

**A Research Framework for the Archaeology of Wales
All Wales – Palaeolithic and Mesolithic
22/12/2003**

Introduction

The Palaeolithic and Mesolithic periods in Wales cover some quarter of a million years of human history. Not only have the cultural changes associated with the different periods of archaeology taken place, but also the climate and the landscape have changed and even the humans themselves have evolved. This is a period where the archaeological evidence for a human presence is completely entwined with the geological and palaeoenvironmental evolution of Wales.

The remit for undertaking a resource audit assessment for the Palaeolithic and Mesolithic periods follows the recommendation made at the Aberystwyth Conference that the exercise is done on a pan-Wales, as opposed to a regional, basis. The sub-group, therefore, appraised all four audit documents together. Discussions were undertaken by letter, telephone and email; no meetings were held owing to the difficulty of assembling a widely dispersed group. The work was co-ordinated by Elizabeth Walker, National Museums & Galleries of Wales with contributions from George Smith, Gwynedd Archaeological Trust; Professor Stephen Aldhouse-Green, University of Wales College Newport; Louise Austin, Cambria Archaeology; Professor Nick Barton, Oxford Brookes University; Dr Martin Bates, University of Wales Lampeter; Dr Andrew David, English Heritage and Dr Roger Jacobi, The British Museum.

This resource audit assessment report is an expanded version of the presentation made at each of the four regional seminars and encompasses many points that arose during the discussions that followed. The format adopted is an analysis of the existing databases using the SWOT methodology (strengths, weaknesses, opportunities and threats). The report that follows is intended to act as a discussion document from which a detailed series of research questions can be formulated. Feedback on this paper is now invited and further ideas towards the preparation of specific questions for a research agenda for these periods are welcomed.

The Palaeolithic Resource Audit Assessment

Strengths

- Wales has Palaeolithic sites of international significance.
- Many sites have been subject to relatively recent or current detailed investigation.
- Many important cave sites that contain archaeology of this date exist in the limestone regions of the country.
- Amateur work has enhanced our knowledge of caves containing Palaeolithic data.
- There is good environmental data for many of the known cave sites.
- Many sites are published in some form and thus data is available.

Wales has sites that can be considered to be of truly international significance. Most notable are Pontnewydd Cave, Denbighshire and Paviland Cave, Gower, Swansea. Both have recently been studied by Professor Stephen Aldhouse-Green who has excavated at Pontnewydd Cave (Green 1984) and has reinterpreted the

Palaeolithic and Mesolithic

old collections from Paviland Cave (Aldhouse-Green 2000). These sites and other Welsh caves are also incorporated into a broader project being run by Professor Chris Stringer of the Natural History Museum, London (Ashton 2003). This project is investigating the Ancient Human Occupation of Britain as a whole and will entail further study of the assemblages from Pontnewydd Cave and investigation of some Gower Caves. Both these projects are examples of current research that place the Palaeolithic archaeology of Wales into its broader British context.

A lot of amateur work was undertaken during the 1970s and the 1980s in caves. Whilst some of this work may not have been done using the detailed recording strategies we would expect of all excavators today, the work has provided benefits of its own in increasing the database of caves known to contain Palaeolithic archaeology or Pleistocene deposits. It is through individuals such as the late Melvyn Davies and Brother James van Nederveelde that caves in the Llandudno area; the caves on the Gower Coast, Swansea and caves on Caldey Island, Pembrokeshire have been discovered.

Caves are good natural sediment traps and are significant in their potential to preserve deposits predating the last Glacial maximum, as has been demonstrated by the discoveries of early Neanderthals in Pontnewydd Cave, Denbighshire. Faunal remains preserve well in caves and from these some palaeoenvironmental data can be gleaned. Recent excavations in several Welsh cave sites have now considerably enhanced our understanding of past environments at specific times. By drawing together data and employing specialists from a range of disciplines e.g. as at Coygan Cave, Carmarthenshire (Aldhouse-Green *et al.* 1995). Palaeolithic archaeology is one of the truly multi-disciplinary areas of archaeology.

Weaknesses

- Distribution maps highlight the gaps in coverage. They demonstrate a need for detailed consideration of why such gaps exist.
- The knowledge base is spatially biased and patchy – it is also of a highly variable quality.
- There is a geographical bias towards sites and find spots on the present day coastline and in caves. There is thus little known about inland sites, sites in upland areas and open-air sites.
- Caves are important for the preservation of archaeological deposits, particularly for those dating before the last glacial maximum. More sites containing such deposits need to be identified and those with potential require further palaeoenvironmental investigation.

There are weaknesses with our data set for this period. The distribution maps produced by each of the regional audits demonstrate that there are considerable gaps in the coverage of areas with Palaeolithic archaeology across Wales. Some of the gaps are no doubt genuine absences of any surviving data; however, it is important that opportunities are not missed to check these areas, particularly for any palaeoenvironmental data that may survive. It is also necessary to ensure that if new previously unrecorded evidence comes to light in any of these areas it is investigated fully and professionally.

Whilst limestone caves across Wales preserve a good Palaeolithic archaeological resource it is surprising that the knowledge we have of such areas is patchy with key sites, for instance Cae Gwyn and Ffynnon Beuno near Tremerechion in the Vale of Clwyd, Denbighshire remaining poorly understood (Green and Walker 1991). It is also a weakness in Wales that most of our knowledge of the Welsh Palaeolithic resource comes from caves. Whilst these are undeniably important,

Palaeolithic and Mesolithic

Wales could be perceived as following a cave hunting research agenda. There are some significant gaps in the coverage of sites across the country and whilst it is necessary to acknowledge the part played by the erosive characteristics of the ice coverage we still know of surprisingly few open-air sites that date to the later and Final Upper Palaeolithic well after the retreat of the last ice sheet.

Opportunities

- Areas of relevance in the existing document *Research Frameworks for the Palaeolithic and Mesolithic of Britain and Ireland* (1999) should be applied within Wales.
- Capitalize on the fact that Wales has sites of international significance by incorporating these into broader European wide studies and research initiatives.
- Recent developments in scientific techniques need to be applied, e.g. Bayesian analysis for the refinement of chronologies and better prospection techniques to locate new sites.
- There should be more emphasis on inter-tidal and submarine deposits. In England the Aggregates Levy Sustainability Funding is being used to assess the archaeological potential of submarine aggregates off the southern English coast and greater use of this fund should be made in Wales.
- The National Assembly for Wales is encouraging partnership schemes between institutions within Wales. Field projects could be developed that address gaps in our knowledge of the archaeology and palaeoenvironmental history of this period, e.g. with the Countryside Council for Wales.

There are opportunities available to us and many of these need to be picked up and developed when drawing up a final research agenda for this period. There are already research agenda in existence that can provide a starting point for the development of research questions relevant to Wales. The document *Research Frameworks for the Palaeolithic and Mesolithic of Britain and Ireland* published in 1999 can provide a useful starting point. This document has already been adopted fully in England where it is being successfully applied to raise funding for projects such as the Ancient Human Occupation of Britain project.

It is necessary to capitalize on opportunities to ensure that Welsh archaeology continues to be included in broad studies and in research initiatives. It is time that more archaeologists in Wales took a lead and embarked upon some larger scale projects that extend beyond the modern political boundaries of Wales. Opportunities are arising in the form of new developments in science. The huge dating programmes applied to Paviland Cave resolved the uncertainties about whether or not the 'Red Lady' really did live in Wales at the height of the last glacial or as has now been proven around 26,000 years ago (Aldhouse-Green 2000). A similar large-scale dating project is currently being applied to the dating of deposits of Last Glacial age at Pontnewydd Cave. Such projects demonstrate the need to apply modern science towards the refinement of the chronologies.

There are currently opportunities available in funding. The first round of the Aggregates Levy Sustainability Fund has been successfully applied to assess the archaeological potential of submarine aggregates off the southern English coast. The second round of money should soon be coming on-stream and could be deployed to undertake similar studies offshore of Wales that could enhance our knowledge and understanding of potentially important deposits. Likewise funding opportunities may be available within Wales. The National Assembly for Wales is enthusiastic about the development of partnerships between the organizations it

Palaeolithic and Mesolithic

funds – an obvious area would be the development of a joint project between an archaeological body and the Countryside Council for Wales.

Threats

- It is rare in Wales for Palaeolithic sites to be affected by development proposals, so new primary data rarely emerges from this system.
- Developer funded archaeology is not pre-disposed favourably towards the geological deposits in which most archaeology of this period is found.
- Gravel and aggregate extraction, both on land and offshore are threatening the survival of deposits potentially containing Palaeolithic archaeology and palaeoenvironmental data.
- There is a tendency for archaeological organizations to consider the Palaeolithic in isolation within Welsh regions.

Palaeolithic sites are rarely affected by development proposals in Wales and as a result new sites and new data are only occasionally emerging from the development control system. The significance of deposits that potentially contain Palaeolithic archaeology, particularly the sites that just have palaeoenvironmental data, are not always recognized as important. Developer-funded archaeology is not pre-disposed favourably towards the investigation of such contexts. There is currently an increase in activity offshore. Both aggregate extraction and plans for offshore wind farms can all threaten the survival of Pleistocene deposits with the potential to provide new Palaeolithic and palaeoenvironmental data. It is important that archaeologists working in planning control are made more aware of such threats and wherever possible the companies engaged in such work should be educated to appreciate the nature and the fragility of the resource they may be destroying. The potential for the blind destruction of this unknown and untapped archaeological resource is great and given the potential it holds it is one that requires further investigation.

The Mesolithic Resource Audit Assessment

Strengths

- Current work on the Severn Estuary Levels is of international importance.
- There is detailed palynological data for the Late Glacial – Holocene environmental transition in Wales.
- The present day coastline of the southern regions of Wales has many find spots or sites that provide a good picture of the Mesolithic archaeology of these areas.
- The north-east Wales region appears to have a greater representation of find spots and sites that date to this period that have been discovered during the investigation of sites of other periods.

There are Mesolithic sites in Wales that can be considered to be of international importance. Of these those lying in the intertidal zone of the Severn Estuary Levels are perhaps amongst the most important. These are currently the focus of work by Professor Martin Bell and Nigel Nayling, who in complementary projects are investigating specific known sites on the Levels and are looking at land clearance and the environmental and human factors involved (Bell *et al.* 2001). This work is beginning to shed considerable light on our understanding of the British later and latest Mesolithic. In Wales there are very few sites with good palaeoenvironmental data that fall within the early Holocene period, but where we do have a wealth of information is with the detailed palynological data that covers the Late Glacial to early Holocene transition at Waun Fignen Felen (Smith and

Palaeolithic and Mesolithic

Cloutman 1988; Barton *et al.* 1995). The resource assessment maps have highlighted major concentrations of find spots or sites around the present day coastline providing an opportunity for some detailed study of these areas. Pembrokeshire is one such area where the wealth of find spots on the coast is considerable. In some places there has been a long tradition of field walking, particularly in the Glamorganshire uplands by Shôn Price, Derek Clayton and Phil Shepherd. The Gwent area near Shirenewton is being walked regularly by Ian McFarlane and members of the Chepstow Archaeological Society; the Black Mountains of Gwent by Ken Palmer (Olding 2000); whilst in Radnorshire Chris Dunn's surface collection provided a basis for some new field walking by Alex Gibson in the Walton Basin area (Gibson 1999). The amount of systematic field walking being undertaken could easily be enhanced by members of our local societies. In east and north-east Wales a different pattern emerges from the data that suggests in this one region many of the known Mesolithic sites have been discovered as a result of investigation of sites of other periods. Discussions held at the seminars suggest that this may be as a result of a different approach towards excavation in this one region, perhaps as a consequence of the interests of some of the field archaeologists concerned.

Weaknesses

- The knowledge base is spatially biased and patchy – it is also of a highly variable quality.
- There is a geographical bias towards sites and find spots on the present day coastline. There is thus less known about inland sites, particularly those in upland areas and the archaeology offshore.
- There is a lack of chronological control, and investigation of well-stratified sites.
- We currently have a poor understanding of sea-level change.
- There is a lack of organic preservation.

The patchiness of the existing knowledge database is also a key factor that shows up in the regional resource audits. The apparent discrepancy between the more even distribution of sites in the east and northeast region of Wales and the rest of the country helps to emphasise this. The location of many Mesolithic sites and find spots on the present day coastline also highlights a bias in collecting practice. The corresponding gaps in coverage in some inland and offshore areas are also notable. Few of these areas have received detailed investigation and we do not know what, if anything, is preserved here.

There is currently a big problem with the chronology for the Mesolithic: there are few dates available and the resource audit makes it difficult to determine which of those there are can be considered reliable. There is also still a lack of understanding about sea-level change and a lack of sites with good organic preservation that date to this period. In the absence of anything more local we still find ourselves relying upon data and interpretations for Star Carr in North Yorkshire when interpreting the early Mesolithic archaeology of Wales. Some research projects are being developed and these are beginning to enhance our understanding of the database, in particular Rick Schulting's work into the isotopic composition of human bone from caves on Caldey Island and elsewhere in Wales has resulted in an enhanced database of AMS dates for this period. Unfortunately this data has not, as yet, been linked back in detail to the stratigraphy and accompanying palaeoenvironmental data for these sites (Schulting and Richards 2002).

Opportunities

- Areas of relevance in the existing document *Research Frameworks for the Palaeolithic and Mesolithic of Britain and Ireland* (1999) should be applied within Wales.
- Capitalize and develop upon recent successful projects e.g. the Lithic Scatters Project.
- Recent developments in scientific techniques need to be applied, e.g. Bayesian analysis for the refinement of chronologies and better prospection techniques to locate new sites.
- An expansion in offshore activity should be capitalized upon in order to increase our understanding of what are now submerged deposits.
- To build upon the foundations of the recent Cadw coastal survey and increase our understanding of the threat posed by erosion of coastlines and inter-tidal deposits.
- To use the existing database to develop our understanding of raw materials.
- The National Assembly for Wales is encouraging partnership schemes between institutions within Wales. Field projects could be developed that address gaps in our knowledge of the archaeology and palaeoenvironmental history of this period e.g. with the Countryside Council for Wales.

Opportunities do exist that could improve the situation. Many of these are already outlined for the Palaeolithic SWOT analysis and equally need to be picked up and developed when drawing up a final research agenda for the Mesolithic period. There are already research agenda in existence that cover the Mesolithic period that can provide a starting point for the development of research questions relevant to Wales. The document *Research Frameworks for the Palaeolithic and Mesolithic of Britain and Ireland* published in 1999 and a draft Lithic Studies Society agenda for the study of Holocene lithic assemblages can both provide a useful starting point for the formulation of research questions for the future Welsh agenda.

It is necessary to capitalize on opportunities to ensure that Welsh archaeology continues to be included in broad studies and in research initiatives. It is excellent news to hear that the Lithic Scatters Project is now about to be expanded to encompass the Dyfed region. Once this project has been completed it will be timely to look at the potential for future research following on from these projects. Likewise the foundations laid by the recent Cadw coastal survey should be built upon to Projects such as that underway by Rick Schulting are enhancing our understanding of Prehistoric diet and are enhancing the database of radiocarbon dates available to us – this being one example that demonstrates the potential of modern science towards refining chronologies (Schulting and Richards 2002). There may be opportunities available in funding. The first round of the Aggregates Levy Sustainability Fund is being successfully applied to assess the archaeological potential of submarine aggregates off the southern English coast. The second round of money should soon be coming on-stream and could be deployed to undertake similar studies in off-shore Wales that could enhance our knowledge and understanding of these potentially important early Holocene off-shore deposits. Likewise funding opportunities may be available within Wales. The National Assembly for Wales is enthusiastic for the development of partnerships between the organizations it funds – an obvious area would be the development of a joint project between an archaeological body and the Countryside Council for Wales. enhance this area of knowledge. It is time that more archaeologists in Wales took a lead and embarked upon some larger scale projects rather than

Palaeolithic and Mesolithic

merely looking and working within the modern political boundaries of Wales. Opportunities are arriving with the application of new developments in science.

Threats

- It is rare for Mesolithic sites to be affected by development proposals, so new primary data rarely emerges from the present system.
- Developer funded archaeology is not pre-disposed favourably towards the geological deposits in which most archaeology of this period is found.
- Gravel and aggregate extraction, both on land and offshore are threatening the survival of deposits potentially containing Mesolithic archaeology and palaeoenvironmental data.
- Coastal erosion is threatening the survival of deposits containing important Mesolithic archaeology.
- There is a tendency for archaeological organisations to consider the Mesolithic in isolation within Welsh regions.

As for the Palaeolithic period, Mesolithic sites are rarely affected by development proposals in Wales and as a result new sites and new data are only occasionally emerging from the development control system. The significance of deposits that potentially contain Mesolithic archaeology, particularly those sites only having palaeoenvironmental data are not always being recognized and developer-funded archaeology is not pre-disposed towards investigation of such contexts. There is currently an increase in activity offshore. Both aggregate extraction and plans for offshore wind farms can all threaten the survival of early Holocene deposits with the potential to provide new sites and more palaeoenvironmental data. It is important that archaeologists working in planning control are made more aware of such threats and wherever possible the companies engaged in such work should be educated to appreciate the nature and the fragility of the resource they may be destroying. The potential for the blind destruction of this resource is great and given the potential it holds it is one that requires further investigation.

In Wales coastal erosion is a significant factor in the exposure of new sites on the fragile intertidal zone. It is these sites that have the greatest potential to produce preserved organic remains and new palaeoenvironmental data, yet it is these areas that are at greatest risk. The Mesolithic, like the Palaeolithic, deals with people who were highly mobile. It is essential that the study of the Mesolithic database is not undertaken in isolation and that there is co-operation between the various archaeological and countryside organizations involved in order to engage in truly cross-boundary and cross-disciplinary study.

Recommendations for the Future

Improvement of our databases

- ▶ Artefact collections and site archives provide a wealth of information on the Palaeolithic and Mesolithic periods. While considerable work has been undertaken by some individuals on museum collections, it is clear that museums are generally an under-used resource. Much material also resides in private collections. The analysis and creation of a database of Palaeolithic and Mesolithic collections held by the regional and local museums requires a concerted and co-ordinated effort, overseen by suitably qualified specialists. Results need to be standardized and the information produced to a common standard.

Palaeolithic and Mesolithic

- ▶ The Wymer and Bonsall (1977) CBA Gazetteer of Sites of Upper Palaeolithic and Mesolithic date is in need of urgent updating. This could easily follow on from the current desktop studies by the regional trusts as well building upon databases created by the Lithic Scatters Projects. There are concerns about the level of 'quality control' in the current data. Databases produced should be made accessible as a searchable digital archive with lists of sites, references and dates backed up by accompanying lists of artefacts recorded to a common standard.
- ▶ Checking and updating of the existing database should be undertaken. This should also include accurate mapping of sites using high-resolution survey. Such studies would help identify areas where little work has been undertaken, as well as helping to highlight areas of exceptional future potential. There may be potential in the examination of data held by other organizations, for example in the Welsh Assembly Government's Environmental Division or Welsh Water who manage river levels and who may hold additional information about alluvial deposits that could be useful to palaeoenvironmentalists and archaeologists. There could be a means of linking the stratigraphic data into the SMR databases – in Kent this is currently being explored for borehole data.
- ▶ Completion of the list of recent and current projects that has been undertaken for some regions in this resource assessment will help to play a key role in identifying research themes. Future research needs to build on earlier work by developing themes or answering new questions raised by this work. None of the lists examined are at all comprehensive.
- ▶ There is a need for further field collection and investigation of all surface lithic scatters in order to understand lithic typologies better. There is potential for the involvement of local societies and non-professional archaeologists to make a major contribution to such work.
- ▶ It is also necessary to identify sites with associated environmental evidence in order to develop our chronologies for this period. It is essential that whenever a new find of Palaeolithic age is discovered a field investigation should be undertaken in order to determine the context and the potential of the find spot or site for increasing our knowledge. In Scotland some mapping has been undertaken by the University of Edinburgh where spot dating of the tops of deposits has been done as a means to help focus resources on the study of worthwhile pollen sequences.

Targeting specific landscapes

- ▶ Mapping - the mapped data should be expanded to cover earlier sea-levels, solid geology, drift geology, past, present and future areas in which gravel extraction is taking place, intertidal deposits, peat deposits and colluvial/alluvial deposits. These should be linked to the data contained within the SMRs in order to provide a better foundation for both resource and development control. Carefully constructed distributions of environmental data, e.g. pollen sampling sites or sites with faunal remains would also be very useful to identify where primary data is available or has been collected.
- ▶ Coastal peat beds – a lot of work has been carried out on these in the last fifty years. Most of the investigations have concentrated on the palaeoenvironmental record where there is little associated archaeology. Areas with high archaeological potential in the intertidal and dryland zones

Palaeolithic and Mesolithic

now need to be properly surveyed and evaluated. Coastal erosion means that these areas should be given a high priority.

- ▶ Raised beaches of the Holocene – northeast Wales (e.g. Prestatyn). This region has a very high potential for locating Later and Latest Mesolithic sites, which are otherwise exceptionally rare in Britain. The sites are important for filling a gap in knowledge concerning the Mesolithic-Neolithic transition.
- ▶ Uplands - the relatively high concentration of Mesolithic sites around upland lakes e.g. Waun Fignen Felen are indicative of the existence of other concentrations of this kind. Upland peats with pollen evidence could be identified and earmarked for future research and fieldwork to search for Mesolithic sites.

Application of recent advances in science and technological studies.

- ▶ AMS dating of fauna and artefacts – the chronology is still poorly understood for the Welsh Middle and Upper Palaeolithic periods as well as for the Mesolithic. The identification of good secure samples for dating is now necessary.
- ▶ There needs to be a specific consideration of the contributions that scientific and technical advances can offer to academic objectives. There is a case for including separate sections on the potential of the different scientific disciplines for none of these get specific treatment in the research audits. There ought to be assessments of scientific dating methods, biomolecules, isotopes, geochemistry, geophysics, geoarchaeology, palaeobotany, faunal analysis, statistics, mathematical modelling and GIS analysis.

Planning Archaeology

- ▶ Ideally, planning archaeologists should be aware of the necessity of conducting impact assessments whenever there is a likelihood of Pleistocene or early Holocene deposits with or without archaeology even if these lie below the expected level of development. In areas of deep alluvium these will require careful investigation strategies. We must not forget the impact that sea level changes may have either directly through inundation of now dry land and through coastal defence structure. Modifications to ground water tables to control flooding and for water abstraction are also potentially going to impact on the record from river floodplains.
- ▶ The SMR's do hold more data in a better format than the audit indicates. The SMRs require upgrading to make the information more useable, accurate and consistent for use as a research tool. A revision of the way the SMRs are designed in order that they may respond more effectively to academic and research questions may be necessary.
- ▶ With a few exceptions most of the curators and staff involved in contract archaeology are not familiar with Palaeolithic and Mesolithic archaeology. Consequently education is required both to describe how to design adequate fieldwork strategies, in particular the scale of investigation that would be required to have a chance of recovering the evidence. This would give projects a better chance of finding archaeology.

Academic considerations

- ▶ We should be promoting projects that will produce good primary data. We need to enhance the methods of collecting and quality of primary data. We have reached a stage where new surface collection or excavation may be necessary in order to further our knowledge.
- ▶ It is important for us to understand the relationship between sites or find spots and their abandonment. We need to be able to assess what the data tells us about the likely total record.
- ▶ There has been little research activity undertaken in Wales by those based within the country, with the exception of that being done in the National Museums & Galleries of Wales and more recently by the University of Wales College Newport. Much of this research has been insular. Archaeologists working in Wales should consider contributing to wider projects beyond Wales to place sites in their British and European context.
- ▶ There is a need for broader studies to take place, e.g. for the Mesolithic we might look at the Irish Sea region and assess the relationship between the various regions.
- ▶ Once a fuller database is available we need to look at a number of blank areas, address questions of gaps in the coverage and seek to understand why it is that one region (north-east Wales) has such a greater Mesolithic coverage than elsewhere in the country.

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