

# The Mesolithic in North East Yorkshire



# **The Mesolithic in North East Yorkshire**

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# 1. The North East Yorkshire Mesolithic Project

The North York Moors National Park and Tees Archaeology have completed a project funded by Historic England to explore the evidence for Mesolithic activity on the North York Moors. The project involved:

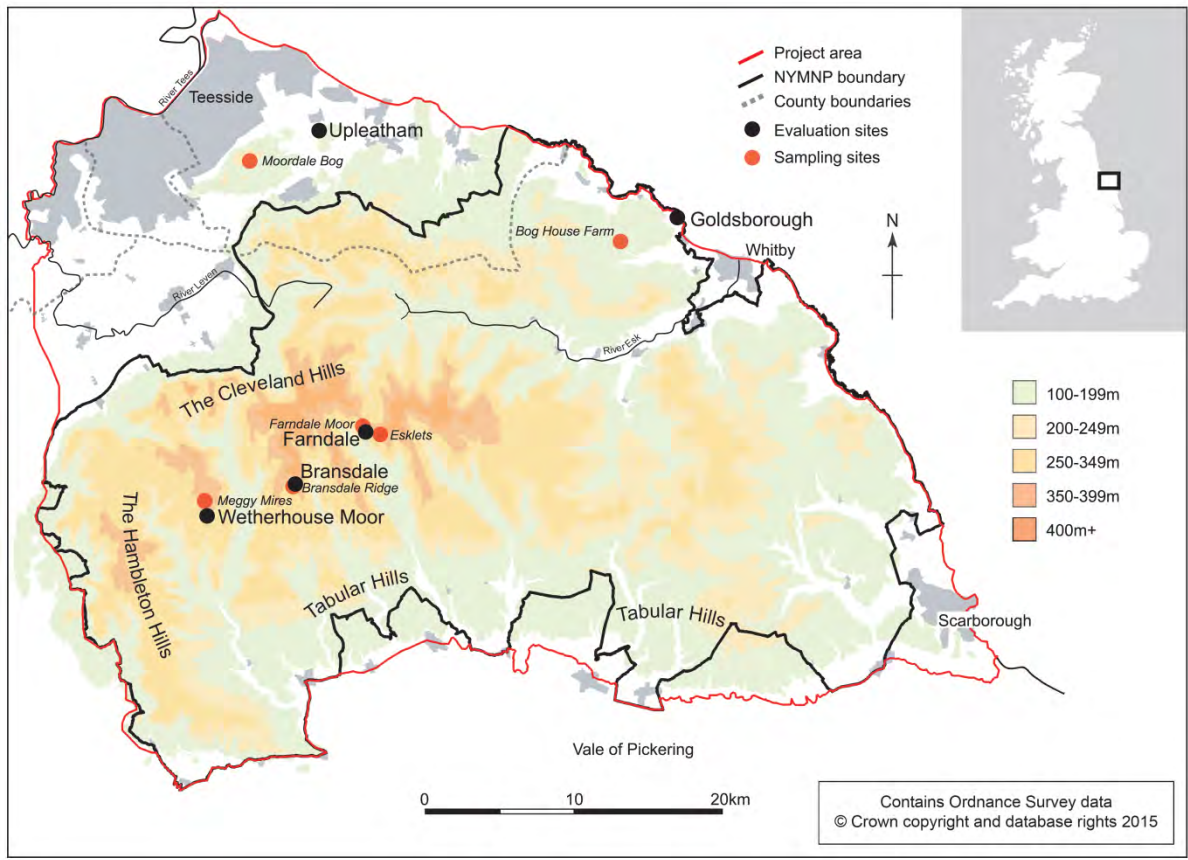
- examining collections of material that have been made over the last century
- reviewing past archaeological projects
- geophysical survey, shovel pitting and trial pitting on known concentrations of Mesolithic activity.

The fieldwork for the project was largely carried out by volunteers who braved extreme conditions in remote



and exposed locations to help collect evidence of the earliest human activity in the area.

*Excavating Trial Pits at Goldsborough in 2013*



*The North East Yorkshire Mesolithic Project Area. showing locations investigated by the project.*

## **The Mesolithic Period**

'Mesolithic' means 'Middle Stone Age' and it comes after the 'Palaeolithic' (Old Stone Age) and before the 'Neolithic' (New Stone Age). The Palaeolithic covers the long period up to c.9600 years BC, while the Mesolithic runs from about 9600 BC to about 4000 BC in the north of England. After 4000 BC farming develops in the period known as the Neolithic. The Mesolithic is the first period with surviving evidence of human activity in the area. People may have been here before this but virtually all evidence has been destroyed by the last Ice Age.

## **2. North East England in the Mesolithic Period**

### **The End of the Last Ice Age**

Before c.9600 BC, Britain was in the grip of the Ice Age. The climate was extremely cold with vast ice sheets or glaciers covering much of northern Europe, although periods of glaciation were interspersed with warmer phases known as interglacial stages, when the ice sheets would retreat allowing plants, animals and people to colonise the landscape.

The last glaciation reached its maximum extent around 20,000 BC after which the ice began to retreat. The climate in Britain was still likely to have been too harsh to attract humans for many millennia, but around

13,000 BC there was a rapid improvement in climate, with summer temperatures approaching 20°C. It became colder again around 11,000 BC and this may have pushed people back out of Northern Britain until another period of warming in 9600 BC that has continued until the present day.

## **Sea Level Change**

As the Ice Age finished and it became warmer, sea levels rose worldwide and this had a particular impact on Britain, creating the islands we know today as the lower lying ground was flooded.

At the start of the Mesolithic, Britain was physically connected to Europe by a land bridge, known as 'Doggerland'. This is now under the North Sea, but at 9600 BC it was a low-lying landscape crossed by rivers and had an abundance of food resources for early Mesolithic people.

As water locked up in ice-sheets returned to the oceans, 'Doggerland' flooded and by 5500 BC the land bridge between the British Isles and Europe had been lost and the English Channel created.

Sea level rise was not always a gradual process and around 6200 BC a huge submarine landslide off the coast of Norway resulted in a tsunami or tidal wave which crashed into Scotland and the eastern coast of England. This must have had a devastating impact on Mesolithic communities who happened to be in its path



*Changing coastlines of the Mesolithic Period*

and it has left behind deep layers of sand along parts of the coast.

## **Climate and Ecology**

The Mesolithic is usually divided into an early and a late period. The early Mesolithic immediately followed the end of the Ice Age. There was a rapid warming of the climate with summer temperatures rising by as much as 10°C. However the climate was still cold with a tundra-like landscape of grasslands giving way to an open forest. Many tree species take time to get established and the early forests consisted of rapidly colonising types such as birch and the nut-bearing hazel. The climate would have been drier than it is today but quite a lot cooler.



The open forests and grasslands of the early Mesolithic would have provided habitats for a variety of animals. These included a number of now extinct species known as mega fauna, due to their vast size compared to their modern relatives. Examples include aurochs (wild cattle), megaceros (giant deer) and elk.



*The Tees estuary c. 10,000 BC*

There were also herds of red deer and wild horses while smaller animals including pine marten would have been abundant in these early forests. A number of predatory animals were present in the Mesolithic, including bear and wolf. We also know that dogs were domesticated by this period and while archaeological evidence for this

is rare examples have been found at Star Carr in North Yorkshire.



*Wolves attack an Aurochs*

In the later Mesolithic the climate became wetter and warmer. Lime and oak trees spread across the lowlands providing a much denser forest canopy. These forests allowed less light to get to the forest floor, meaning that there would be fewer grasses for grazing animals and less to hunt for Mesolithic people. The poorer soils of the upland areas would have had a less dense cover of birch, ash and pine that would have been richer in plant and animal resources.

The denser oak forests were less encouraging to animal life. Smaller species, including roe deer, fox and the acorn-exploiting wild boar, began to replace the mega-fauna that may have been hunted to extinction. Animals

such as horse that are not suited to heavily wooded conditions also died out in the area.

Away from the forests, the north-east coastline and its rivers would have provided access to fresh-water and marine fish, shellfish, and a wide variety of birds and marine mammals such as seal, which may have lived in large colonies. The marine life provided a secure food resource that could always be relied on even if plants or animals became scarce.

### **3. The Mesolithic Way of Life**

#### **The Rhythm of the Seasons**

Mesolithic people relied upon the natural world for all of their needs, whether food, clothing, shelter or medicine and the availability of many of these resources would be determined by the seasons. There is, however, good evidence that there were more than sufficient resources available to these hunter-gatherer people throughout the year and studies have shown that this lifestyle can require less energy and work than farming.

While people may have moved around a territory and to specific locations for seasonal events such as salmon runs, there is growing evidence that certain locations were revisited frequently and may have been occupied for long periods of time.

## **Hunting and Fishing**

Evidence for hunting can survive in the archaeological record. Animal bones have been found on a number of Mesolithic sites but the flint and antler tools used to hunt and process the prey are more common. Animals were hunted with bows and arrows or spears, the tips of which would have small stone flakes (microliths) embedded in them using natural resins and bindings made from plant stems, animal hide or sinew.

Any animal caught would be a valuable source of meat and materials. The latter would include fur, hide and sinew for clothing, antler and bone for tools and bladders and stomachs for containers.

Mesolithic hunters would have had an intimate knowledge of animal behaviour, seasonality and habitats and there is evidence that the hunters managed habitat by selectively burning areas of woodland. This encouraged new growth and attracted grazing animals such as deer.

Fish and other sea creatures would have been an important part of the Mesolithic diet. Winkles, limpets, whelks and crabs would have been available from the local coast. Seal colonies would have been exploited for their meat, blubber and skins and it is probable that hunters took to the sea and rivers in log or skin boats. Fish were caught with bone hooks and by spearing using two- or three-pronged harpoons again tipped with

microliths. Simple nets were probably also made for inshore fishing.

## **Gathering**

A wide range of plants would have been used by Mesolithic people including nuts, fruits, berries, fungi, leaves and roots and these would have formed a large portion of the diet. Plants and timber would also have been used for medicines, dyes, poisons and the manufacture of items such as rope, baskets and bedding, weapons and for building shelters.

This aspect of everyday life was far more dependent on the seasons and on yearly variations in the quantities available. Unfortunately this type of material does not survive well archaeologically and we are as yet unable to determine the balance between animal, vegetable and marine foods in the Mesolithic diet. This is something we may begin to learn more about as scientific techniques develop and more Mesolithic burials are found.

## **Structures**

Until very recently Mesolithic peoples were regarded as living in temporary shelters which used animal skins to provide a protective covering. In the last ten years, however, a number of house sites have been found which seem semi-permanent and suggest that some people lived in one location for a significant amount of time.



*Reconstructed Mesolithic building at Howick, Northumberland (© Clive Waddington)*

At Howick on the Northumberland coast, a Mesolithic structure was excavated in 2002. This had been rebuilt on three occasions from about 7800 BC. It had a sunken floor, approximately 6m in diameter and 0.5m deep. The edge of the sunken floor contained a ring of post-holes that would have held upright timber supports. Several experiments have taken place to reconstruct the structure and it is felt that a tipi-shaped hut is the best explanation for the arrangement of postholes and this would have been adequate to support a fairly heavy but weather-tight turf covering.

It is also clear that favoured places were often re-visited. Mesolithic camps high on the North York Moors are unlikely to have been continuously occupied but there is evidence that hearths were built and re-used, often over extended periods of time. At Star Carr, in the

Vale of Pickering, North Yorkshire, timber platforms were built around the edges of a lake and at least one building is known which even pre-dates that at Howick, having been dated to about 9000 BC.



Star Carr is particularly important for the level of preservation of timber, bone and antler items and these throw much greater light on Mesolithic activities than we can get from the stone tools that usually survive.

*Preserved timbers being excavated at Star Carr (© Nicky Milner)*

Objects include head dresses made out of red deer skulls (frontlets), antler points, amber and shale beads and a wooden paddle.

## **Beliefs**

The complex interaction between Mesolithic communities and the landscape probably meant that beliefs and rituals varied both regionally and possibly within different landscape settings and in addition probably changed over the 6000 years of the period.

Rituals performed in the vicinity of the coast and rivers may have been different from those on high ground. It is very likely that Mesolithic people had a rich folklore and that this was shared through storytelling.

Archaeological evidence for Mesolithic ritual is



extremely scarce. Excavations at Star Carr produced a number of stag frontlets that had been modified and perforated to be worn on the head.

Red Deer antler head dress, Star Carr (© Trustees of the British Museum)

These may have been used as a hunting disguise or perhaps during some form of ritual practice.

There are few Mesolithic burials known from the British Isles. Cave and midden burials of this date are known from elsewhere in the country and there is often evidence that bodies had decomposed prior to burial.

A number of very early Neolithic burials are known from the coastline around Hartlepool and Redcar. These were bodies placed in shallow marshes or bogs and it is possible that this tradition had evolved from an earlier period.



## **4. Hunter–Gatherers in North East Yorkshire**

### **Mesolithic Activity in the Landscape**

The North East Yorkshire Mesolithic Project collected together evidence for all the known locations of Mesolithic activity in North East Yorkshire and using this information it was possible to define favoured zones of activity across both the lowlands and uplands of the area.

Lowland activity tended to be focussed on two types of locations. Firstly around water bodies, such as the former lake basin at Seamer Carrs and the former course of the River Leven at Levensdale, and secondly on slightly higher ground providing views across the Tees Estuary and the coastal plain. Sites on the Eston and Upleatham Hills and along the coast at locations such as Goldsborough fall into the latter category.

Mesolithic activity on higher ground tends to occur between 350 - 400m above sea level with particular concentrations between 360 - 380m. There is very little evidence of activity on the highest moors, more than 400m above sea level. The preferred sites are prominent locations adjacent to water courses, particularly spring heads. Typically the spring heads are quite large basins that have multiple sites around their

edges. Examples include Bluewath Beck on Glaisdale Moor and White Gill on Westerdale Moor.

In addition to archaeological work there has been a great deal of palaeo-environmental research into the Mesolithic period in the area. This has been carried out by taking cores from peat deposits, carrying out radiocarbon dating on them and examining the surviving pollen within the cores. As well as revealing the vegetation types on the moors and lowlands (see above, 'Climate and Ecology'), this has consistently revealed charcoal in the samples which suggests that Mesolithic peoples were using burning as a tool to manipulate their environment. Interestingly, this evidence for the use of fire does not appear in samples dating to the Neolithic when farming communities were developing.

## **Early Mesolithic Activity**

There is relatively little evidence for the earliest Mesolithic in the project area, but it is spread across the whole area, although with fewer finds along the coast. The finds include elements of the Late Upper Palaeolithic toolkit which suggests that artefact types like 'shouldered points' (see below) continued to be used in the early Mesolithic. The toolkit of this early period is designed to deal with the large game animals

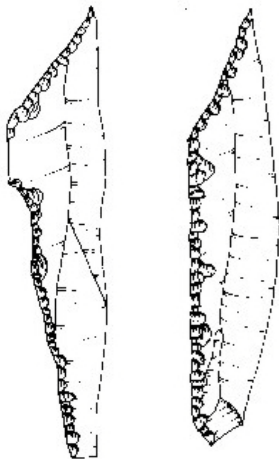
that populated this tundra landscape and is focussed on hunting and butchery.

## Early Mesolithic Artefact Types

### Shouldered Points and Creswellian Points

These flint tools were produced by the earliest people to occupy the area following the last glaciation.

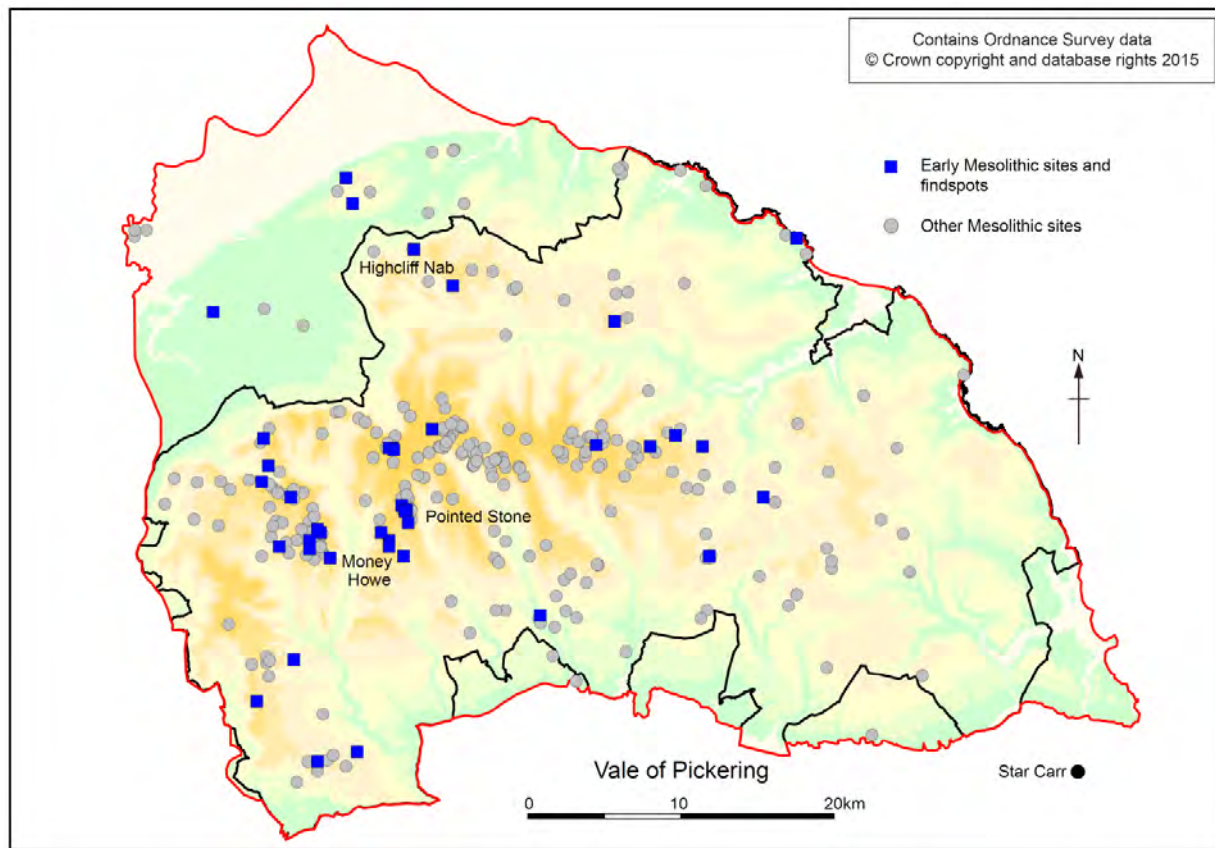
Shouldered points have a notch on one side, while Creswell points (named after Creswell Crags where they were first identified) tend to be heavily worked down one side only.



These tools are mainly 'burins' used for working bone and antler and were designed to chisel a groove and create a large splinter of bone or antler to be worked into different types of tools.

Shouldered point and Creswell point (© Clive Waddington)

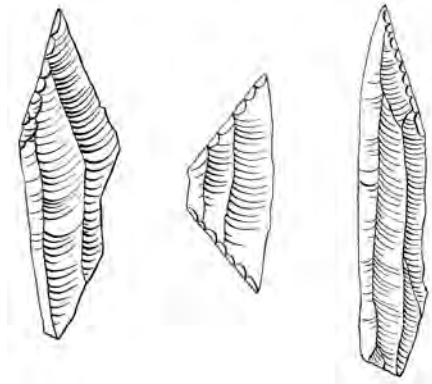
Examples of these flints were found by the project at Farndale and had previously been collected from the same area by fieldwalking.



*Early Mesolithic sites and findspots*

## **Broad blade microliths**

Broad blade tools are clearly associated with Mesolithic communities and represent the beginning of the transition to the microlith traditions of the later Mesolithic. The toolkit is similar to that of the Late Upper Palaeolithic, containing burins, scrapers, piercers and awls and is still focussed on large animals. The method of manufacture changed, with regular blades being struck from carefully prepared cores and increasingly used as barbs for spears and arrows.



*Broad blade microliths*

The widespread use of the bow and arrow is a specific development of the Mesolithic, probably arising from the transition from the large animals of the late glacial to the smaller animals of the post glacial environment. The mammoths and other large game of the late glacial had thick skins which might throw off arrows, but they were slow enough to get sufficiently close to use spears. In contrast, the smaller, quicker animals of the post

glacial, such as deer, were more difficult to get close to and arrows would have been more effective.

## **Early Mesolithic Sites in North East Yorkshire**

Three Early Mesolithic sites have been investigated in the past. At Money Howe near Bilsdale two or three concentrations of flint were found within a circular scatter which included burnt flint and may indicate a number of hearths. The site has been radiocarbon dated to between 9000 and 8500 BC.

There were flint concentrations, hearths and indications of shelters at Pointed Stone (Bransdale). It appears that this was a favoured location re-occupied frequently. Highcliff near Guisborough is slightly different, occupying a vantage point over a valley and may have been used as a lookout. |



*Highcliff Nab*

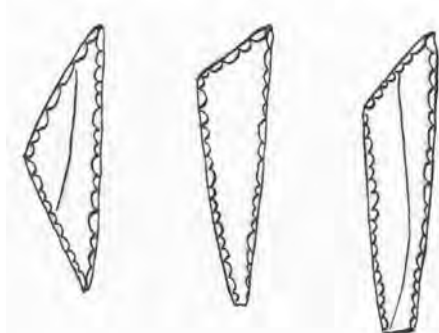
## Later Mesolithic Activity

There is a much greater intensity of activity in the later Mesolithic. The location of sites is very much the same as in the earlier period, but there are far more of them and the increased activity along the coast is particularly noticeable. Work by volunteers monitoring locations during the project found over 4,000 flints in almost 1,000 findspots.

## Later Mesolithic Artefact Types

### Narrow blade microliths

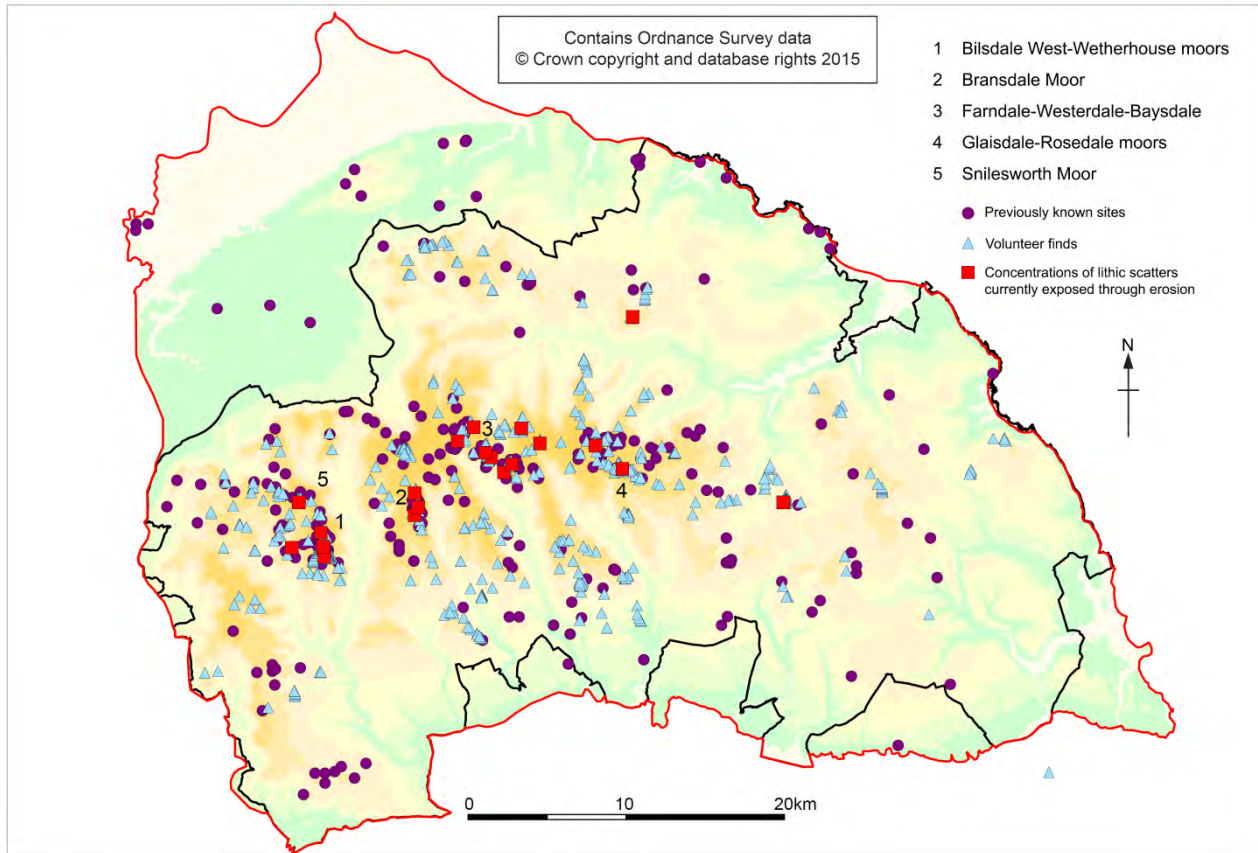
The basic technology of striking blades from a core remained the same, but the blades are narrower and often smaller, with distinct geometric forms.



These include backed blades, points and triangles and in the latest mesolithic rod microliths.

*Narrow blade microliths*





*All mesolithic activity. Previously known = sites known before the project. Volunteer finds = sites found by project volunteers*

## Later Mesolithic Sites in North East Yorkshire

Activity is widespread across the area but there are some significant foci of activity. The key areas seem to be Bransdale Moors, the Farndale-Westerdale-Baysdale watershed and the Glaisdale-Rosedale moors area. The pattern of deposition at many sites suggests repeated use over a long period of time, rather than intense use or occupation over shorter periods.



*Late Mesolithic site at Esklets*

The type of activity carried out at these sites is difficult to determine. However distinct layers of stone have been discovered by the project at Farndale High Moor and Bransdale and had also been noted at Highcliff Nab. Similar layers have been seen elsewhere on Mesolithic sites but the intent behind these is unknown.



*Layer of stones excavated by the project at Bransdale*

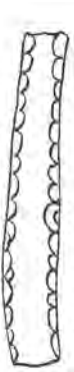
## **5. From Hunter-Gatherer to Farmer**

The date and character of the transition from hunter-gatherer to farming communities is difficult to pin down. The mechanism by which this happened was probably a mixture of locally evolved practices that made the best possible use of local resources and the arrival of new ideas.

There is little that is intrinsically better about a farming way of life, if natural sources of food are readily available. Indeed the variety of food types and locations may have meant that Mesolithic food strategies were more reliable than those of farmers who would have been dependent on relatively few food types.

## Transitional Artefact Types

### Rod Microliths



Rod microliths are the latest examples of a purely Mesolithic flint technology found in North East Yorkshire and occur on sites that post date 4000 BC.

*Rod microlith*

### Leaf - shaped Arrowheads



*Leaf shaped arrowheads*

These are a typical Neolithic artefact type, which show the same ability to work flint as was present in the Mesolithic. They are often very fine examples of flint

working but are completely distinct from the Mesolithic technology which was based on barbing wooden shafts with microliths, not producing arrowheads.

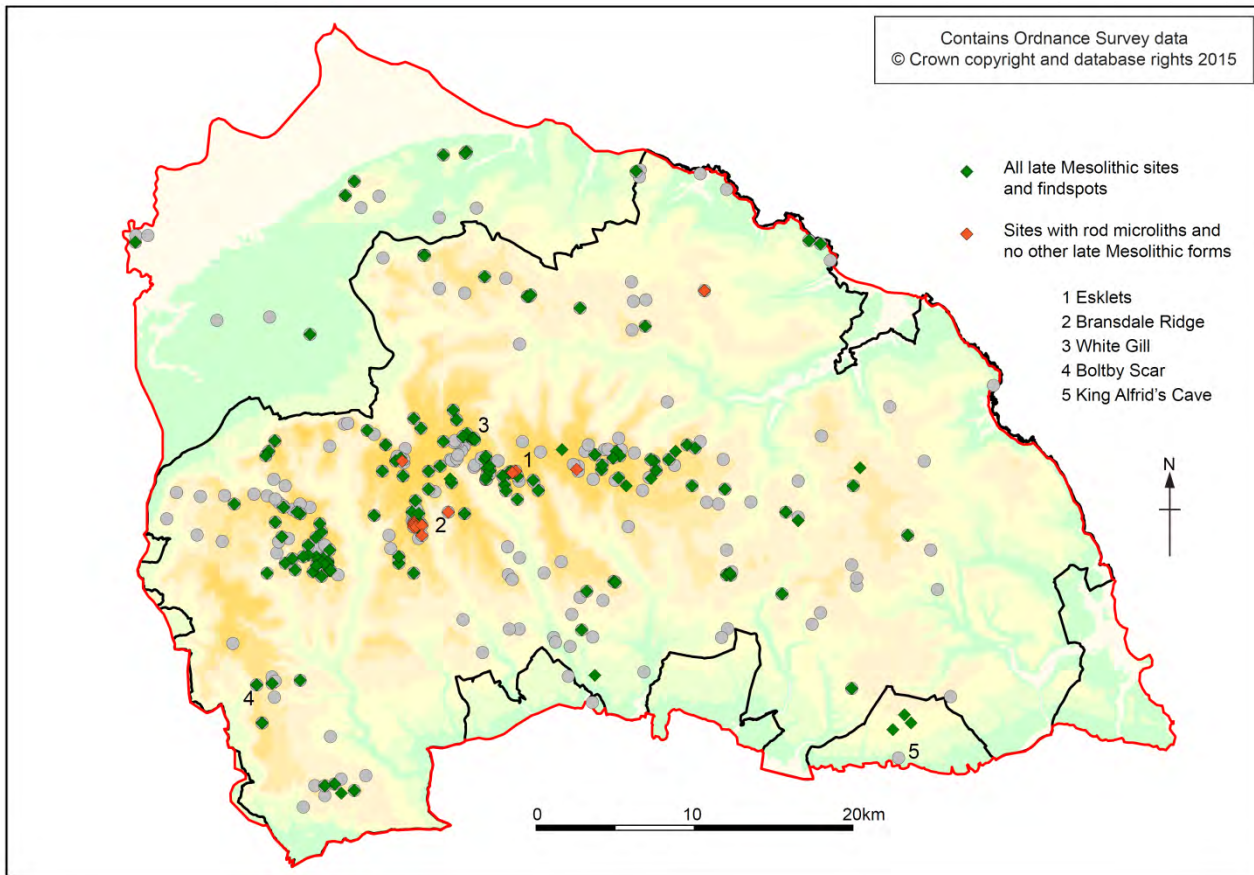
### **Polished Stone Axes and Adzes**

The introduction of polished stone objects is a major innovation of the Neolithic. Grinding and polishing stone was a new activity for the area and relied on a wider range of stone types than the flint used almost exclusively throughout the Mesolithic.

The new tools were not made from local material but from stone sources found many miles away from where they were used. It is also clear that this new tool type had a ritual connotation because examples are found as special deposits in a way which does not occur in the Mesolithic.



*Polished Stone Axes*



*Late Mesolithic sites*

## **Transitional Sites in North East Yorkshire**

Neolithic leaf shaped arrowheads are found on sites used in the Mesolithic and it is not clear if this is due to the deliberate re-use of sites that were favoured for millennia or is an accident of the realities of hunting on the moors. The juxtaposition of rod microliths and arrowheads must, however, indicate some level of interaction between the two lifestyles.

The re-use of Mesolithic sites in the Neolithic may be seen at Boltby Scar where Neolithic activity is demonstrated by finds of Peterborough Ware (pottery is another Neolithic innovation) and by the presence of a large number of polished stone axes found by fieldwalking. This complements a large Late Mesolithic assemblage found the same way.

The evidence is still ephemeral but there does seem to be a correlation between sites of ritual importance in the Neolithic which were also important to Late Mesolithic communities, even if that significance was expressed in a different way.

## **6 Conclusion**

The North East Yorkshire Mesolithic Project has successfully raised awareness of the Mesolithic period in the area and has consolidated our knowledge of the location and intensity of

Mesolithic activity in North East Yorkshire. With the essential help of volunteers it has demonstrated that there are indications of significant occupation with hearths and possible structures in a number of locations.

There are still many fascinating questions to ask about this key period of human activity and it is hoped that future projects will build on this one to continue to pose and answer questions about the earliest people to occupy the area.



## **Further Information and Reading**

Further information about the North East Yorkshire Mesolithic Project, including the detailed reports can be found on the Tees Archaeology website via the 'Projects' page.

<http://www.teesarcheology.com/>

For more information about flint tools:

The Joy of Flint by Clive Waddington published by the Museum of Antiquities, University of Newcastle in 2004

For information about Mesolithic activity in the north of England and the archaeological techniques being used to recover the information:

Prehistoric People of the Pennines; Reconstructing the lifestyles of Mesolithic hunter-gatherers on Marsden Moor by Penny Spikins, published by West Yorkshire Archaeology Service in 2002

Star Carr: Life in Britain after the Ice Age by Nicky Milner, Barry Taylor, Chantal Conneller and Tim Schadla Hall, published by the Council for British Archaeology in 2013

### **Rear Cover Photograph**

Reconstructed Mesolithic hut at Howick, Northumberland. (© Clive Waddington)

**The North East Yorkshire Mesolithic Project**  
was designed to explore the evidence for Mesolithic  
activity on the North York Moors.

This booklet aims to give a brief account of the  
project's findings and to provide information for  
further study of the period.



Historic England

