range and mobility of IoW populations;
- the relations and contacts between the occupants of the IoW and adjacent regions (if they indeed supported separate populations);
- the organisation of behaviour around the landscape;
- the activities carried out at specific sites;
- and the social organisation of hominin groups.

The Isle of Wight contains a Lower/Middle Palaeolithic resource that has great potential for addressing these aims. However, as reflected in this review, this potential is to a large extent untapped due to the general lack of modern mapping and investigation of the various Pleistocene sediments and Palaeolithic sites across the Island. Once the various fluvial terrace deposits are accurately mapped and dated, their contained Palaeolithic remains can provide a general impression of hominin presence and changing material culture through the Pleistocene. Evidence from undisturbed sites such as Priory Bay, and possibly others yet to be discovered, can complement the wider picture by providing details of behaviour at specific locations.

Identification of sites with faunal and other palaeo-environmental remains would be particularly helpful in advancing investigations on the Island. However, such sites are, as in other parts of the Solent River basin, particularly scarce. Pollen is preserved in the estuarine deposits associated with the Bembridge raised beach, and a range of micro-faunal and floral remains are preserved in the Steyne Wood Clay (molluscs, ostracods, foraminifera, plant macro-fossils and pollen). As well as from the Last Interglacial site at Newtown, larger mammalian remains have been reported from Newport, Shalfleet and Brook, so the search is not forlorn, and attention should be paid to interventions in these areas, and in other areas where calcareous sediment might enhance preservation.

In conclusion, the Isle of Wight does not have a huge number of Palaeolithic findspots, despite the abundance of Pleistocene terrace deposits. Nonetheless, three sites (Great Pan Farm, Bleak Down and Priory Bay) have produced abundant material, and each of these can be regarded as of national importance. The overall paucity of sites is probably not a true reflection of the density of Palaeolithic material on the Island, but reflects a relative lack of development and investigation, compared to mainland areas such as Bournemouth and Southampton where contemporary deposits have produced abundant material (Wessex Archaeology 1993; Wymer 1999). The Island is a valuable untapped resource for Palaeolithic archaeology, and carrying out targeted research to assess the nature, date, distribution and archaeological potential of its various Pleistocene deposits should be a future priority.

6. FUTURE WORK

6.1 Priority research questions

- Dating of first isolation of the Island from the mainland
- Patterns of occupation and settlement through the Lower/Middle Palaeolithic
- Integration, correlation and chrono-stratigraphic attribution of Plateau and Terrace gravels
- What is the correct interpretation of the dissected strip of Plateau gravel/marine beach deposits mapped between Cowes and Bembridge, and is there an important buried landscape comprising a raised beach or fluvial staircase preserved beneath the ground surface in this area?
- Patterns of technological/typological change through the Palaeolithic, and contrast/similarities with adjacent mainland areas such as The Test Valley, Bournemouth and West Sussex
- Discovery of faunal/palaeo-environmental remains in fluvial deposits

6.2 Priority research projects

As long ago as 1980 *The Vectis Report* identified six priorities for future work (Basford 1980):

- Rescue excavation at Priory Bay
- Observation at Great Pan Farm during proposed construction of Newport South-Eastern Relief Road
- Monitoring of any future gravel extraction at Bleak Down.
- Safeguarding site at High Down for future investigation
- Fieldwork along the south west coast and re-examination of material from this area
- Investigation of Pleistocene deposits at Bembridge and Steephill if these sites are threatened with disturbance.

The subsequent Southern Rivers Palaeolithic Project endorsed these recommendations, and incorporated them into a revised set of suggestions (Wessex Archaeology 1993, 172):

- High Level Gravels: recording at prolific sites such as Bleak Down and Priory Bay
- Bembridge Raised Beach: the location and recording of palaeoliths *in situ* if possible
- Bembridge Steyne Wood Clay: recording to determine context of palaeoliths
- Mousterian sites: part of the deposits remaining at Great Pan Farm should be preserved, but if this is not possible full excavation should precede any further destruction of the site

To a large extent, these priorities remain unaddressed. Fieldwork at Priory Bay has confirmed the importance of the site and identified important horizons, but the site remains vulnerable to erosion, and requires further investigation to mitigate its impact. Fieldwork at Great Pan Farm has been driven by development rather than research, so while our understanding has increased, this has raised more questions than it has answered, and further work is required if we are to resolve these.

As well as carrying out further work at the specific sites mentioned above, understanding of the Island's Lower/Middle Palaeolithic could greatly benefit from a more robust chrono-stratigraphic framework. This could be achieved by developing a long-term programme of:

- Field-walking survey and systematic investigation by controlled sieving of gravel deposits for Palaeolithic artefacts
- Survey and attempted broad dating of Plateau gravel outcrops
- Systematic OSL dating of Terrace gravels
- Typological/technological review of existing collections

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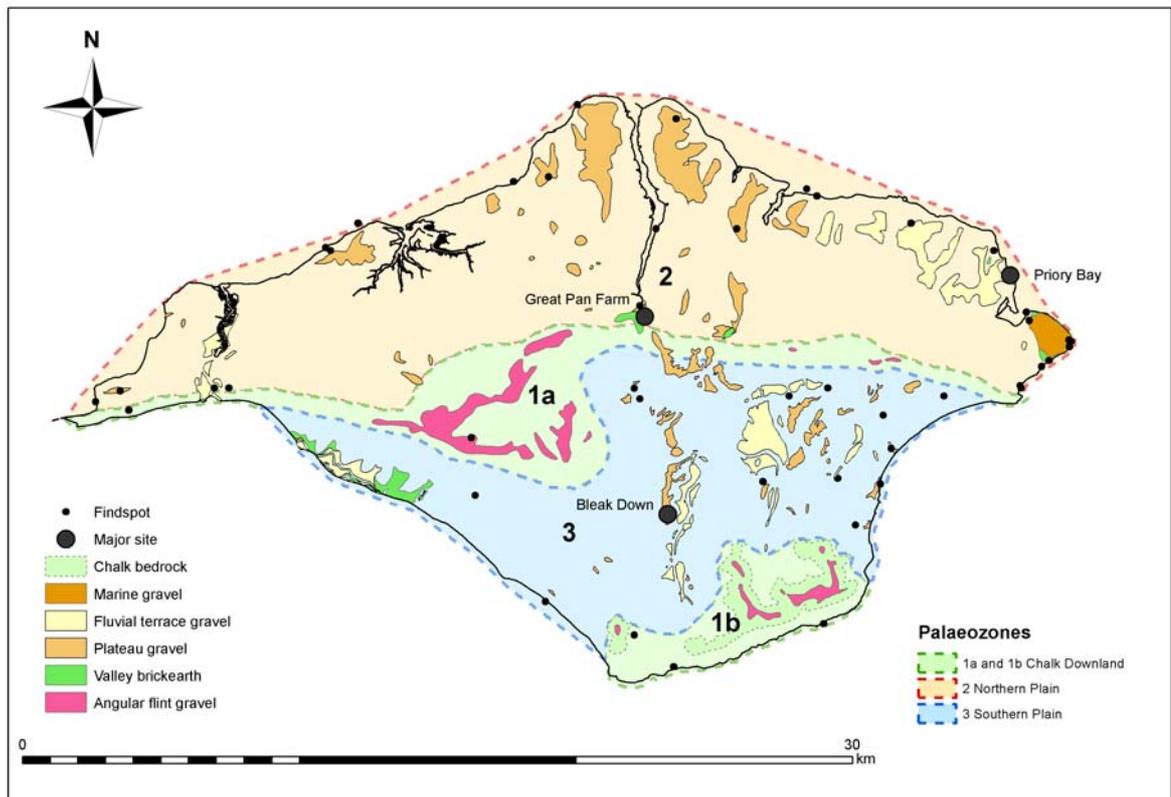


Figure 1. Isle of Wight landscape palaeozones, Pleistocene deposits and site distribution

APPENDIX 1. SITE INVENTORY

SMR	SRPP map	SRPP site	Site name	SQ	E	N	Acc.	H-axes	Lev	Cores	Ret flakes & deb.	Fauna & Flora
33	IOW-1	5	Alum Bay	SZ	3060	8550	Est	1				
45	IOW-1	3	West High Down	SZ	3170	8250	Est	>2		?	?	
71	IOW-1	2	Freshwater Marsh	SZ	3480	8600	Est	1				
100	IOW-1	1	Afton Farm gravel pits	SZ	354	868	Acc	2	6		25	
182	IOW-1	6	Bouldnor Cliffs	SZ	3883	9111	Acc	1				
191			Hamstead	SZ	3900	9100	Est	1				
206			Chale Cliffs	SZ	4765	7850	Acc				1	
560	IOW-1	7	Hamstead	SZ	4000	9200	Est	1				
581	IOW-2	5	West of Rew Street	SZ	4690	9370	Est		1	1	6	
594			Reeth Bay	SZ	508	755	Est	1				
598			Thorness Bay	SZ	4563	9352	Gen				?	
609			Gurnard	SZ	4793	9633	Gen				?	
690	IOW-3	3	South of The Orchards, Niton Undercliff	SZ	5142	7585	Acc	1				
706	IOW-4	13	High Port, Ventnor	SZ	5700	7700	??	2				
782	IOW-4	12	Shanklin beach	SZ	5890	8250	Acc	3				
786	IOW-4	11	Ninham	SZ	5735	8270	Acc	1				
803			Shanklin	SZ	5800	8100	??	1			2	
827	IOW-3	2	Bleak Down	SZ	5120	8140	Acc	72	1		3	
837	IOW-3	1	Froghill	SZ	5464	8259	Acc	1			1	
877	IOW-2	2	Great Pan Farm	SZ	5038	8860	Acc	c. 100	15	4	c. 200	Elephantid teeth

<i>SMR</i>	<i>SRPP map</i>	<i>SRPP site</i>	<i>Site name</i>	<i>SQ</i>	<i>E</i>	<i>N</i>	<i>Acc.</i>	<i>H-axes</i>	<i>Lev</i>	<i>Cores</i>	<i>Ret flakes & deb.</i>	<i>Fauna & Flora</i>
924	IOW-2	4	South Street, Newport	SZ	5020	8900	Acc			1		
929	IOW-2	9	Blackwater	SZ	5020	8560	Acc	1				
936	IOW-2	10	Blackwater	SZ	5000	8598	Acc	1				
968	IOW-2	7	Wootton	SZ	5370	9180	Est	1				
1019	IOW-4	15	Kern	SZ	5700	8600	Est	1				
1109	IOW-4	9	Yaverland	SZ	6120	8570	Acc	1				
1139	IOW-4	1	Howgate Farm, Bembridge	SZ	6473	8678	Acc	1				
1140	IOW-4	19	Bembridge Foreland	SZ	6573	8751	Est	10+				
1141			Bembridge Foreland	SZ	6500	8700	Est				8	
1142	IOW-4	2	Bembridge	SZ	6418	8876	Acc	7				
1143	IOW-4	3	Bembridge School	SZ	640	865	Acc	8?				
1144	IOW-4	4	Bembridge	SZ	6429	8846	Acc	1				
1186	IOW-4	8	Seaview Bay	SZ	63	91	Est	2				
1192	IOW-4	17	Priory Bay, cliff-top	SZ	6350	9000	Acc	c. 10				
1192	IOW-4	7	Priory Bay, beach	SZ	636	901	Acc	c. 200				
1223	IOW-4	6	Adgestone	SZ	5900	8500	Est	1				
1486	IOW-2	3	Norris Castle	SZ	5150	9580	Acc	1				
1829	IOW-2	6	Wight Marina	SZ	5078	9180	Acc	1				
1919	IOW-4	10	Lake Barracks	SZ	593	838	Acc	1				
1943			Forelands, Bembridge	SZ	65	87	??	1				
1975			Solent	SZ			??	1				
2020	IOW-4	5	Warner Chalet Hotel, Bembridge	SZ	6572	8775	Acc	1				

<i>SMR</i>	<i>SRPP map</i>	<i>SRPP site</i>	<i>Site name</i>	<i>SQ</i>	<i>E</i>	<i>N</i>	<i>Acc.</i>	<i>H-axes</i>	<i>Lev</i>	<i>Cores</i>	<i>Ret flakes & deb.</i>	<i>Fauna & Flora</i>
2025	IOW-2	8	Newchurch, by River Yarr	SZ	5560	8570	Acc	1				
2027	IOW-4	14	Quarr Beach	SZ			Acc	2				
2413			Whitecliff Bay	SZ	6396	8609	Acc	1				
2541			Cheverton Down	SZ	44102	84199	Acc	1				
3488			Bembridge Foreland	SZ	6580	8770	Acc					Pollen
3489			Bembridge Lane End	SZ	657	880	Acc					Pollen, insects, plant macro-fossils
3917	IOW-1	4	Headon Hill	SZ	3140	8590	Est				1	
3918	IOW-4	20	Ryde	SZ	6000	9200	??	1				
4943			Cheverton Down	SZ	44242	84208	Acc	1				
6122			Newtown	SZ			Acc					Elephant and other temperate mammals
6143			Bembridge School. Steyne Wood Clay	SZ								Pollen, molluscs, ostracods & foraminifera
			Seaview	SZ	6259	9052	Acc	1				
			Bembridge	SZ	625	872	Acc	1				
			Bembridge	SZ	65129	87076	Acc	1				
			Bembridge Point	SZ	6441	8879	Acc	1?				
			Brook	SZ	392	829	Est					Mammoth teeth
			Shalfleet	SZ	415	892	Est					Mammoth teeth
			Blackpan Farm	SZ	581	838	Acc	>1				