

Our Ancient Landscapes:

Hunter-Gatherers in Ireland



An Chomhairle Oidhreachta
The Heritage Council





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Cover image: Fires make places © Sadhbh Warren.

Back cover image: Fragmentary fishbone from a Later Mesolithic site at Belderrig, Co. Mayo.
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Left: Reconstruction of Mount Sandel type Mesolithic house at UCD Centre for Experimental Archaeology and Material Culture. © Graeme Warren.

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Later Mesolithic pick, Lough Gur, Co. Limerick.
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The Mesolithic in Ireland: when was it?

The first peoples to have left substantial evidence of their ways of life in the Irish past were the hunter-gatherers of the Mesolithic period ('Middle Stone Age' dating to c. 10,000 to 6,000 years ago in Ireland). The timing of Mesolithic hunter-gatherers' arrival in Ireland, and many aspects of their distinctive and long-lasting ways of life, were linked with the changing climates and environments at the end of the last Ice Age. This evidence is best understood in comparison with that for the arrival of hunter-gatherers in Britain.

Ireland had been substantially, if not entirely, covered by ice at the Last Glacial Maximum in the Pleistocene era, about 20,000 years ago. As this ice retreated new possibilities appeared for plants and animals to (re)colonise the lands that we now call Ireland and Britain. Because of the large amounts of water still held in ice, global sea levels were low, and Britain was a dry-land extension of northern Europe. During a warm period 12,700-10,900 BC small groups of hunter-gatherers moved back into Britain, which was then an open landscape of light woodland and grasslands. The technologies and behaviour of these hunter-gatherers was closely paralleled in Europe. Large game, especially horse and reindeer were important resources. Hunter-gatherers created art in caves and on animal bones and modified human crania into skull cups. Following 10,900 BC cold conditions returned, and hunter-gatherers appear to have left Britain.

Ireland was an island through this period, and there is little clear evidence to compare with the situation in Britain and Europe. The earliest published evidence for human presence here is a bear kneecap with distinctive stone tool cut marks on it from the Alice & Gwendoline Cave, Co. Clare, which was recently dated to c. 10,800-10,500 BC. Details of the cut marks indicate that they must have been made on fresh bone, and the kneecap is

therefore argued to indicate the presence of Late Palaeolithic (or 'Old Stone Age') hunter-gatherers in Ireland. The timing is unusual as it coincides with the start of the cold conditions which led to the abandonment of Britain. The kneecap may indicate a diversification of hunter-gatherer strategies in difficult times. The absence of earlier settlement in Ireland, at a time when people were present in Britain, is most likely linked to Ireland's island status and the absence of some of the large game species so important to European hunter-gatherers at this time.

After about 9700 BC temperatures rose rapidly. This marks the start of the Holocene geological period and saw the development of wooded landscapes across much of Europe. Understood very broadly, the Mesolithic in Europe is when hunter-gatherers settled the temperate forested environments of the Holocene period. Hunter-gatherers again moved back into Britain from about 10,000 BC with substantial settlement spreading through most of the landscape by 8500 BC. Again, evidence from Ireland for the earliest parts of the period is hard to find. Substantial evidence for clear settlement of the island only appears by about 8000 BC: the start of the Mesolithic in Ireland.

In Ireland, the Mesolithic has traditionally been divided into an Earlier and Later phase, mainly based on changing stone tool technology. The change was gradual, but a date of c. 6700 BC is sometimes used as a marker for the start of the Later Mesolithic. The period ends in the centuries surrounding 4000 BC with the first appearance of agricultural technologies in Ireland, in association with the movement of people into the island. The Mesolithic settlement of Ireland therefore lasted from c. 8000 BC – 4000 BC. This is an introduction to some of the key aspects of the archaeology of this 4000-year period and of the human lives we attempt to understand.



View of adult male brown bear patella with anthropogenic cut marks, Alice & Gwendoline Cave, Co. Clare. This indicates small scale human activity in Ireland in the Late Glacial Interstadial, 10,800-10,500 BC. © Ruth Carden.

What are hunter-gatherers and what happens in the Mesolithic?



Boat-people machines.
© Sathbh Warren.

Although it has great resonance in popular imagination, the term “hunter-gatherer” is a problematic one. During the colonial expansion of Europe after the fifteenth century, Europeans encountered a great diversity of forms of human society. By the eighteenth century, this diversity was mapped into a socio-evolutionary model where subsistence strategy was linked to levels of development. Living hunter-gatherers were argued to be examples of the origin point for human societies: a hunter-gatherer past from which a trajectory of improvement led to the supposed pinnacle of human organisation – the societies of metropolitan Europe. The idea that present-day hunter-gatherers were relics of the past enabled and justified colonial expansion, land grab, and European genocide of indigenous populations. We should therefore be very careful in using this term, as the stereotypes it carries are damaging.

In any case, how we might define ‘hunter-gatherers’ is difficult. The use of wild food for subsistence is associated with an enormous diversity of forms of social organisation: from small egalitarian groups, through to communities living in permanent villages with hereditary slaves and rulers. Even the idea of ‘wild’ food sharply demarcated from domesticated food is difficult to sustain. Many hunter-gatherers past and present have managed their resources: weeding, tending, moving and manipulating plants and animals to ensure their productivity.

At a European level there is compelling evidence for the diversity and success of Mesolithic lives. Some were specialists in fishing and exploiting marine resources, others hunted in the high mountains, still more managed the woodlands in which they lived and used many plants. Some built substantial dwellings and elaborate cemeteries. At a lake edge in Sweden a settlement was surrounded by skulls set on stakes in the water. Although preservation conditions mean our archaeological evidence is normally dominated by stone, a rich repertoire of material culture is known from the Mesolithic, including elaborate art.

Given the diversity of ways of being a hunter-gatherer in Mesolithic Europe, it is important that we carefully consider the Irish evidence rather than import any preconceived stereotype of what hunter-gatherers might be. One key theme in the Irish data is the significance of mobility to Mesolithic lives. Although there is likely to have been change over time, many Irish hunter-gatherers did not live in one place for the whole year, but moved, possibly frequently. This movement was not random, but carefully structured, including repeated visits to locations over centuries. This mobility had important implications for the material forms they constructed and used, as well as the kinds of relationships that characterised their social worlds. These relationships extended beyond the human to include animals and plants, as well as the spirits with which they shared their worlds.

Finally, it is important to stress that Mesolithic populations were *Homo sapiens*, just like us. Recent work on ancient DNA suggests that Mesolithic Irish people had a distinctive pigmentation of very dark skin, light eyes, and possibly light hair. This distinctive physical type was characteristic of hunter-gatherers in Western Europe at this time and seems to have left little trace in recent populations. It is a reminder that whilst Mesolithic people are like us in many ways, they are also different. Given the dominance of the stereotypical ideas of what hunter-gatherers are – savage, primitive, the origin of human societies – it is useful to hold this balance in mind when trying to understand their worlds: *like us, but not like us*.

An island world?

One of the most important contexts for understanding the Irish Mesolithic is that Ireland was an island world at the time. This simple fact has implications for the ways in which people, plants and animals arrived here; the ecology of the island; contact with people in other parts of Europe; and the mindset of archaeologists trying to make sense of the period. Sea level also changed throughout the Mesolithic, meaning that we must reconstruct very different geographies of this island world.

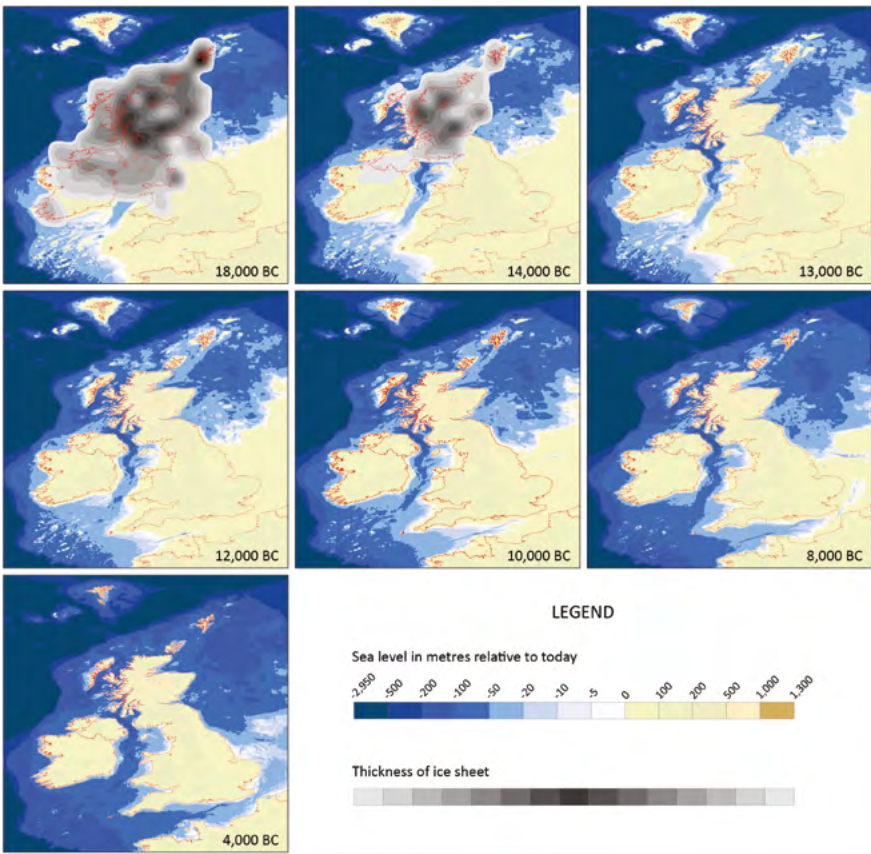
Following the end of the last Ice Age relative sea level changed dramatically throughout northwest Europe. Sea level at any one time was an outcome of changes in both the absolute amount of water held in ice and released as it melted, and the rebound or rising of land masses that had been depressed by the weight of icecaps. These processes played out at different speeds, meaning that sea level histories are quite complex, even across a small area such as Ireland. In general, areas in the northeast of Ireland were closer to the large Scottish icecap and have rebounded more than the southwest. This means that in the southwest rising sea levels have flooded the Mesolithic landscape: the shorelines that Earlier Mesolithic settlers may have used here are now 30-45m below the sea. In the northeast, whilst Earlier Mesolithic shores are submerged by 2-13m, the rebound means that some Later Mesolithic shorelines are now preserved above today's sea level. This loss of many Mesolithic shorelines is an important factor in understanding the distribution of Mesolithic evidence across the landscape. Whilst some sites have been found underwater, locating and excavating such evidence is very challenging.

Ireland seems to have been an island from about 14,000 BC – before any Late Glacial hunters reappeared in these parts of northwest Europe. This means that human settlement of Ireland



Diver with an Earlier Mesolithic flint blade recovered from the seabed, c. 2m water depth, Eleven Ballyboes, Co. Donegal. © W Forsythe.

required the use of boats. This island status also had a profound impact on the ability of plants and animals to arrive here. Put simply, Ireland has a relatively impoverished native flora and fauna compared to Britain, which is itself impoverished compared to continental Europe. One of the most significant aspects of difference is in the large mammal fauna: species that appear to have been important to Mesolithic communities elsewhere, such as red deer, reindeer, or aurochs (wild cattle), were absent from Ireland. This was an island unlike its neighbours.



Reconstructions of changing relative sea level in Ireland from c. 20,000 years ago to the end of the Mesolithic. Base imagery provided by Robin Edwards, final layout by Conor McDermott.

That Ireland is an island has long been bound up in how we make sense of its Mesolithic. As well as a distinctive island environment, the transition from Earlier to Later Mesolithic sees the development of a distinctive stone tool technology, not found in Britain. This has been variously interpreted, sometimes as evidence of adaptation to the island environment, sometimes as a marker of isolation, but it is widely seen as an insular phenomenon requiring a specific Irish explanation. This is unfortunate, because although the nature of the change itself



Overview of location of the Mesolithic site at Rockmarshall, Co. Louth – approximate area indicated in red oval. During the Mesolithic, relative sea level was higher than present. The low, light coloured ridge on which the site is located was immediately above the coast and with a lagoon inland. Most of the areas of darker vegetation were submerged at this time. Photograph © Robert Shaw/Discovery Programme.

in Ireland is distinctive, the period of time over which it happens sees increasing regionalisation in hunter-gatherer lives across the Irish and British Isles. Ireland is part of this world and the changes, although more dramatic here, were part of those shared histories.

We know that Mesolithic communities in Ireland used boats because of the presence of Mesolithic material on difficult to access islands, such as Inishtrahull, Co. Donegal. Although no



While no certain Mesolithic boats survive in Ireland this 36cm long carved wooden object from Clowanstown, Co. Meath might be a toy or model boat. Photograph by John Sunderland, courtesy of Transport Infrastructure Ireland.



Later Mesolithic *Trivia arctica* 'cowrie shell' beads from Fanore More 2, Co. Clare. © Michael Lynch.

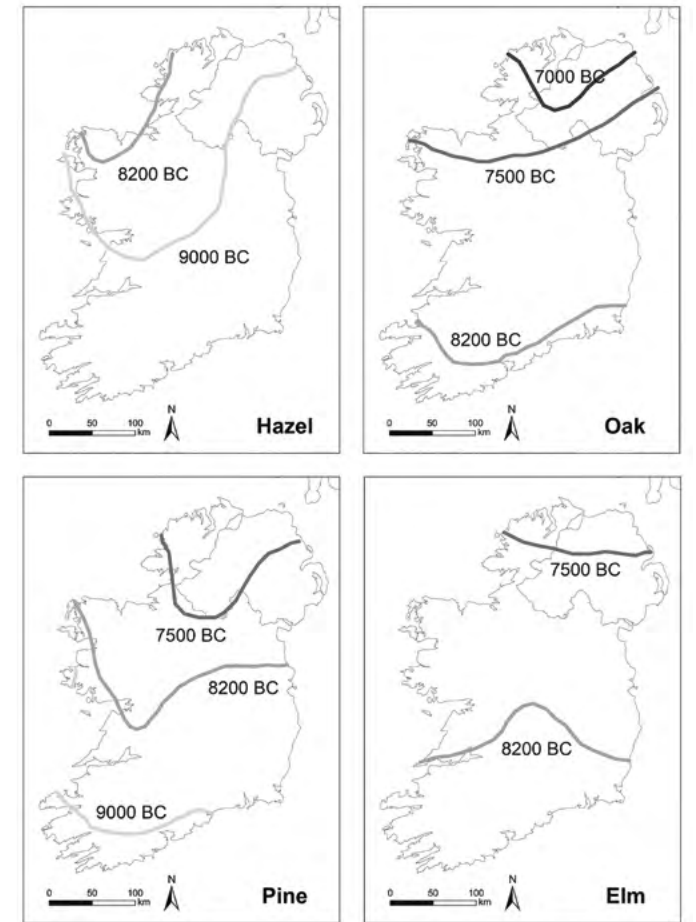
convincing examples have been identified in Ireland, evidence from elsewhere in Europe suggests that these might be log-boats, or skin/hide coverings of frame constructions. A possible toy boat was found in a Later Mesolithic context at Clowanstown, Co. Meath. Links between Britain and Ireland and the continent include the use of cowrie shell jewellery and striking similarities in the treatment of the dead. This suggests that long distance contacts across the sea were possible, although it is very hard to assess how frequent these voyages might have been. Ideas that Ireland was isolated because of its island status, although relatively common in the literature, are overstated.

What did Ireland look like?

Mesolithic Ireland was a very different landscape than we are familiar with today. In very large part, this was a wooded landscape, with significant wetlands and rivers providing more open spaces. This landscape was dynamic and changed over time.

From the analysis of pollen evidence we know that the wooded landscapes of Mesolithic Ireland were initially dominated by birch, with pine and then hazel following. Oak, elm, and alder spread more slowly. The composition of these woodlands was also affected by soils, exposure, and location within the island. The west was more species-rich, and wetter. Oak was a tree of lowlands and became less frequent with altitude. Birch, willow, and alder dominated in wetlands. At a European level, Irish forests were slightly unusual, and not just because of the limited range of plant species that colonised the island. Early Holocene forests were produced through the interactions of plants and animals, especially the impact of grazers and browsers who influence the distribution and character of growth. It is likely that these Irish, island forests were different than those elsewhere because of the lack of grazing by key large mammal species. In any case, the woodlands formed a vital part of the Mesolithic world, and – although coasts and marine resources were clearly important for hunter-gatherers – people's lives were woven into and through the forests of Ireland.

A powerful stereotype of hunter-gatherers proposes that they live in 'wild' landscapes and do not modify and transform them. This is not the case and was not the case in Mesolithic Ireland. In Dublin, growth rings on hazel rods used to build Mesolithic inter-tidal fish traps on the Liffey at North Wall Quay, show regular patterns of harvesting and regrowth – coppicing. Here



Overview of migration of key tree species across Ireland, moving south to north.

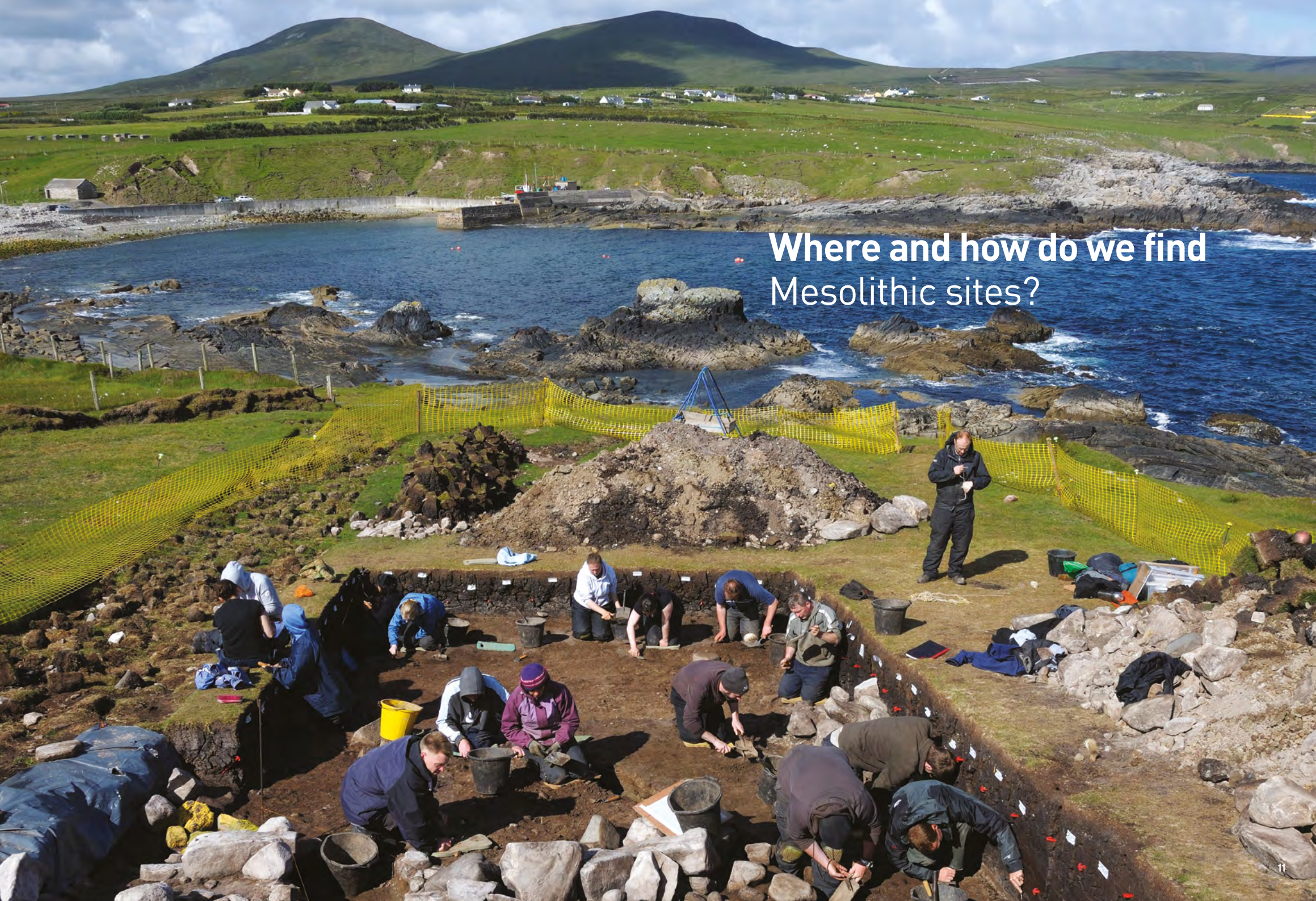
hunter-gatherers were structuring the woodlands in which they lived by repeatedly cutting hazel rods and allowing them to regrow for distinctive periods of time.

Mesolithic hunter-gatherers also almost certainly introduced wild boar to Ireland and certainly brought dog with them (the status of wild cat and bear is less certain but these may also have been introduced). These 'translocations' are paralleled throughout Mesolithic Europe. In an island context, the introduction of these species may have had significant ecological impacts. This was no wild woodland, but a product of the connections between Mesolithic people and their landscape.

As woodlands changed, so did other aspects of the landscape. As noted above, relative sea level changed during the Mesolithic: mainly as periods of inundation, but also retreat. Some of this change was rapid and would have been visible to communities attuned to the movements of the sea.

Ireland has also seen significant landscape change since the Mesolithic. Areas that were once lake edge, such as the Earlier Mesolithic site at Lough Boora, Co. Offaly, have been transformed into peat and deeply buried. Many Mesolithic sites are likely buried deep under or within peat bogs and are therefore very hard to find and at-risk during programmes of peat extraction. The fish traps at North Wall Quay were buried beneath 5m of silt. Reconstructing the Mesolithic landscape means considering dramatic scales of change.

UCD School of Archaeology excavations at a Later Mesolithic and Neolithic site at Belderrig, Co. Mayo 2008, funded by the Royal Irish Academy.
© johnsunderland.com.



Where and how do we find Mesolithic sites?

Finding and excavating Mesolithic sites is sometimes different than finding more recent archaeology. Whilst Mesolithic sites often include pits, hearths, spreads and other features which are the same as other periods, very few Mesolithic sites are visible on the surface prior to excavation. Shell middens (accumulations of cultural material dominated by shell) and low platforms constructed at the edges of lakes are important exceptions. This absence of surface visibility has very important implications for how we can find these sites: before the large-scale excavations carried out in advance of infrastructure and other development, locating sites often began with searching for scatters of worked stone. This might mean making collections from a ploughed field, a drained bog, or an eroding beach. There are many biases influencing where such finds might be made. Easy to identify stone tools, such as those made in flint which is common in the northeast of Ireland, are much more likely to have been recognised and reported than those in more challenging materials, such as quartz. Surface collections like this played an important role in developing our understanding of Mesolithic Ireland.

Some of these locations have been the target of research excavations, often led by university teams. These have identified significant and varied sites. But in recent years by far the most important contribution to Mesolithic archaeology has been from excavations carried out in advance of infrastructural development. This contribution takes two main forms: the first are spectacular finds and sites; the second much more mundane. Both speak to the high quality of Irish archaeological fieldwork.

Spectacular sites include an early cremation cemetery at Hermitage, Co. Limerick, where at about 7400 BC the partial cremation of an adult male was placed in a pit marked by a post, and an elaborate stone axe was deposited in the cremation. The axe had been deliberately blunted, or killed perhaps, before

Location map of Mesolithic sites/findspots in Ireland. Map created by Kieran Westley on the basis of location data collected by the late Prof Peter Woodman and courtesy of Paddy Woodman.



Shale adze from cremation burial at Hermitage, Co. Limerick. © Matt von Tersch.

deposition. Wooden fish traps, found at North Wall Quay and by an artificial lake-edge platform at Clowanstown, Co. Meath, are beautiful and intricate.

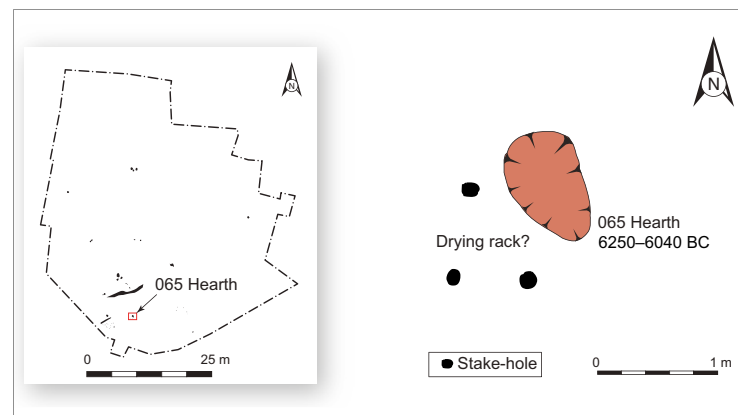
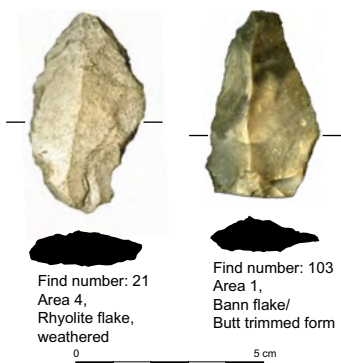
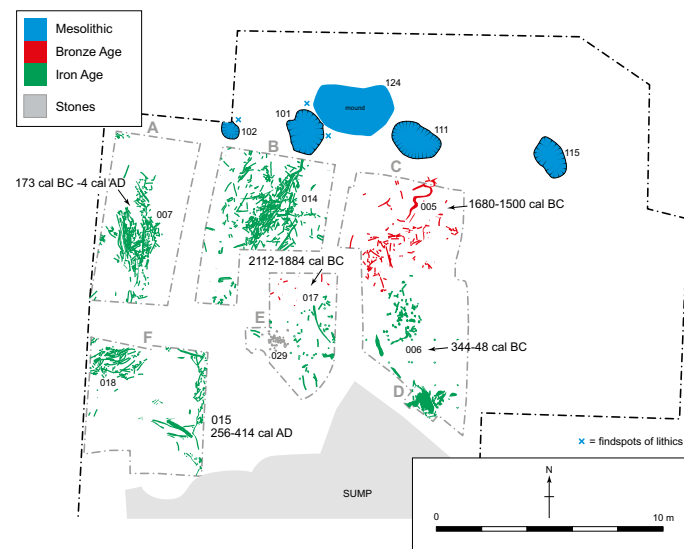
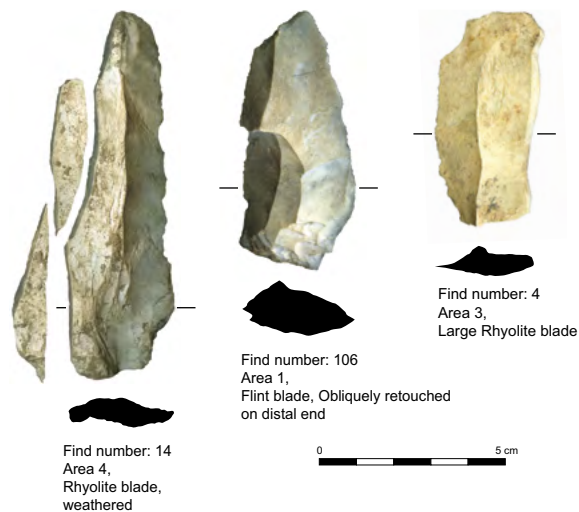
But many developer-led excavations have not found the spectacular. They have found spreads, occupation soils, pits and a few stone tools. In isolation, this is ephemeral and hard to interpret archaeologically. But at an island wide level, this is one of the *dominant* forms of Mesolithic archaeology in Ireland, and any attempt to make sense of the period requires a substantial engagement with this rather low-key evidence. That it might not appear spectacular does not mean it is not important.



Later Mesolithic artefacts from the River Bann, Whelan collection. Collections like these, made in the late nineteenth and early twentieth century provided much of the early evidence for what we now understand to be Mesolithic settlement. These artefacts are approximately 10cm in length. © National Museum of Ireland.



These different processes of recovery have had a significant impact on the overall distribution of Mesolithic sites which, to a large part, is a map only of where we have found material – not least because of the loss of so much Mesolithic landscape to sea level change. Mesolithic material is found island wide. It is often found in coastal, riverine or lake side locations and is not frequently found in upland locations. Of course, many places were visited and explored during the Mesolithic but without any kind of archaeological trace. This was an island of hunter-gatherers for at least 4000 years. They knew it well.



Many sites excavated in advance of development in Ireland are not spectacular. But the repeated presence of spreads, pits and fire settings tells us very important things about the Mesolithic.

Left and top right: Later Mesolithic stone tools and archaeological features from Newrath 34, Co. Waterford. (images by Headland Archaeology Ltd).

Bottom right: Later Mesolithic excavated features at Curraghprevin 3, Co. Cork. (image by ACS Ltd.).

All images courtesy Transport Infrastructure Ireland.

What do we find? Mesolithic buildings and architecture

Mesolithic communities constructed places by making careful choices about the kinds of built environments they wanted. There is great diversity in the forms of buildings, but recent work suggests that three broad types can be identified.

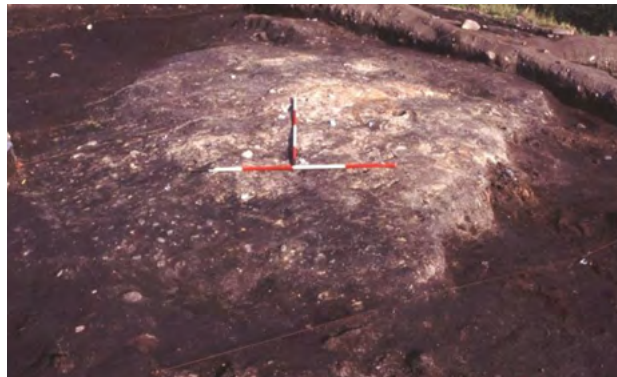
The first are large buildings with well-defined posts and, sometimes, central fireplaces. The best known is at Mount Sandel, Co. Derry, from shortly after 8000 BC in the Earlier Mesolithic. This is a 'pit house' about 6m in diameter and of a kind well known throughout northern Britain at the same time: they are frequently reoccupied on more-or-less the same footing. It would have had a timber frame and thatch or sod coverings, and probably a floor of vegetation. It was probably a dwelling used for an extended period and might be called a 'house'. They are imposing, substantial structures.

Some dwellings, such as circular structures with possible porch features from Eglinton, Co. Derry, are best understood as involving the re-use of some stored components on site – such as poles over which a covering could be spread. These stored components could be reused or re-erected over time, but because of their size, were not truly mobile.

Finally, and in the context of people with a relatively high degree of routine mobility, it is likely that tents and other light dwellings might have been a common form of architecture. Importantly, because of their design, tents are very unlikely to leave a clear archaeological trace (although it is not impossible).



Reconstruction of Mount Sandel type house at UCD Centre for Experimental Archaeology and Material Culture. This build has a mainly sod cover with thatch at apex to allow smoke to escape.
© Graeme Warren.



Many Mesolithic sites are not characterised by clear structural evidence, but significant accumulations of culturally modified 'occupation soils'. These are likely to result from the repeated use of structures such as tents in the same place over long periods of time. They can be deep, and include charcoal, plant remains, bone and shell, as well as stone tools. Apart from the density of shells, sometimes it is hard to tell the difference between these deposits and shell middens. Both arise from another key feature of the Mesolithic: the creation of so-called 'persistent places', places that were returned to over hundreds of years. It is likely that hunter-gatherers visiting these places had knowledge of these prior visits, perhaps through the presence of worked stone, or influences on the woodland, for example. Visiting a persistent place was a way of connecting with those who had gone before.

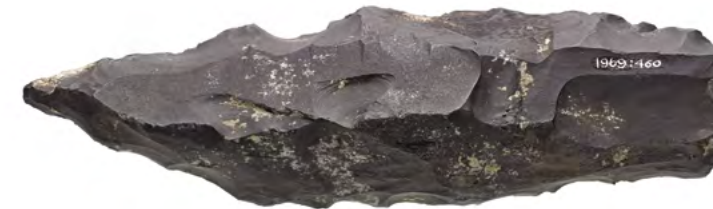
As outlined above, sites also include pits and spreads. Pits were used for a variety of tasks: probably including storage, deliberate and ritualised deposition and dumping of rubbish.

Mesolithic communities also constructed lake-edge platforms out of stone, marl and timber. Some, at least, of these platforms had buildings constructed on them. The platforms may have resulted from repeated actions of adding materials to a feature and may also have a role as a marker of place. Timber posts, such as at Hermitage, certainly appear to have been used as such.

Top:
The very stony layers sealed beneath the bog here are a Later Mesolithic 'occupation soil' at Belderrig, Co. Mayo. Scale in 20cm divisions. © Graeme Warren.

Middle:
A half-excavated shallow Later Mesolithic pit at Belderrig, Co. Mayo. Scale in 20cm divisions. © Graeme Warren.

Left:
Later Mesolithic platform, Moynagh Lough, Co. Meath. © Michael Potterton.



Later Mesolithic chert pick, Kinale 1, Co Longford. Picks like these are often 10-15cm long. © National Museum of Ireland.

Mesolithic material culture

Our understanding of the range of objects which Mesolithic people used to interact with the world and sustain relationships is heavily influenced by the vagaries of archaeological survival. On most Mesolithic archaeological sites in Ireland artefacts made of organic materials such as wood or bone do not survive. But a small number of waterlogged sites and shell middens do preserve these materials.

These objects include the fish traps from Clowanstown and North Wall Quay, showing the skilled manufacture and use of both basket and fence traps to exploit lakes and intertidal environments. Other wooden artefacts include small lengths of pine burnt at one or both ends and assumed to have acted as brief, flickering torches and the toy boat from Clowanstown. Bone points, presumed to have been used in fishing, have been recovered from the River Bann.

Recent excavations of a shell-midden at Fanore have identified Ireland's first cowrie shell beads – an artefact type also known in Scotland and Brittany. This is our first item of Mesolithic jewellery or clothing in Ireland, although the pigment red ochre is known from Mesolithic sites in Ireland and was presumably used for decorative purposes.

By far the most frequent item of material culture are stone tools, not least because so much of the waste from manufacturing stone tools survives. The story of the Irish Mesolithic is often collapsed into its stone tools. The Earlier Mesolithic used a distinctive technology focused on the production of microliths for some of its tools. The term microlith describes small sections of blades which were snapped and modified into distinctive shapes, and then multiples of these components were hafted into composite tools.



Microliths. Knowles collection, Glenone, Co. Derry. Microliths are almost always less than 5cm in maximum size, with most only 2-3 cm long.
© National Museum of Ireland.



Cache of 13 blades and flakes, Dalkey Island, Co. Dublin.
© National Museum of Ireland.



Cache of six blades and flakes, Kells, Co. Meath.
© National Museum of Ireland.



Ground stone axes from the Earlier Mesolithic Lough Boora, Co. Offaly.
© National Museum of Ireland.

Microliths are almost always less than 5cm in maximum size, with most only 2-3 cm long. This technology is directly comparable to Britain and Europe.

The Later Mesolithic sees new types of stone stools, including larger flakes and blades, some of which are reshaped into forms now known as Bann Flakes after their frequent recovery in and near the river Bann. These are sometimes found in distinctive hoards, sometimes in multiples of three objects.

This technological change from Earlier to Later Mesolithic is often described as a loss of the microlithic technology in the context of island isolation. This is very unfortunate, because Later Mesolithic stone tool technologies appear to have been developed to allow the use of a wider range of raw materials and a different form of mobility. In the Earlier Mesolithic the need for high quality materials

for narrow blade and microlith production put limits on movement. In the Later Mesolithic, large blocks and pebbles of flint, chert, silicified-siltstones, -dolomites and -mudstones, rhyolites and quartz were all used. As in the Earlier Mesolithic, as well as flakes and blades, tools flaked from blocks of stone were used, such as picks.

Ground stone artefacts including axes were manufactured in the Earlier and Later Mesolithic. Towards the end of the Later Mesolithic, distinctive Moynagh Points appear in the archaeological record, so called after their discovery during excavations of a Mesolithic occupation site at Moynagh Lough, Co. Meath. These are beautiful ground slate/shale objects, with parallels in Mesolithic Scandinavia. Far from being impoverished or crude, Later Mesolithic stone tool technology formed part of a flexible and diverse tool kit, albeit one we still understand quite poorly.



Details of Mesolithic fish traps, North Wall Quay, Dublin. From top left, clockwise: C-Shaped trap; basket trap; wattle trap; wattle trap. Scale bar in 20cm divisions.
© Melanie McQuade/Peter Kerins), Margaret Gowan & Co. Ltd.

Moynagh Point
from Cloonarah,
Co. Roscommon.
This is 38cm in length.
© National Museum of
Ireland.



Fragmentary fishbone from a Later
Mesolithic site at Belderrig, Co. Mayo.
© johnsunderland.com.

Mesolithic subsistence and health

The types of foods that Mesolithic people ate varied over the 4000 years of the period and within the island as well. Our evidence for their diet takes two forms: animal and plant remains found on sites, and direct information from the chemical composition of human remains which allows us to assess the origin of the proteins that people were consuming.

The latter shows us that some Later Mesolithic people living on the coast at Ferriter's Cove, Co. Kerry, had diets with protein almost exclusively from marine sources – mainly fish or shellfish. But a Later Mesolithic individual from a shell midden at Rockmarshall, Co. Louth, had a mixed terrestrial and marine protein diet. The only evidence for diets with a very high degree of marine protein comes from late in the Mesolithic, but as Earlier Mesolithic shorelines are now submerged it is hard to tell if this is change over time or just a preservation bias. In any case, the

evidence suggests variation over time and space. There was not just one Mesolithic diet in Ireland.

Our understanding of food remains is a little reliant on older excavations, often not excavated to the standards that we would use today. This places some limits on our knowledge. It is often hard to identify the relative reliance on different resources, not least given differences in preservation of different classes of evidence. Key mammals include wild boar, hare, cat and bear. Seals and cetaceans are rare. Birds including ducks, pigeons, snipe, gannets and guillemots appear to have been eaten, as – presumably – were their eggs. Fishing took place using traps and, assumedly, spears and lines. There is great variation in the types of fish found, some reflecting local environmental variation, but cod, flat fish, ballan wrasse and conger eel are the most frequent marine species found. Salmon or trout, and eel, were

fished in rivers and lakes. Shellfish including limpets, mussels, oysters, periwinkles and carpet shells were consumed.

Plant foods are the least likely to survive archaeologically but would have been a key resource – we are seeing only a small aspect of what must have been consumed. Hazelnuts have frequently been found on Mesolithic sites because they are relatively robust once carbonised. Seeds of pear/apple, crowberry, blackberry and yellow and white water lily have been recovered, as well as lesser celandine, vetches and cleavers. Many of these plants have good eating properties and are well known as herbals.

The Mesolithic diet therefore could be rich, and although we have no detail of the cooking and consumption of food we can assume it was a central social occasion – with sharing likely to have been important. Food was highly seasonal, and times of shortage likely. Pits are common on Mesolithic sites and some may have played a role in food storage.

There is only a small amount of human skeletal material from Mesolithic Ireland, which makes comments on health difficult. Looking at material from Mesolithic Europe provides context here: illness, pathology and evidence for inter-personal violence are common. This includes characteristic evidence of post-weaning dietary stress. Childhood and childbirth were high risk, and women may have given birth young, perhaps at 14-16 years old. Arthritis and other degenerative conditions are well-evidenced, with teeth often heavily worn from use as a tool – possibly associated with chewing hide as part of processing it. In some places this is more common in women than men providing a hint of a gendered division of labour. The skeletal remains from Ireland are dominated by males, and one individual from Ferriter's Cove, Co. Kerry, has heavily worn teeth, perhaps from their use as a tool.

Mesolithic societies

Understanding how the societies of Mesolithic Ireland were organised is challenging, but we can identify some themes.

As noted above, mobility was common in the Mesolithic of Ireland. In mobile hunter-gatherer groups people may routinely have spent much of their time in comparatively small, but flexibly defined groups, meeting others for larger gatherings at moments in the year. Shell middens have sometimes been seen as places where gatherings and feasts took place.

The importance of tents as a key architectural type within the Mesolithic was stressed above. It would be easy to see this as simply a stereotypical thing that hunter-gatherers do, an outcome of their mobility. But for many contemporary mobile hunter-gatherers living in settlements with very little architectural elaboration is also a way of maintaining a particular kind of community. The emphasis on communal space means that settlements are characterised by a high degree of sharing: sharing of space, sharing of presence, and sharing of resources. All of these practices help maintain comparatively egalitarian social relationships. Choosing to live in tents might therefore have been linked to a key form of Mesolithic sociality: one which was characterised by an intensity of shared experience and an emphasis on equality. Conceptions of kinship are likely to have been important here and in many hunter-gatherer societies kinship is not limited to close biological relationships, but binds communities across long distances.

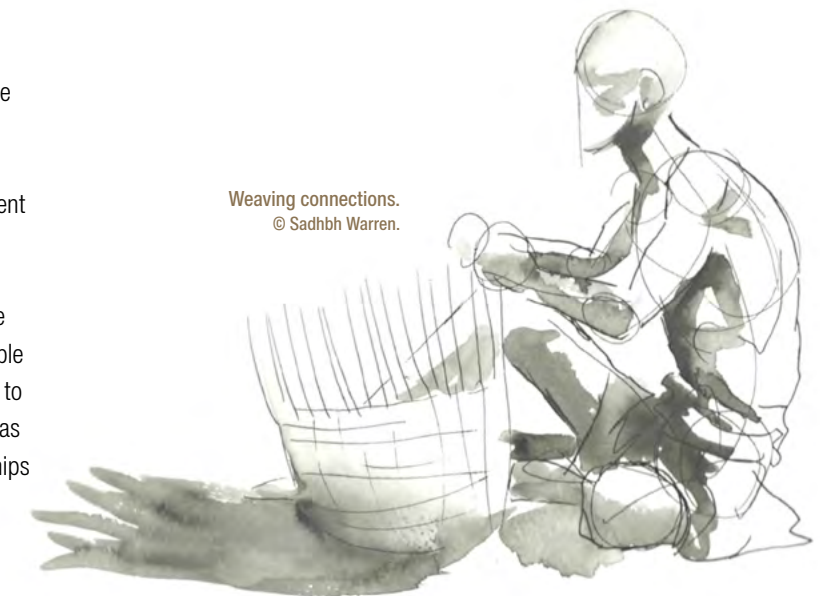
Against this background we have evidence in Ireland of long-distance movement within the island of small numbers of stone tools, sometimes from distinctive raw materials, possibly evidence of long-distance journeys. Seasonal gatherings of larger groups must also have taken place: perhaps these are

the 'persistent places' that characterise our data. Such journeys involve risk and the expectation of hospitality. Maintaining relationships with kin over long distances to enable these journeys and meetings may have been important.

Humans (re)colonised Ireland with other species – not least dogs and boar. In common with many non-Western societies, the Mesolithic of Ireland is best considered as a 'multi-species' community where social relationships – and understandings of kinship – extended beyond the human to encompass the animals, plants and other inhabitants of woodlands with which they shared their worlds. In many societies, concepts of personhood are not limited to humans. The details vary greatly, but animals, plants and objects that to us would be inanimate, can all share aspects of personhood and are linked through relationships that require maintenance and care. The details elude us, but in this context the evidence from animal bone assemblages for the apparent Mesolithic consumption of birds of prey such as owls, peregrine falcons and eagles might be best understood not as driven by calorific need, but as an attempt to take on the properties of those birds.

Relationships were also maintained with the dead. The treatment of the dead in the Mesolithic of Ireland was varied, and in keeping with European parallels. At times, formal cemeteries were established as at Hermitage, and caves were used for the deposition of human bodies or fragments thereof, as for example at Killuragh Cave, Co. Limerick. Parts of human bodies appear to have circulated amongst the living. This is probably best seen as the outcome of practices that attempted to maintain relationships with the dead or thought that the dead (or parts of them) had power in the present.

Here it is important to emphasise that the Mesolithic changed over time and was not static. The emphasis on shared spaces and egalitarian social relations, for example, appears to have developed in the Later Mesolithic. There are some hints in our data that the very latest parts of the Mesolithic saw this come under more pressure: the resurgence of an interest in the dead, platforms marking locations at the edges of lakes, perhaps even the finely-made Moynagh points are all practices that suggest increasing ways of marking relationships with place and carry more potential for the development of inequality. The development of inequality in hunter-gatherer societies is often linked to resource constraints or population growth, and analysis of the frequency of radiocarbon dated Mesolithic sites suggests a possible small rise in population at the end of the Mesolithic. It is possible that these new practices were a way of negotiating these demographic changes.



Weaving connections.
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The arrival of farming

In the centuries surrounding 4000 BC the long period of hunter-gatherer Ireland ended with the arrival of the Neolithic. The processes involved are complex, and still poorly understood. By about 3700 BC a distinctive new way of life was present in Ireland, characterised by timber halls/houses, stone built funerary monuments and the use of domesticated plants and animals: including wheat, barley, cattle and sheep/goat. These new resources were imported to the island, seemingly with the arrival of a new human population from Europe. Once established, there is little evidence of Mesolithic genetic legacy in this population, although the demographic processes which caused this are unclear.

The period prior to this Neolithic ‘house horizon’ is both more ambiguous and more interesting. At 4500 BC at Ferriter’s Cove, Co. Kerry, domesticated cattle bones were imported from France and appear on a Later Mesolithic site. They may indicate an attempt at Neolithic colonisation, or Mesolithic hunter-gatherers obtaining animals (or animal products) through trade and exchange with France.

The period immediately following 4000 BC is fascinating. There is continuity of hunter-gatherer activity on some sites, including long-used coastal settlements and some lake-edge platforms. At some of these sites with long Mesolithic histories, such as Clowanstown, Co. Meath, activity now includes new technologies such as pottery and the formal deposition of cattle skulls. New forms of Neolithic activity also appear, such as the construction of a large ditched causewayed enclosure at Magheraboy, Co. Sligo, and funerary monuments. Burials at the Poulmabrone, Co. Clare, portal dolmen show that new populations were arriving on the island. Pollen evidence suggests that woodlands were increasingly disturbed at this time, but cereals are rare. This

period seems to show some forms of interaction, or at least co-existence, between hunter-gatherers and farmers, perhaps with the latter relying on a cattle-based economy. This may have been transformative for both the indigenous hunter-gatherers and the incoming farmers.

In any case, by the end of this period of interaction, and with the appearance of the Neolithic house horizon the world of hunter-gatherer Ireland was changed and Ireland was settled by farmers with their own social organisation. Although the use of wild resources continued, after many thousands of years, distinctive hunter-gatherer ways of life and forms of sociality had ended on this island.



Hunter gatherer archaeology in Ireland

The archaeology of hunter-gatherers is a distinctive sub-field of archaeology which, in many parts of the world, combines archaeology, genetics, linguistics, oral tradition, and ethnohistories. In some parts of the world collaborative research with Indigenous communities enriches archaeological approaches by combining archaeological and Indigenous forms of knowledge and understanding.

In Ireland, understanding deep-time hunter-gatherers is mainly an archaeological task, supplemented by a small amount of useful genetic evidence. Because hunter-gatherer archaeology is the oldest archaeology in Ireland it has been most transformed by the passage of time. It is inherently interdisciplinary, requiring the combination of palaeo-environmental sciences to understand both the changing landscapes and climates that characterised the Mesolithic period and also the influences that landscape change since the Mesolithic has had on the character and distribution of archaeological material.

Like all archaeology, the archaeology of Mesolithic Ireland is necessarily comparative: we make sense of what we don’t know by reference to what we do. Given the power of stereotypes of the hunter-gatherer it would be easy to do this by drawing analogies and comparisons from hunter-gatherer groups living today, perhaps especially those living in similar environments. For this reason, it is common to see comparisons made between European Mesolithic communities and contemporary Siberian groups. Given the problematic history of the term ‘hunter-gatherer’ and the diversity of forms of social organisation included within it, such approaches need critical consideration. Hunter-gatherer archaeology in Ireland is therefore highly self-reflexive, not least in understanding the influence of colonialism on our practices and interpretation.

A recent open access paper offers an overview of the field of Hunter-Gatherer Archaeology.

Warren, G.M. 2021 *Is There Such a Thing as Hunter-Gatherer Archaeology?* Heritage 4, 794-810.
www.mdpi.com/2571-9408/4/2/44

Unfortunately, most Mesolithic sites in Ireland leave very little surface trace and require lots of imagination. Very few have been developed as visitor attractions. There are good displays of Mesolithic material at the National Museum of Ireland, Kildare Street, Dublin and at the Ulster Museum, Belfast.

An interactive ‘Story Map’ of key Mesolithic sites is available at



Two recent books offer summaries of the Irish Mesolithic, with many references to follow up

Woodman, P.C. 2015. *Ireland’s First Settlers: Time and the Mesolithic.* Oxbow.

Warren, G.M. 2022. *Hunter-Gatherer Ireland: making connections in an island world.* Oxbow.

UCD School of Archaeology has a very active hunter-gatherer research group associated with its MSc Hunter-Gatherer Archaeology. News, updates and events are publicised on **Twitter: @hunterUCD**



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