

Kent LiDAR Portal

Gazetteer of Monument Types



How to use this guide

This gazetteer is intended to act as a guide to help in identifying possible features and monument forms spotted in the LiDAR data on the online **Kent LiDAR Portal**. It is not a definitive resource for individual monument types or even in how to read and interpret LiDAR data, and links to further material and resources are suggested, where applicable.

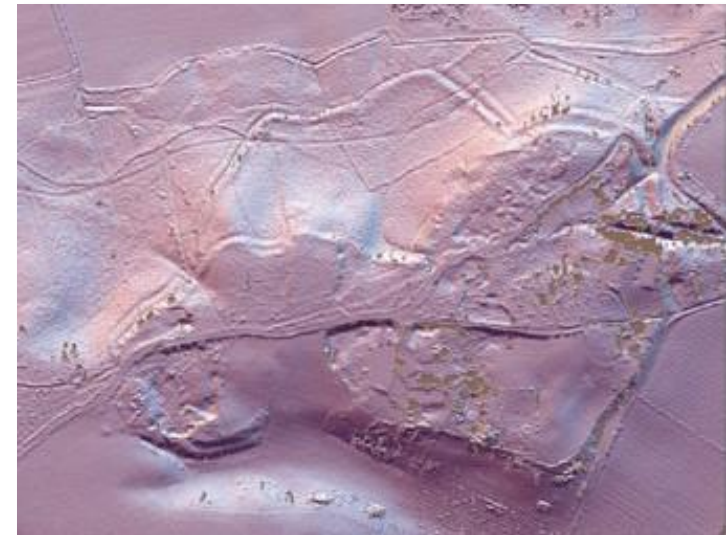
Additional, more detailed tutorial guides are provided which instruct on how to undertake research and fieldwork in order to interpret possible features spotted in the visualisations, including a **Guide for Desk-Based Study**, **How to Read LiDAR**, and **Guide to Groundtruthing**.

Although creating typologies of monument forms and types is never straightforward, the following site types have been chosen for identifying possible features:

- Mound
- Bank
- Pit/Hollow
- Ditch
- Enclosure
- Field System
- Settlement
- Routeway

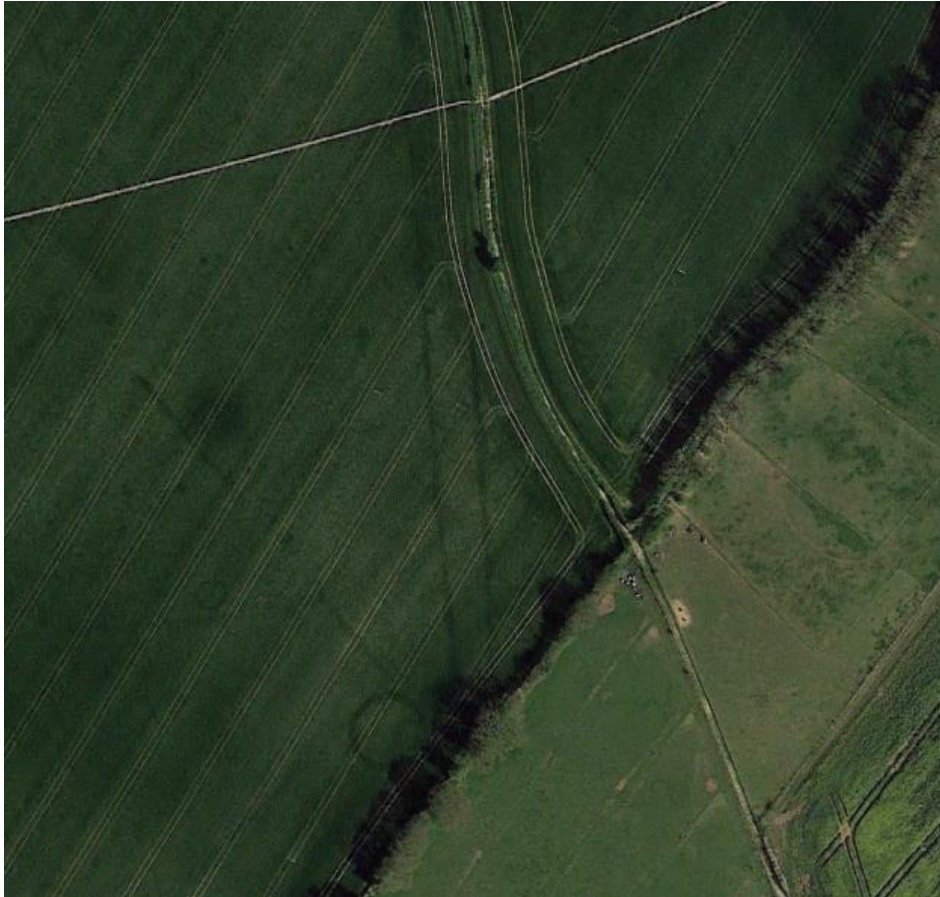
These are then sub-divided into various monument types, although it may not always be possible to identify more precisely, in which case 'other' or 'uncertain' are best selected.

*LiDAR of Bigbury hillfort near Canterbury
(EA LiDAR courtesy of Kent Wildlife Trust)*



Rather than defining a feature by its date, e.g. Roman road or deserted medieval settlement, there is an additional option to suggest a possible period for features identified:

- Prehistoric (up to AD 43)
- Roman (43-409)
- Early Medieval (410-1065)
- Medieval (1066-1539)
- Post-medieval (1540-1900)
- Modern (1901-)



While these period categories are broad, particularly for the prehistoric era, more precise dating can be suggested in the comments section.

Interpretation of any features is best undertaken alongside desk-based research, along with further field assessment of the evidence on the ground (known as groundtruthing).

Cropmarks of section of the Roman road at West Langdon, running from Sandwich to Dover, seen in aerial photography (Google Earth 2017)

Any interpretation of LiDAR features needs to be informed by well-researched desk-based assessment. The **Kent LiDAR Portal** has been set-up to allow as much supplemental information as possible to be viewed along with the various LiDAR visualisations, including:

- The HBSMR (Historic Buildings, Sites and Monuments Record) data from the Kent Historic Environment Record), which will allow a link to the more detailed records on **Exploring Kent's Past** (www.kent.gov.uk/her)
- Historic maps, including 1st (1871) and 2nd edition (1897) Ordnance Survey (OS) maps
- Modern maps, including aerial, Ordnance Survey and streetviews

The map section of Exploring Kent's Past also incorporates additional aerial photography (from 1946, 1990 and 2008) and historic OS maps (3rd and 4th editions, c. 1907 and 1929).



Another useful, freely available web resource is finds.org.uk, the Portable Antiquities Scheme website, which can indicate the stray finds found in the area. Additional historic records, including earlier tithe maps, can also be accessed at the Kent History and Library Centre in Maidstone. More details, including resources, can be found in the **Guide for Desk-based Study**.

Screenshot of Exploring Kent's Past map page (© Kent County Council)

Aerial photos and cropmarks

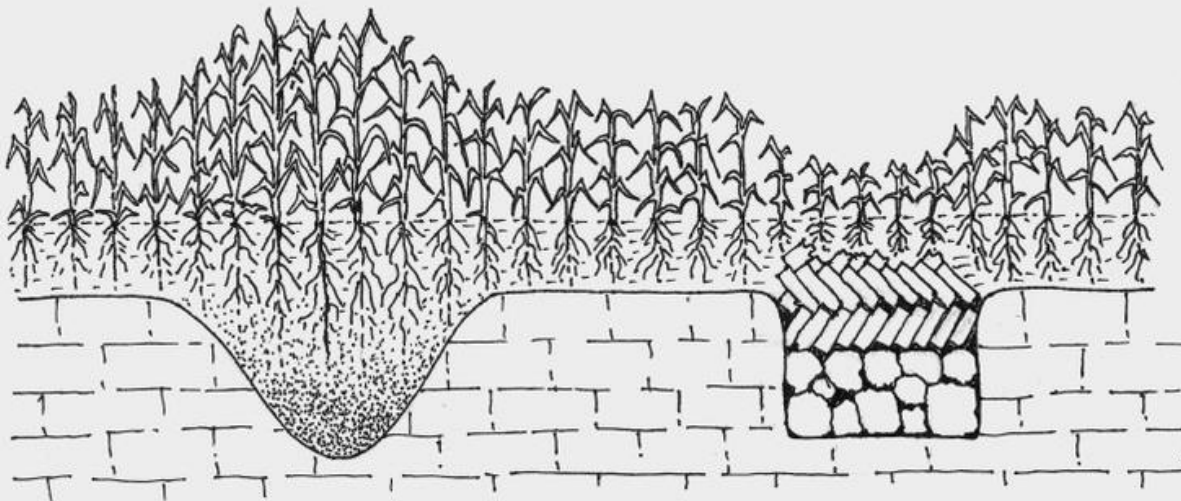
Assessing aerial photographs can be a particularly useful form of desk-based study, as in certain years the cropmarks – the visible effects of vegetation as it responds to the differences in moisture and nutrients available in soil – can show signs of sub-surface archaeological features.

These features show up better in certain years over others, depending on how dry each season is, and it is important to assess aerial imagery from different years to see what may be spotted.



Positive crop-mark over ditch

Negative crop-mark over wall



Cropmarks of smaller sub-rectangular feature first seen in 1961, with a large, oval enclosure attached to it later seen in 2017 (Google Earth 2017)

Cross-section of how cropmarks form over features (Drawing by Chris Blair-Meyers)

Groundtruthing involves undertaking investigations in the field in order to assess the features which are spotted in the LiDAR or other map data.

It may not always be easy to find features in the field, as some can be quite ephemeral and not as clearly defined as they are on maps (where they are on a larger scale). Depending on the time of year, fallen leaves and other vegetation can also cover over the slight mounds or depressions, making them hard to spot. Autumn or winter are recommended as the best time of year to ground-truth, as this is when the undergrowth has died down the most.

The **Guide to Groundtruthing** will provide a more detailed breakdown of the necessary precautions and steps to take for undertaking field investigations, but key points to bear in mind are:

- Proper health and safety protocols, including risk assessments
- Necessary permission from landowners
- The information which needs to be recorded, including all necessary measurements and dimensions, a photo record, its location and association with any other features within its landscape and wider setting



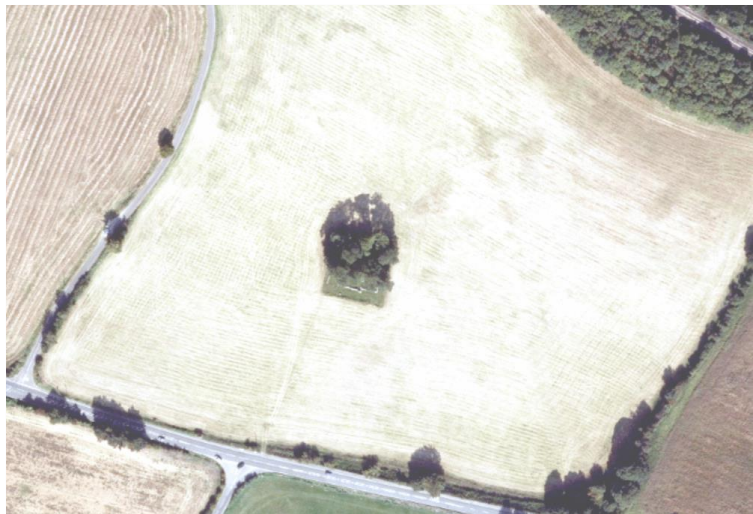
Volunteers groundtruthing park pale in Lullingstone Country Park in April 2019

In addition to a feature's position in the landscape, a few signs to look for which can indicate the presence of buried archaeology while in the field include:

Changes in vegetation:

Examining the vegetation itself can give indications of features which may lie beneath. Such changes may be noticeable on aerial imagery, but more likely, they will be discernible when inspected up close, particularly with the texture and colour of the vegetation.

Darker and taller grass can often grow over a former ditch or pit, as roots can go deeper in the looser soil and obtain more moisture, in contrast to the shorter, thinner or paler vegetation which can grow over buried features such as foundations or former paths. Some specific plants can even indicate former occupation, such as nettles, which like the nitrogen-rich soils associated with latrines, middens, floors and general human occupation.



Areas of varying moisture:

Again, ditch lines and other features such as ponds, wells, etc. can collect and hold more moisture than the ground either side, thus boggy areas can be a sign to look out for.

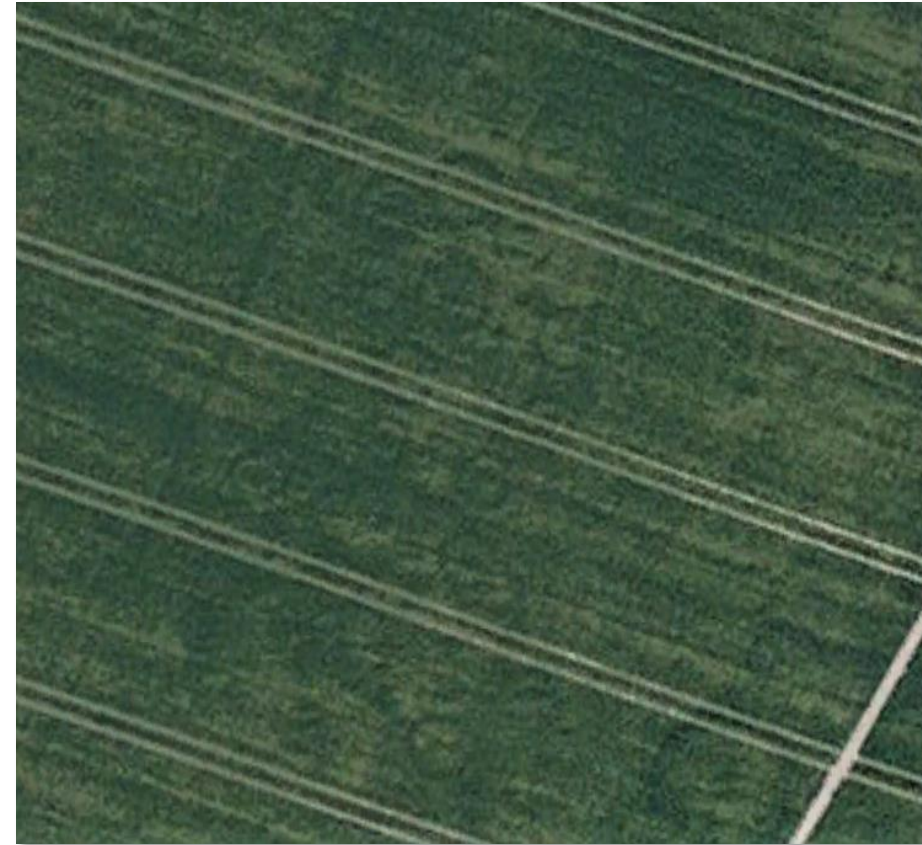
Aerial photo of scheduled early medieval chapel outside Faversham, whose isolated nature and tree coverage helps hint at a protected status (© Kent County Council 2008)

Mounds

Mounds are elevated earthworks which have been deliberately constructed and usually, but not always, take on a circular or sub-circular-shape. There is great variety to the key types of mound with archaeological significance, and it is not always easy to differentiate between man-made and natural forms.

Here, the forms of monument which will fall under mound type include:

- Burnt Mound
- Long Barrow
- Motte
- Pillow Mound
- Round Barrow
- Windmill Mound
- Mound (Other)



Bronze Age barrow at Ashenbank Wood (left) and cropmarks of Anglo-Saxon barrow cemetery (right) north of Woolage (© N Chadwick, under Creative Commons License; Google Earth 2007)

Burnt Mound

A burnt mound is a prehistoric mound of fire-cracked stones, which were placed on a fire either for boiling water, cooking or other activities such as ritual purposes where the stones needed to be heated. Often, the mound is accompanied by a pit or trough which would have been lined, whether with clay, stone or wood. As a feature in the landscape, they occurred from the late Neolithic to the early medieval period, though many cluster in date around the Bronze Age.



What to look for:

Burnt mounds aren't easy to identify, but tiny cracks in the stones (described as 'crazy paving') which have been caused by repeated heating can be seen on close inspection. In many cases, the burnt mounds are also located near to streams, and depressions for the associated pit or trough may be seen.

*Burnt mound at Symbister, Shetlands
(© Julian Paren, under Creative
Commons License)*

Long Barrow

Long barrows, which date to the Neolithic periods (c. 4200-3000 BC), are the earliest of the earth mounds visible in the landscape today. Their use was as communal burial sites, and they often contain several people, rather than one particular individual. Unlike chambered tombs, long barrows do not have entranceways or accessible internal chambers, as the mound would cover the bodies as a single event, rather than through multiple closings and re-openings.



Aerial photo (left) and photo (right) of long barrow at Coldrum (© Kent County Council 2008; © Rick Crowley, under Creative Commons License)

Long Barrow

What to look for:

Most long barrows are not overly identifiable in the landscape today, as they have been ploughed-out and are now relatively flat and craggy. They vary enormously in shape (lozenge, oval, trapezoidal, rectangular), as well as size (ranging from 20m to 120m). However, certain clues might help in identification:

- A front end which is usually higher and wider than the back
- Orientation which is usually east-west, or sometimes aligned with other distinctive features in the landscape such as hillcrests
- Often a prominent position within the landscape silhouetted against the sky
- Traces of ditches along the sides flanking the mound, or even encircling it by continuing around the back
- If excavated previously, a possibly irregular indented shape to the barrow



*Aerial photo of Addington long barrow
(© Kent County Council 2008)*

Further reading:

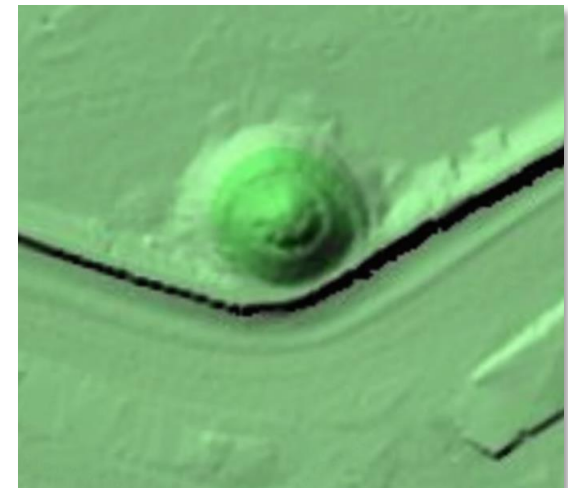
Historic England 2018, *Prehistoric Barrows and Burial Mounds: Introductions to Heritage Assets*. Swindon: Historic England.
<https://historicengland.org.uk/images-books/publications/iha-prehistoric-barrows-burial-mounds/heag217-prehistoric-barrows-burial-mounds/>

Motte

A motte is an artificial earth mound of conical shape which was constructed to carry the timber tower of a Norman castle, dating from c. AD 1050 to 1200. The soil and occasional stone for the motte often came from the spoil of a surrounding ditch – although a ditch was not always a necessity – and the mound itself had a flat top and very steep sides which were not meant to be assailed easily by invaders. The top of the mound would have had a wooden palisade around its perimeter, as well as steps or a bridge from its base to the tower at the top (known as a donjon). As castles were constructed at an early stage of the Conquest, they were intended to be erected quickly, and they were often placed in the middle of what was already an existing settlement.



LiDAR image of Dane John Mound, re-used as the castle motte in Canterbury (LiDAR imagery is 1m DTM EA open data hosted by Enfield Archaeological Society)



Motte at Tonbridge Castle (Photo by Shiela Broomfield)

What to look for:

Most mottes are severely altered in appearance today, with no trace of the towers which once stood on top, ditches which are significantly more shallow, and sides which are much more gently sloped than their originally steep and bare form. Their size varies considerably, with a height of 3m-30m and diameter of 30m-90m. However, certain clues might be discerned which help in possible identification:

- A possible steep, conical shape which looks like an upside-down bowl
- Flat-tops, which help distinguish mottes from round barrows
- The presence of ramparts – bailey earthworks, ditches or entranceways – which can have a more sharply defined profile than those from older earthworks such as hillforts
- A strategically-placed position within the landscape, or one in close proximity to other settlement
- The presence of stone can indicate tower foundations or later phases of expansion and rebuilding

Further reading:

Historic England 2018, *Earthwork and Timber Castles: Introductions to Heritage Assets*.

Swindon: Historic England.

<https://historicengland.org.uk/images-books/publications/iha-earthwork-castles/heag202-earthwork-and-timber-castles/>

Pillow Mound (Warren)

A pillow mound (also known as a 'warren' or 'coney') is an artificial mound which was used to farm rabbits and is found at the site of former warrens, where the rabbits could easily be caught for their food and fur. Its name derives from its pillow- or loznege-shape, and the mound is flat-topped, often with a shallow ditch on each long side. Pillow mounds are usually found near to old manor sites or in historic parkland, though they have easily been confused with both round barrows and mottes in the past.

What to look for:

- A flat-topped, rectangular-shaped mound
- Usually 15m-40m long, 5m-10m wide and rarely more than 0.7m in height
- A shallow ditch which surrounds the mound
- A cluster of mounds, as warrens often occurred in groups (up to 40 mounds)



Cropmarks of pillow mound near Lodge Farm, Cobham (Google Earth 2017)

Further reading:

Historic England 2018, *Animal Management: Introductions to Heritage Assets*. Historic England: Swindon. <https://historicengland.org.uk/images-books/publications/iha-animal-management/heag196-animal-management/>

Round Barrow

Round barrows are prehistoric earthen mounds of circular shape which date to the Bronze Age (c. 2400-1100 BC), and they are the most common prehistoric monument type in the country. They arose at a time when smaller mounds which focused on an individual – rather than communal – burial began to spring up, and they are the first of the burials which also contained grave goods to reflect the status of those buried within.

Often, barrows were re-used, with either new burials or cremated remains placed into the sides at a later date. Although isolated ones occur, the barrows are often found clustered, either in lines of twos or threes or in cemeteries of as many as thirty. There are many different types, classified based on their profiles, including bowl barrows, bell barrows, disc barrows, pond barrows and saucer barrows.

*Cropmarks of Bronze Age
barrow cemetery west of
Finglesham (Google Earth 2007)*



What to look for:

Most round barrows are much lower and wider than their intended original state, having weathered over the years. Their size can range considerably (usually 6m-20m across, though they can be as wide as 40m in diameter). They also can vary with their number of ditches (often single but occasionally multiple) and presence (and occasionally placement) of a bank. However, despite their variety of type, certain clues might aid identification:

- Traces of a surrounding ditch
- Other changes in profile, such as evidence for banks or a berm (the flat area in between a central mound and the ditch in both bell and disc barrows)
- Orientation with other barrows or prominent natural landscape features
- A small area which is clearly left alone in relation to its surroundings, e.g. an uncultivated, often tree-covered hummock in the middle of an otherwise open field, can indicate the presence of a barrow as it has already been identified as a protected monument
- If excavated previously, there are likely to be scars in the top of the mound

Further reading:

Historic England 2018, *Prehistoric Barrows and Burial Mounds: Introductions to Heritage Assets*. Swindon: Historic England.

<https://historicengland.org.uk/images-books/publications/iha-prehistoric-barrows-burial-mounds/heag217-prehistoric-barrows-burial-mounds/>

Windmill Mound

A windmill mound is an artificial earthen mound which is the former site of a windmill. These mounds may be medieval (from c. AD 1100) in origin, with some even beginning their life as a motte (erected for a castle donjon), though they continued into the post-medieval period and up until the 19th century. Windmill mounds (or 'mill mounds') may be easily confused with mottes, although they are generally smaller in size, c. 10m in diameter (though they can be as large as 30m).

What to look for:

- A (usually) flat-top to the mound itself
- A possible x-shaped depression on the top of the mound, created by the foundations of the windmill's timber-post frame
- A surrounding ditch which may be associated



Cropmarks of ring-ditch with crosstrees at centre, a probable windmill mound at Mongeham (Google Earth 2007)

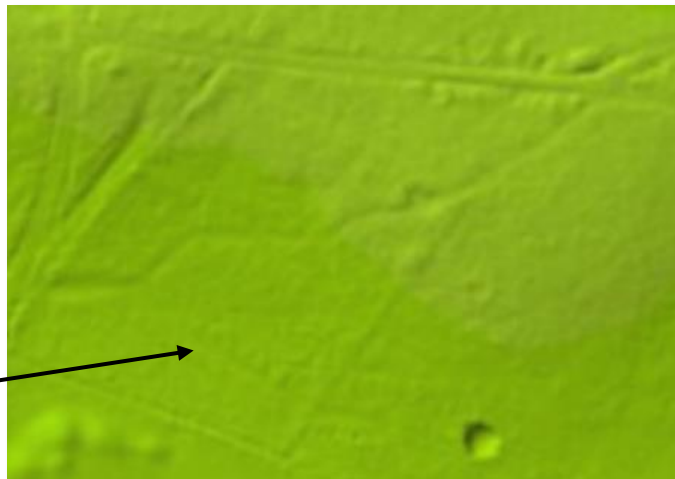
Banks

Banks are earthwork mounds which are longer in plan and usually act as a monumental boundary of some form, whether for defence or demarcation of an area. Quite often they will be found in association with other monuments listed elsewhere in this gazetteer, such as an accompanying ditch, wall or other earthworks or features which they enclosed. If a more specific monument type cannot be discerned, the feature is best identified simply by the shape of its course: either a 'curvilinear earthwork' which has an irregularly curving form, or a 'linear earthwork'.

Here, the forms of monument which will fall under the bank type include:

- Curvilinear Earthwork
- Linear Earthwork

Lidar of linear bank at Joyden's Wood, Bexley (LiDAR imagery is 1m DTM EA open data hosted by Enfield Archaeological Society)



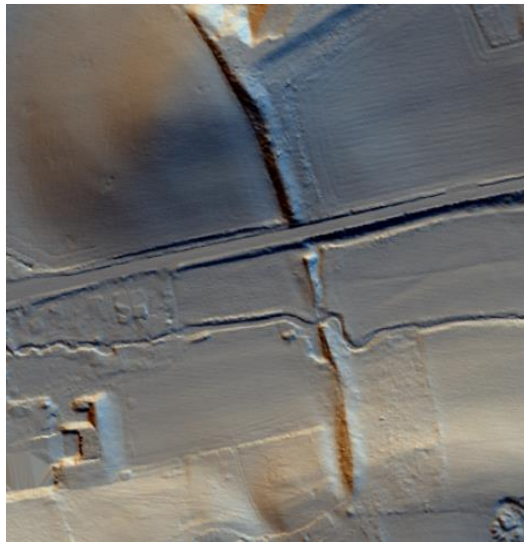
*Curvilinear dyke near Lydd
(© Kent County Council
aerial 2008)*



Linear Earthwork

A linear earthwork is usually a substantial bank and accompanying ditch which would have formed a boundary. It could vary in the type of boundary being delineated, whether serving as an early field demarcation or simply a boundary between two adjacent landholdings, or it could be on a larger scale and act as, for instance, a marker between tribal boundaries.

Although the earliest linear earthworks date from the Neolithic (e.g. cursus monuments), most prehistoric ones in the county date from the late Bronze Age and Iron Age. In the early medieval period, substantial dykes (from the Old English for 'ditch') were prominent as boundary markers between kingdoms and could range in length from 100m to over 200 kilometres as with Offa's Dyke on the Welsh border. However, dating earthworks can be particularly difficult, as many have been re-used over the centuries, especially those that were erected in positions deemed to be advantageous strategically.



Lidar (left) and photo (right) of linear earthwork – likely an early medieval boundary – at Westerham (© Kent County Council; Photo by Chris Reynolds)



What to look for:

Depending on the function and landscape conditions, the position and layout of linear earthworks also varied considerably. While cross-dykes run in between steep valleys and may have been used as trackways, other earthworks seem to deviate completely from natural contours. Not all will necessarily have both the ditch and bank surviving today, particularly as ditches will have filled in over time and the banks will have substantially eroded. Studying the arrangement of any visible features and the lie of the land can assist interpretation, though again there is much variation; for instance, while the bank is more often the inner feature (with a ditch on its outside) in defensive earthworks, in park pales the ditch was more typically the inner feature, but it could also occur on both sides, or just be external. Other characteristics to look for in identifying and interpreting earthworks include:

- Associated features such as ditches, fencelines, hedgelines, gravel banks, platforms, etc
- Orientation and general landscape positioning of the earthworks and other features, establishing which were intended to be enclosed/defended and possible alignments

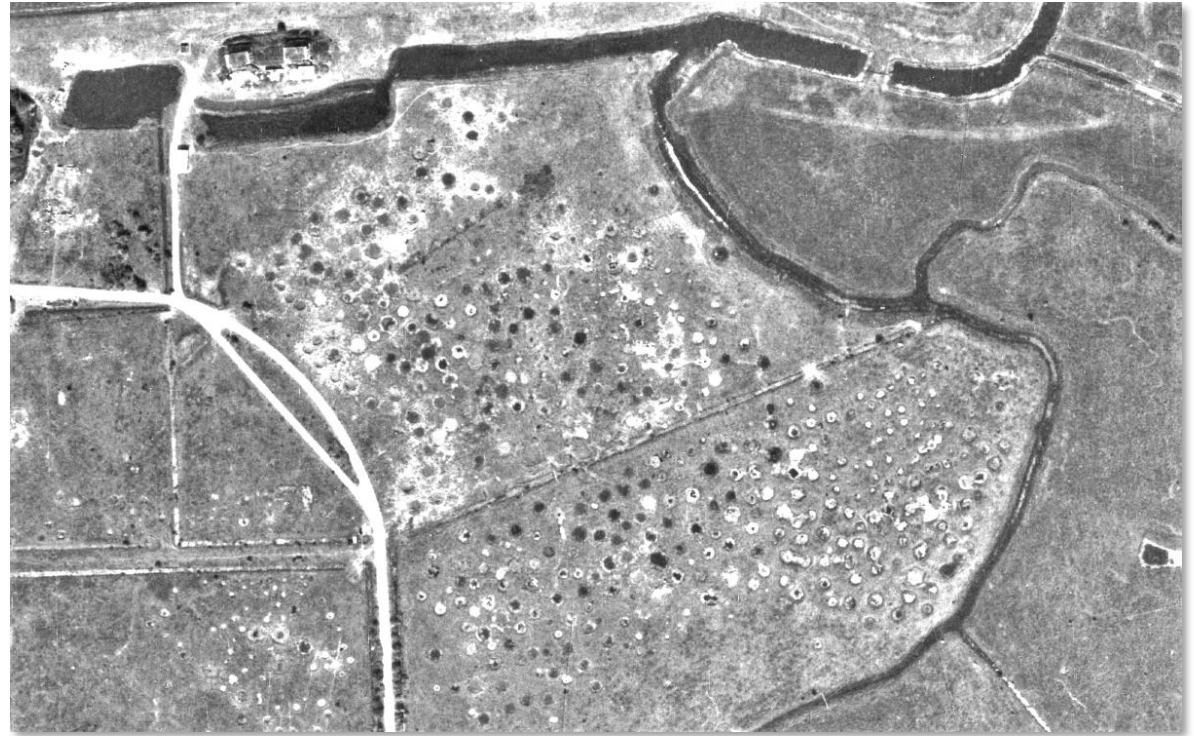
Further reading:

Historic England 2018, *Prehistoric Linear Boundary Earthworks: Introductions to Heritage Assets*. Swindon: Historic England. <https://historicengland.org.uk/images-books/publications/iha-prehist-linear-boundary-earthworks/heag219-prehistoric-linear-boundary-earthworks/>

Pits and hollows are negative features which have created a depression of some form, although most will have been at least partially filled-in over time. Some of the pit forms may be found in association with or are part of other monuments listed elsewhere in this gazetteer, e.g. industrial sites, but it is best to identify the specific form where possible.

Here, the forms of monument which will fall under the pit and hollow type include:

- Bomb Crater
- Charcoal Burning Platform
- Extractive Pit
- Pond
- Saw Pit
- Pit (Other)



Aerial photo of shell or mortar craters at military firing range at Shornemead (Kent County Council 1961 aerials)

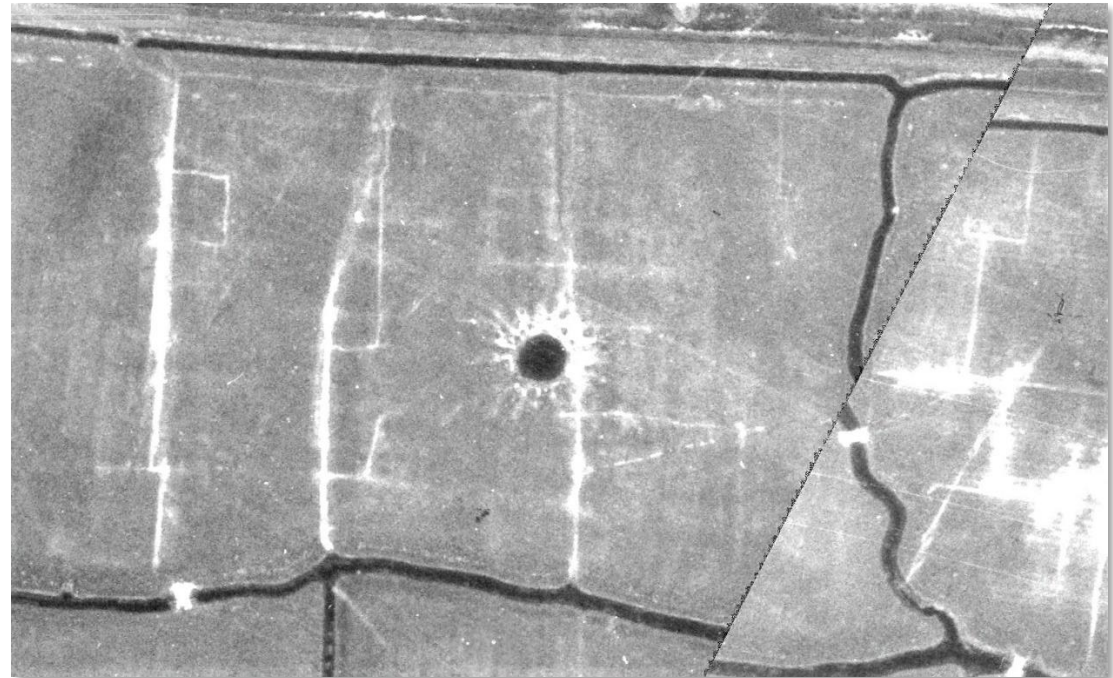
Bomb Crater

A bomb or explosion crater is a depression which is the result of the explosion of bombshells, mines or other military explosives. Often many features which were originally classified as enclosures or extractive pits have been reassessed and identified as bomb craters.

What to look for:

Often bomb craters are smaller in size and are not found with associated features or signs of access to suggest a purposefully erected monument. A few possible signs to help with identification include:

- Generally small size
- Usually symmetrical or near circular in outline
- Small earthen bank or rim of spoil around edges
- Occasionally an associated linear-like pattern, indicating the bomb 'stick'



Aerial photo of large bomb crater 17m in diameter at Cliffe Marshes – note the prominent 'splatter ring' (RAF aerial 1946)

A charcoal burning platform is the hearth or pit which remains as a result of turning underwood into coals, most often situated within woodland. The charcoal 'kiln' or 'clamp' consisted of covering the wood with turves or soil and heating it in a manner which would limit the oxygen and leave only the carbon component remaining.

What to look for:

- A circular 'hearth' platform 4-5m in diameter
- A dark almost black soil, likely covered over by leaves, with possible pieces of charcoal found in close proximity
- Location which is sometimes situated on slightly sloping land, with a slight 'back wall' occasionally surviving



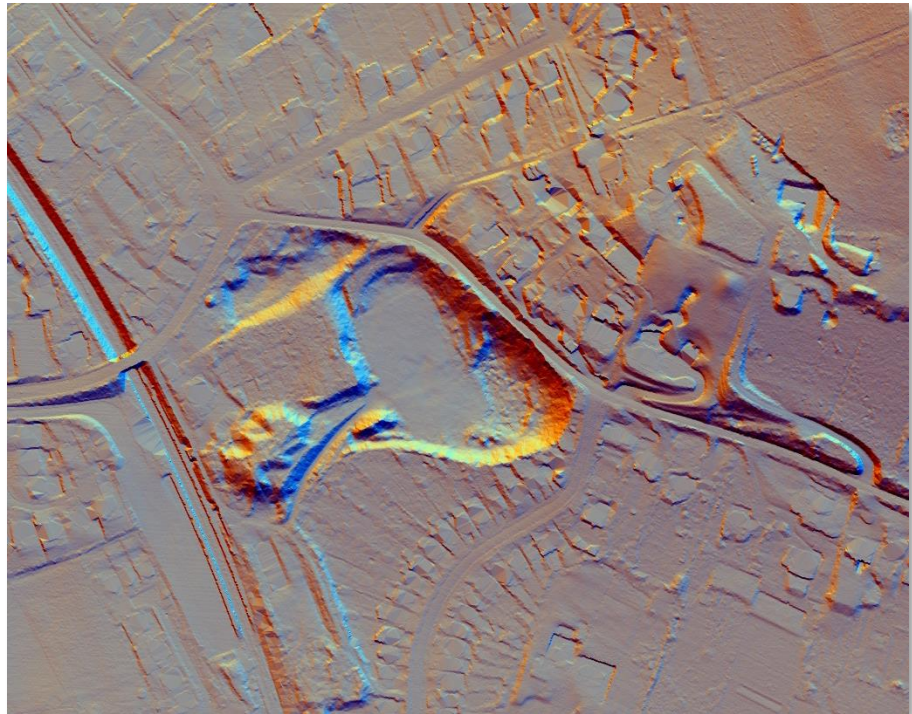
*Traditional charcoal burning, from John Evelyn's Sylva (1664)
(Courtesy of Surrey Archaeological Society)*

An extractive pit is the feature which results from surface workings such as shallow shafts, lode workings, open-pit methods and quarrying, including some mines for stone, clays and various minerals. Local sites used for quarrying became more common in the medieval period, and could have been for building stone, including chalk, or gravel.

What to look for:

Small-scale quarries may now be considerably different from their original form, including being smoothed-out and grassed-over, making them difficult to distinguish from other earthworks. They may also now be ponds which have filled with water since the original extraction. A few possible signs to help with identification include:

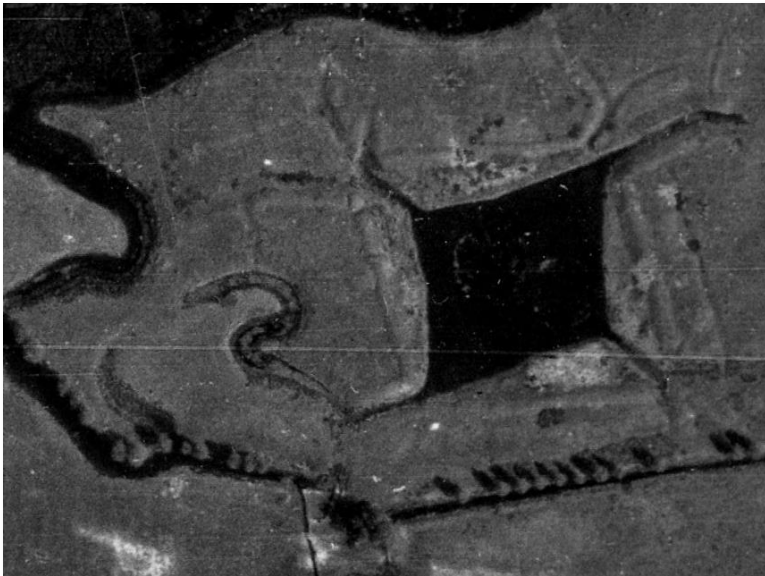
- Overgrown shallow pits alongside small spoil heaps (hummocks)
- No regular alignments to the pits and hummocks



*LiDAR imagery of Otford Chalk Pit
(© Kent County Council)*

Pond

A pond is a small body of water which is usually artificial, but can also be naturally formed. Determining the original function however, let alone the date, can be difficult, particularly as the feature may have been filled in long after its original use. Ponds can have a variety of functions, including providing a regular water supply for animals and people, fishponds, and serving as a source of water to power mills and other water-based industries.



LiDAR (right) and an RAF 1946 aerial photo (left) of the duck decoy pond at Halstow Marshes, near Cooling – note the rather odd raised centre section in the LiDAR, which is a substantial reedbed (LiDAR imagery is 1m DTM EA open data hosted by Enfield Archaeological Society)

What to look for:

In order to retain water, a pond feature usually requires clay lining, or enhancement to a depression already naturally rich in clay. Depending on what the function was, extra channels such as leats or sluices can be associated with the pond, particularly if for industrial use or if used as a fishpond. The latter can also be predicted if in close vicinity to a known manor or monastic site. The shape, size and associated features clearly vary, but some general characteristics include:

- Often a shallow profile which is shelved
- Some regularity to shape, including circular (such as ‘dew ponds’ for watering animals) and rectangular (e.g. medieval fishponds)
- Kerbs around the edge of the pond and embankment earthworks for associated channels



Aerial photo of fishpond at Franks Hall
(© Kent County Council aerial 2008)

Further reading:

Historic England 2018, *Animal Management: Introductions to Heritage Assets*. Historic England: Swindon.

<https://historicengland.org.uk/images-books/publications/iha-animal-management/heag196-animal-management/>

Saw Pit

A saw pit is the result of trees being cut down (or ‘felled’) and sawn into planks on site in the woodland, as close as possible to where the tree was felled, rather than the whole trunk being taken away. Large estates and occasionally villages had their own timber yard with pits which were often permanent structures, though temporary saw pits were also dug when it was necessary to process the timber on site. They produced a considerable amount of ‘waste’ during their use, and the spoil from the pits and associated platform for the framework which would hold the trunk can often help in their identification.



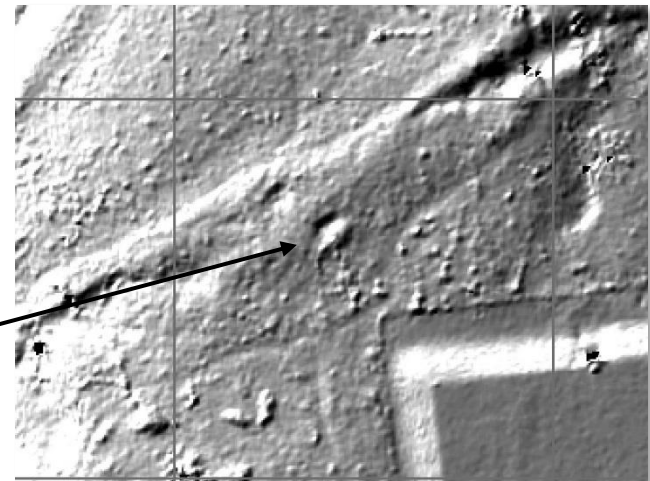
*Reconstruction of saw pit at
Cotehele, Cornwall (Photo by
Nicola Bannister)*

What to look for:

Saw pits varied in size as well as associated structures, depending on the degree of processing which was needed. The larger more permanent pits associated with timber yards would have been lined with stone or wood and had a wooden frame surmounted by a lifting tackle. Today these pits are often not backfilled, and they survive as shallow depressions, though their original depth would have required being able to take an apprentice (usually a small man or boy) who would stand beneath the trunk to push the saw upwards. Some general characteristics of saw pits include:

- A location on gently sloping ground, either next to old access tracks leading out of the wood or close to where the tree was to be felled
- A level platform for the framework which was the result of spoil from digging the pit being thrown up on the pit's downward-sloping side
- An elongated usually elliptical shape about 3-4m by 1-2m in size
- Relatively shallow depression with a mound about 0.5m in height

*LiDAR of possible saw pit in Shorne County park
(© Forest Research, based on Cambridge University
Technical Services and Valley of Visions Survey data)*



Ditches

A ditch is any long and narrow hollow or trench which is dug into the ground, and though their main function was often to carry water, they may have been dry for much of the year. As defence was usually a major consideration in their design, many ditches form part of other monuments listed elsewhere in this gazetteer. If an associated monument type cannot be discerned, the feature is best identified simply as a 'ditch'.

Here, the forms of monument which will fall under ditch type include:

- Ditch
- Drainage System
- Palaeochannel
- Practice Trench



Anti-tank ditch behind Boxley Road, Maidstone (left) and cropmarks of double-ditched enclosure (right) north-east of St Nicholas at Wade, dated to the Bronze Age (© Kent County Council 1946 RAF and 1990 aerials)

Drainage System

A drainage system is a network of either artificial or natural drains and ditches which are used to drain off surplus water. Although many drainage networks are associated with field systems, drainage channels are one of the most common linear feature in most woodlands, especially those on clay soils where there is much waterlogging seasonally. Those in woods tend to be associated with periods of intensive clearance, followed by replanting, and the networks which are more regular in plan were likely laid out in the 18th and 19th century (or in the case of woodland, possibly 20th century).

What to look for:

Drainage networks vary not only in overall layout and ditch size, but also in whether they incorporate pre-existing natural water courses. A few general characteristics that can help in identification include:

- Possible association with natural streams
- Narrow ditches and wide, flat ridges, which distinguish the ditched system from classic ridge and furrow
- Regular patterns which include 'herringbone' and 'branched'

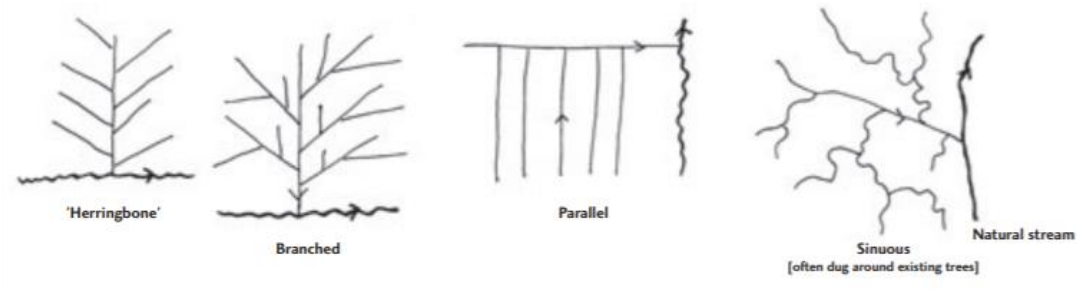


Diagram of drainage network types (© Nicola Bannister)

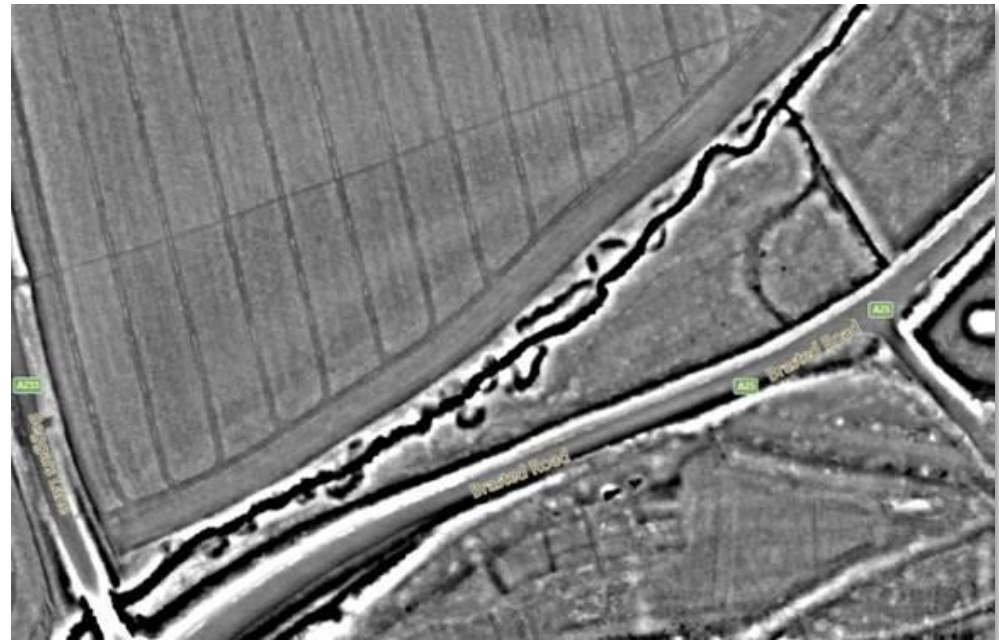
A palaeochannel is the inactive remnant of a course or channel of a river or stream which has been preserved as a geological feature, either filled in or buried by younger sediment. Although arguably natural rather than man-made features, abandoned river channels and former watercourses have the potential to contain a wealth of rich palaeoenvironmental and cultural information about landscape and climate change, as well as human impact. The term is used in relation to old watercourses, rather than current or seasonal ones.

What to look for:

Palaeochannels may not always be easy to distinguish from man-made drainage networks such as former irrigation canals, especially if the latter incorporate pre-existing natural water courses.

However, a few general characteristics that can help in identification include:

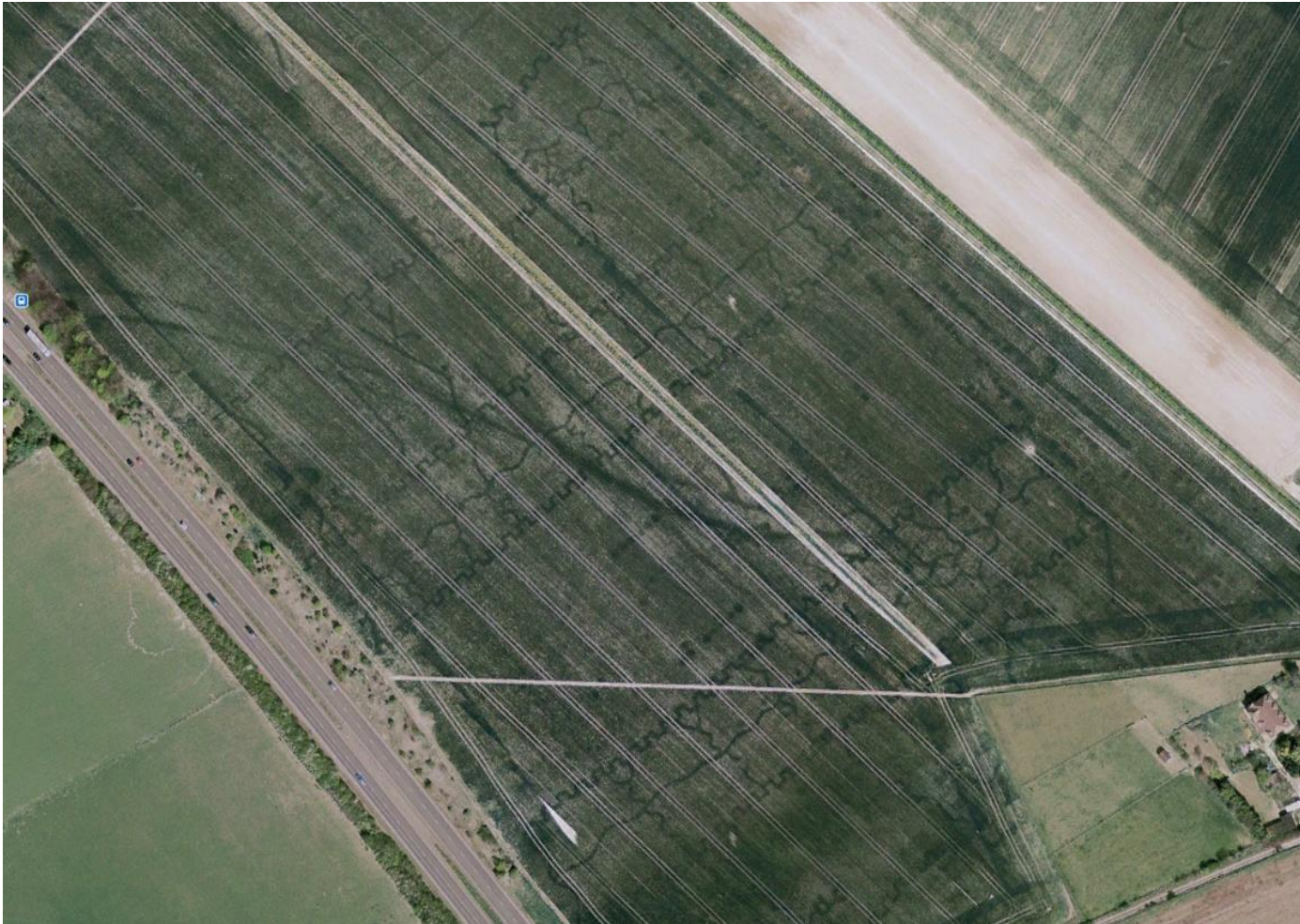
- Usually a sinuous, meandering shape
- Often preserved as shorter cross-sections of abandoned channels
- Location alongside rivers or within other low-lying valley positions



LiDAR imagery of upper Darent near Westerham, showing former meandering course of river (© Kent County Council)

Practice Trench

A practice trench or slit trench is one of a system of trenches which would have been dug for military purposes, in this instance providing more practical training for troops. Woodland is often a common location of many of these systems, being regularly used for military training.



Aerial photo of WWI practice trenches at Barham Downs c. 1914-18, recycled and in part recut in 1939-45 (Google Earth 2007)

What to look for:

- Straight linear form
- Although they can be single, they are often grouped and part of a trench system
- Layout which is usually geometrical (e.g. zig-zag) in design

Aerial photo of WWII practice trenches at training area on Thanet near Flete (Google Earth 2007)



Further reading:

Brown, Martin 2017, *First World War Fieldworks in England*. Research Report Series no. 61/2017. Historic England.

[\(https://historicengland.org.uk/research/current/discover-and-understand/military/the-first-world-war/first-world-war-home-front/what-we-already-know/land/practice-trenches/\)](https://historicengland.org.uk/research/current/discover-and-understand/military/the-first-world-war/first-world-war-home-front/what-we-already-know/land/practice-trenches/)

Enclosures

An enclosure is an area of land which is enclosed by another feature, usually a boundary ditch, bank, wall, palisade or other similar barrier. The most common ones in the landscape can vary considerably from prehistoric to the post-medieval period, and though not all forms are easily distinguishable, some of the most common enclosures are distinctive in many aspects. As classification is not always straightforward, if a more specific monument type cannot be identified, the more general category of 'curvilinear' or 'rectilinear enclosure' may be preferred.

Here, the forms of monument which will fall under enclosure type include:

- Curvilinear Enclosure
- Rectilinear Enclosure
- Bailey
- Banjo Enclosure
- Causewayed Enclosure
- Deer Park
- Hillfort
- Ringwork

Cropmarks of enclosure ditches with roomed building visible within at Biting, north of Wye (Google Earth 2017)



Curvilinear Enclosure

A curvilinear enclosure is a form of monument where an area of land is enclosed by a boundary of some form which follows an irregular curving course. Many curvilinear enclosures are prehistoric, with a particular cluster dating to the Bronze and early Iron Age, though more specific classifications, such as D-shaped enclosures, can be assigned more precise dates (in this case Iron Age).

*Aerial photo of oblong,
possibly mortuary enclosures –
the central ones with a triple
ditch – by North Stream which
flows north from Mongeham
(Google Earth 2003)*



Rectilinear Enclosure

A rectilinear enclosure is a form of monument where the area of land enclosed by a ditch, bank, wall or other barrier has several straight or near straight sections. In many instances, it is assumed that rectilinear enclosures are later Iron Age or Roman in date, and often the angularity of an enclosure's corners is used to help date the construction of enclosures and their relationship with other monuments, with large rectangular and seemingly well-planned enclosures suggested to be those with angled corners.



Cropmarks of rectilinear and sub-rectangular enclosures at Longfield Hill (Google Earth 2017)

Bailey

A bailey is an outer earthwork enclosure most commonly associated with early Norman castles (c. AD 1050 to 1200), forming the motte-and-bailey type. The bailey was very similar in construction to ringworks, having an internal bank and outer ditch, and it would have also had a timber palisade running along its top (with the word 'bailey' coming from the Old French word *baile*, meaning 'palisade' or 'stake'). The bailey could either encircle the base of the motte or adjoin it, and some castles had additional ones which served as outer baileys, most likely serving as corrals in the case of the latter. The purpose of the bailey was to provide a working stabling area and protect the various domestic buildings, including houses, kitchens, stores and animal enclosures.



*Cropmarks of ploughed-out
motte-and-bailey west of
Sandwich (Google Earth 2007)*

What to look for:

Baileys do not survive as well as mottes or other ringworks, being generally of less substantial scale, and they were much more commonly levelled over the centuries through either ploughing or development, particularly in regards as to their outer earthworks. Modern field boundaries can occasionally contain traces of former baileys, and the outlines might also be seen in changes in vegetation along the line of the outer ditch. There are certain other features which might help in identification:

- A general 'kidney' in plan
- Area of approximately 0.4-1.2 ha
- Possible sign of bank and external ditch
- A strategically placed position within the landscape or close proximity to other settlement

Aerial photo of motte and bailey castle at Newnham (© Kent County Council aerial 2008)



Further reading:

Historic England 2018, *Earthwork and Timber Castles: Introductions to Heritage Assets*. Swindon: Historic England.

<https://historicengland.org.uk/images-books/publications/iha-earthwork-castles/heag202-earthwork-and-timber-castles/>

Banjo Enclosure

A banjo enclosure is a distinctive monument type which consists of a small sub-circular enclosure with a narrow approach-way of parallel ditches, thus forming a 'banjo' or 'frying pan' shape. Most are believed to date to the Late Prehistoric period, with a particular cluster between 100 BC and AD 43. Most banjo enclosure sites have been interpreted as settlement sites, possibly high status, although early postulated functions centred on use for stock management. They can occur in isolation, in pairs or as small groups as part of a wider landscape.



*Aerial photo of banjo enclosure
from Longfield (Google Earth
2013)*

What to look for:

Most banjo enclosures are difficult to discern as earthworks, and they survive more commonly as cropmarks or features picked up through geophysics. Even then, it is the passageway or entrance to the enclosure which survives more than the remaining circuit, suggesting possible emphasis on the façade and general approach-way. Although there are shared characteristics, a variety of forms actually exist for the type, including ones with elongated entrance trackways, antennae ditches, ancillary enclosures, paddocks and compounds. A few features may help in identification, including:

- Small size with a diameter generally less than 100m and enclosed area of 0.2-0.5 ha
- Location usually on hillslopes or valley sides
- Elongated entrance passageway of two roughly parallel ditches c. 5-10m apart, occasionally paved with flint
- Enclosure which usually consists of an internal V-shaped ditch and external bank
- Possible associated paddocks or small enclosures

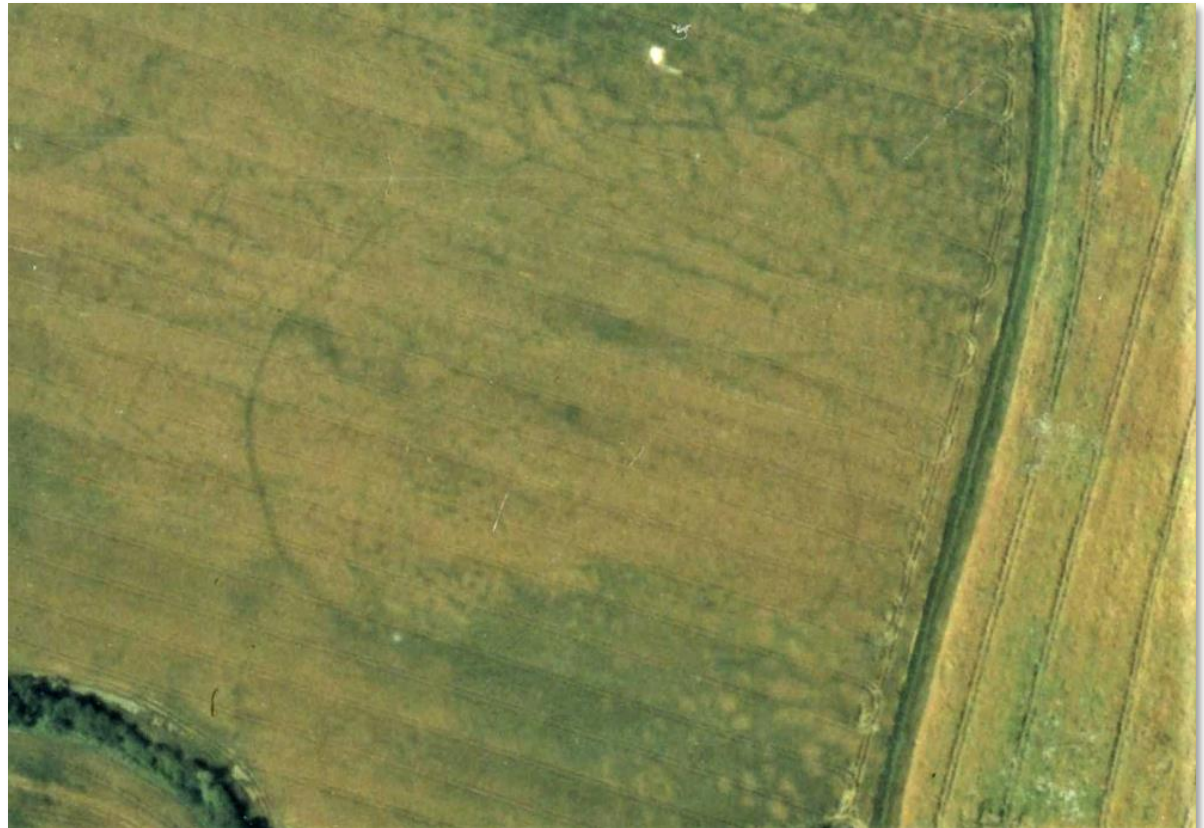
Further reading:

Historic England 2018, *Banjo Enclosures: Introductions to Heritage Assets*. Swindon: Historic England. <https://historicengland.org.uk/images-books/publications/iha-banjo-enclosures/heag198-banjo-enclosures/>

Causewayed Enclosure

Causewayed enclosures – also known as causewayed camps or interrupted-ditch enclosures – are the earliest known enclosures, being early Neolithic (c. 4000-3300 BC) in date and the precursors to Iron Age hillforts. Although once thought to be settlement sites, lack of occupational material or remains has led to a revised interpretation of the monuments as either corrals for livestock or even ritual arenas.

*Aerial photo of possible
causewayed enclosure,
likely Late Bronze Age to
Early Iron Age in date,
north-west of Chainhurst
on the Beult floodplain
(©Kent County Council
aerial 1990)*



What to look for:

Causewayed enclosures can often be found as part of a wider Neolithic landscape, being situated regularly near long barrows, etc. Unlike hillforts, their position is often just off of the summits of high ground, lending to the suggestion that they were not purely defensive in either their construction or intention. Although they would have originally been sizeable in scale, they are not as obviously visible in the landscape today and tend to be detectable in cropmarks rather than standing earthworks. A few signs to help in identification include:

- Normally ovalish in shape
- One or more earthwork circuits
- Bank-and-ditch network which originally would have been as deep as 3m (ditch) and 2m in height (bank)
- Usually multiple, wide breaks in ditch circuits

*Aerial photo of
Neolithic
causewayed
enclosure at
Burham (© Kent
County Council
aerial 1990)*



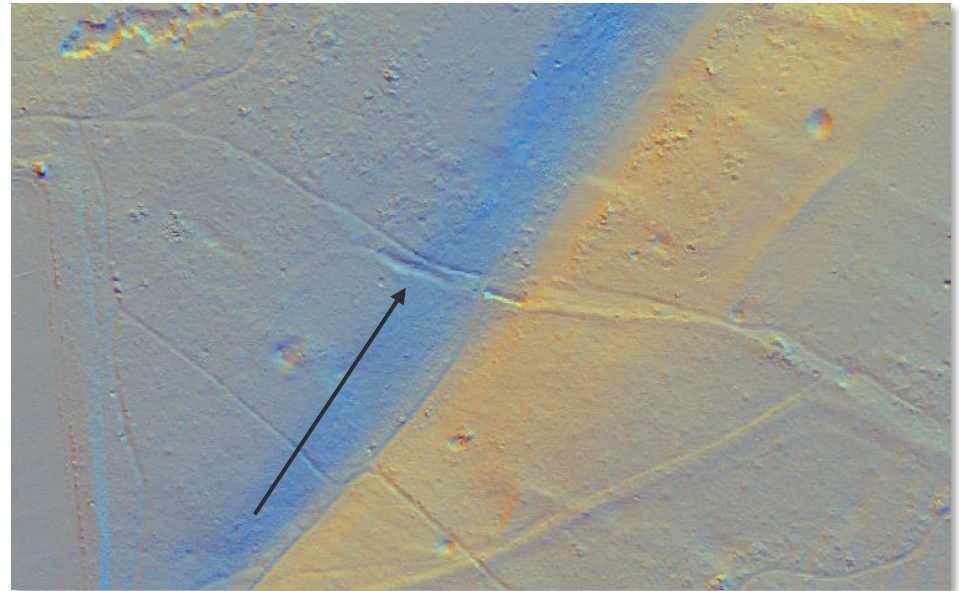
Further reading:

Historic England 2018, *Causewayed Enclosures: Introductions to Heritage Assets*. Swindon: Historic England. <https://historicengland.org.uk/images-books/publications/iha-causewayed-enclosures/heag200-causewayed-enclosures/>

Deer Park

A deer park was a large enclosed area for the management and hunting of deer and other wild animals. Most deer parks are associated with woodland, although grassland was commonly part of the land which was enclosed within as well. As a private enclosure used principally for food management, at a time when most land was managed communally, medieval deer parks were considered symbols of high status, particularly from the 12th century onwards. Other similar features of conspicuous consumption, including dovecotes, warrens and fishponds, were often found within or associated with deer parks.

Deer parks also had substantial boundaries known as 'pales' which normally comprised a bank (often topped by a fence, hedge or wall) and interior ditch (though occasionally an outer ditch is known as well). Occasionally gates and deer leap were also found, and pre-existing natural features such as water courses could also be used for portions of the boundary. Older parks also had rectangular pillow mounds or 'stands', from which deer who were driven could be shot.



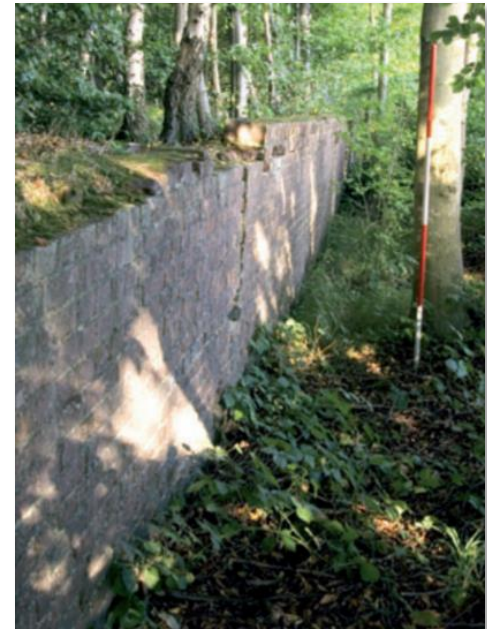
LiDAR of bank and ditch which follows old deer fence between Upper Beecham and Home Wood at Lullingstone Park (© Kent County Council)

What to look for:

Although the pale of the park can remain in today's landscape, usually as a large hedged bank, the ditch is often filled-in. The enclosed area itself could be quite extensive (up to 1000 ha in size), though the average size was closer to 60 ha. Some other characteristics to aid identification include:

- Often a curvilinear enclosure boundary
- Evidence of a pale, which can include an inner (rather than outer) ditch and hedged bank
- Location near fresh water and occasionally high ground
- Evidence of associated structures including parker's houses, hunting lodges and watchtowers, some of which may be indicated though historic names of surviving buildings

*Deer leap at Godmersham Park
(Photo by Patrick McKernan)*



Further reading:

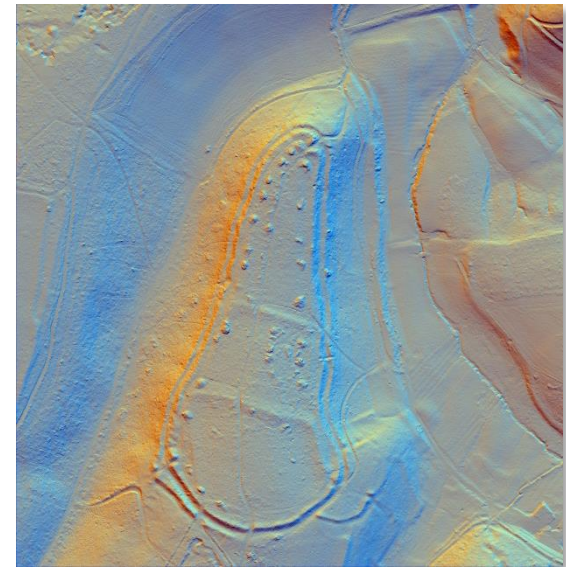
Historic England 2018, *Animal Management: Introductions to Heritage Assets*. Historic England: Swindon.

<https://historicengland.org.uk/images-books/publications/iha-animal-management/heag196-animal-management/>

A hillfort is any defended enclosure which is bounded by a circuit of one or more substantial banks, ramparts and ditches. Most utilised hilltops, ridges and other natural strongpoints, augmented by artificial earthworks, with ones such as promontory forts also able to make use of natural barriers such as clifftops for their defences.

While the earliest (from c. 900 BC and the Late Bronze) are univallate, with only a single line of defences, the most well-known form of the monument was its later Iron Age (c. 400-100 BC) large-scale multivallate form, which could have as many as six rings and were vast in size. Although a good number of the later hillforts were constructed anew, some of the multivallate forms developed from univallate origins, at the same time that other early hillforts were being abandoned.

The ramparts, in conjunction with their impressive entranceway complexes of wooden gatehouses flanked by earth banks and topped by palisade fencing, would have allowed the hillforts to defend against neighbouring tribes in both small-scale and larger territorial conflicts. The monuments would also have been major power and status displays, serving as key centres for trade and taxation, with the interiors housing not only the communities, but their livestock and domestic and industrial areas.



LiDAR of Squerryes hillfort (© Kent County Council)

What to look for:

It is difficult to gain a sense of the original scale of both the ramparts (up to 15m in height) and ditches, with much erosion and silting-up of features over the centuries. Equally, the overall area within the enclosures can vary considerably, ranging from 0.5-85 ha. A few distinguishing features may be identified though, including:

- Generally oval shape
- Naturally contoured hill with signs of man-made earthworks (banks and ditches)
- Traces of stone revetment or berms along the earthworks
- Signs of breaks in walls or flanking defences, including hornworks
- Usually entrance on the eastern side, possibly with secondary one to the west
- Defensible and highly visible position

*Rampart and ditch at Oldbury hillfort
(Photo by Steve Willis)*



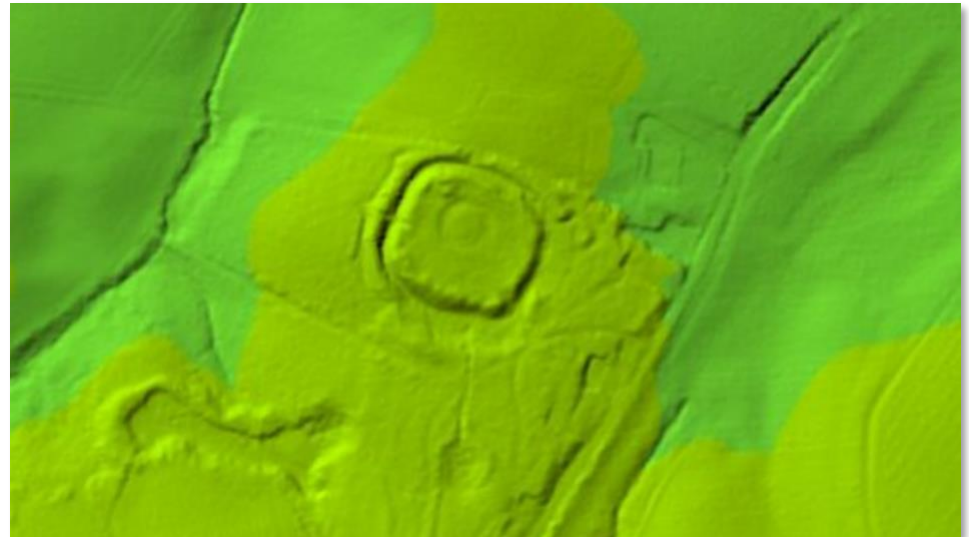
Further reading:

Historic England 2018, *Hillforts: Introductions to Heritage Assets*. Swindon: Historic England
<https://historicengland.org.uk/images-books/publications/iha-hillforts/heag206-hillforts/>

Ringwork

A ringwork is an artificial bank-and-ditch earthwork, and ringwork castles were a specific form of earthwork castle dating to the Norman period (c. AD 1050 to 1200). As with earlier hillforts, the outer circuit defences of the ringworks would have had wooden palisade fencing running across the top of the ramparts, along with timber revetments. The spoil from the ditch, which would have been on the exterior, was often used for the inner ramparts' construction.

Within the interior enclosure there would have been one or more domestic buildings, as well as the timber tower of a Norman castle or hall. The ringwork was considered a particularly quick-to-erect and economic form, as a monument type which was key to the early years of the Norman invasion programme, and it is in fact considered to have developed slightly before the motte form became popular.



LiDAR image of ringwork at Castle Wood, south-west of Little Knowle (LiDAR imagery is 1m DTM EA open data hosted by Enfield Archaeological Society)

What to look for:

Although the general ringwork form is a common monument type throughout the centuries, ringwork castles are normally sharper in definition and better preserved than any prehistoric counterparts, though they are still significantly altered today from their original form, with their ramparts much more gently sloped and lower in height. Their size and form varied considerably, as ramparts could either extend fully around or be partial in their coverage (if natural defences such as clifftops formed other sides). Certain clues might be discerned to help in identification, including:

- A generally circular form, although ovular and even rectilinear plans were known
- Ramparts, consisting of earthworks, ditch and entryway
- Diameter of 20m to 50m
- A strategically placed position within the landscape, as well as possibly close proximity to other settlement

Further reading:

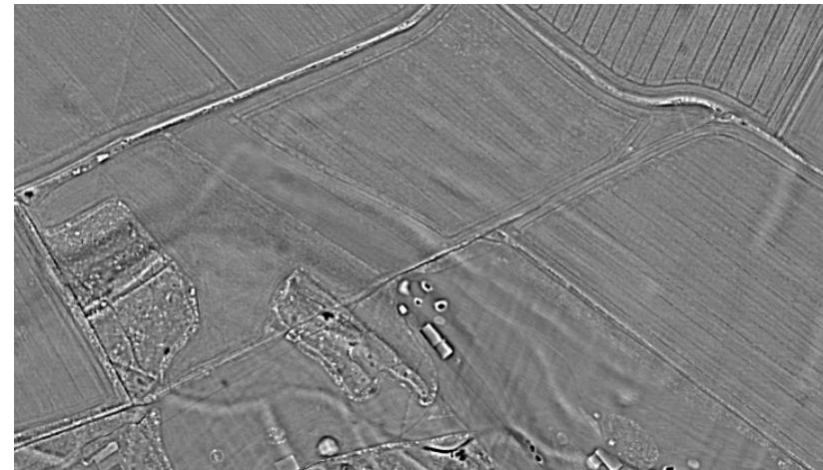
Historic England 2018, *Earthwork and Timber Castles: Introductions to Heritage Assets*. Swindon: Historic England.

<https://historicengland.org.uk/images-books/publications/iha-earthwork-castles/heag202-earthwork-and-timber-castles/>

Field systems comprise a complex of fields which appear to form a coherent whole, acting as a physical expression of both animal husbandry and cultivation. Their development is seen as a response to the competition for land which began during the later prehistoric period, although it is the later medieval or post-medieval systems which tend to be more visible today. The definition of different forms is not always straightforward, with 'open' and 'closed' often a common distinction, though 'co-axial', 'accreted' and 'planned' are also regularly used. In many cases, the more general category of 'field system' may be preferred, with more detailed description made in the comments.

Here, the forms of monument which will fall under field system type include:

- Aggregate Field System
- Cultivation Terrace
- Field System
- Lynchet
- Plough Headland
- Ridge and Furrow
- Water Meadow



LiDAR of former field markings at Lullingstone Park (© Kent County Council)

Further reading:

Historic England 2018, *Field Systems: Introductions to Heritage Assets*. Historic England: Swindon. <https://historicengland.org.uk/images-books/publications/iha-field-systems/heag204-field-systems/>

Aggregate Field System

An aggregate field system is one which comprises field plots that appear to have developed organically over time. It can involve both irregular forms which generally lack conformity in orientation and arrangement, as well as regular field systems whose plot boundaries are laid out in a consistent manner, often at right angles to each other.



Aggregate field system, possibly Iron Age in date, near Ganderdown Farm, Hampshire (© Jim Champion, under Creative Commons License)

What to look for:

Aggregate forms are difficult to define, and involve a variety of features:

- Either sinuous or straight outlines
- Varying shapes including square, rectangular, triangular, polygonal, long and narrow
- Field boundaries which can be banks, walls, ditches, fences, pits, lynchets, etc.

Further reading:

Historic England 2018, *Field Systems: Introductions to Heritage Assets*. Historic England: Swindon. <https://historicengland.org.uk/images-books/publications/iha-field-systems/heag204-field-systems/>

Cultivation Terrace

A cultivation terrace is an artificially created platform, often found on a slope, which has been built up to provide a flat surface for the cultivation of crops. It is usually formed as a short flight of lynchets, both positive and negative, which form a series of terraces on the hillside, thus giving it a stepped profile.

Cultivation terraces originated in the prehistoric period and are one of the few prehistoric field systems to survive. They were created by following the contours whilst ploughing around the hillslope, which helped to prevent soil erosion and retain moisture on the level platforms which were then used for cultivation.

What to look for:

- Stepped profile in hillside as a result of terracing

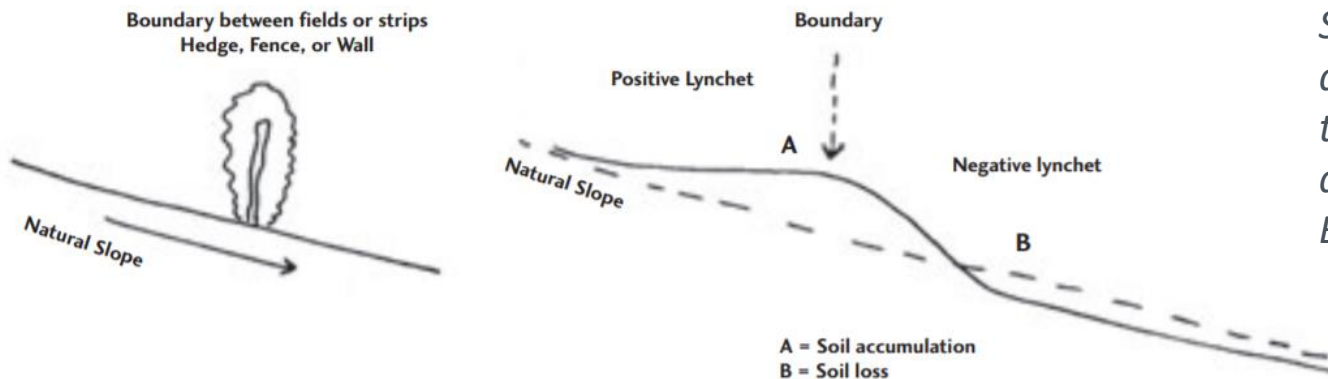
Cultivation terraces at Northdale Carr, Lincolnshire (© Simon Tomson, under Creative Commons License)



Lynchets

A lynchets is the bank-like feature which formed as the result of cultivation taking place on sloping fields and is one of the most common pre-woodland features. Where the plough soil shifts down-slope towards a lower field boundary (such as a bank or wall) and creates an accumulation, it is a positive lynchets, and where cultivation results in the surface being ploughed away, the resulting cut feature forms a negative lynchets.

Lynchets are multi-period, with origins in late prehistory and occurrences in more recent times. Occasionally, they can be dated by the artefacts which get caught in their stratified deposits as a result of manuring fields. Slight differences might also be discerned in the patterns of different periods, with prehistoric lynchets tending to be narrow and set within square fields, versus the longer medieval ones forming rectangular strip lynchets.



Sketch of lynchets development, formed by the movement of soil downslope (© Nicola Bannister)

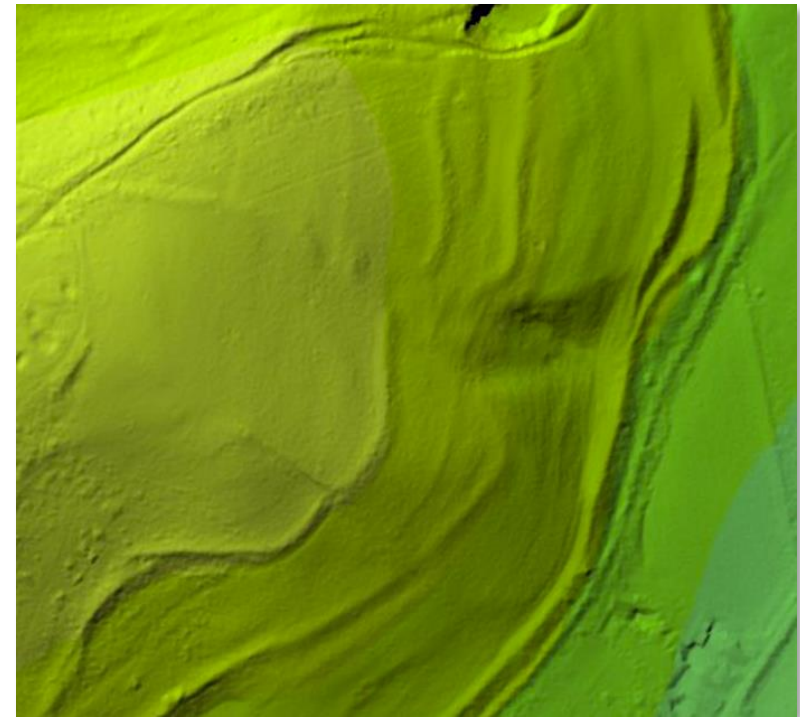
What to look for:

Lynchets vary in size depending on the slope of the land and intensity of cultivation, from as shallow as 0.25m to a height of 2m. A few distinguishing features include:

- A perceived 'step' into sloping land
- A line of flints which might be found along their length as a result of field clearances
- Often situated along field edges or contours



*Strip lynchets near Winterbourne Abbas, Dorset
(© Nicola Bannister, under Creative Commons License)*



*LiDAR image of lynchets north-west of Wye
(LiDAR imagery is 1m DTM EA open data
hosted by Enfield Archaeological Society)*

Plough Headland

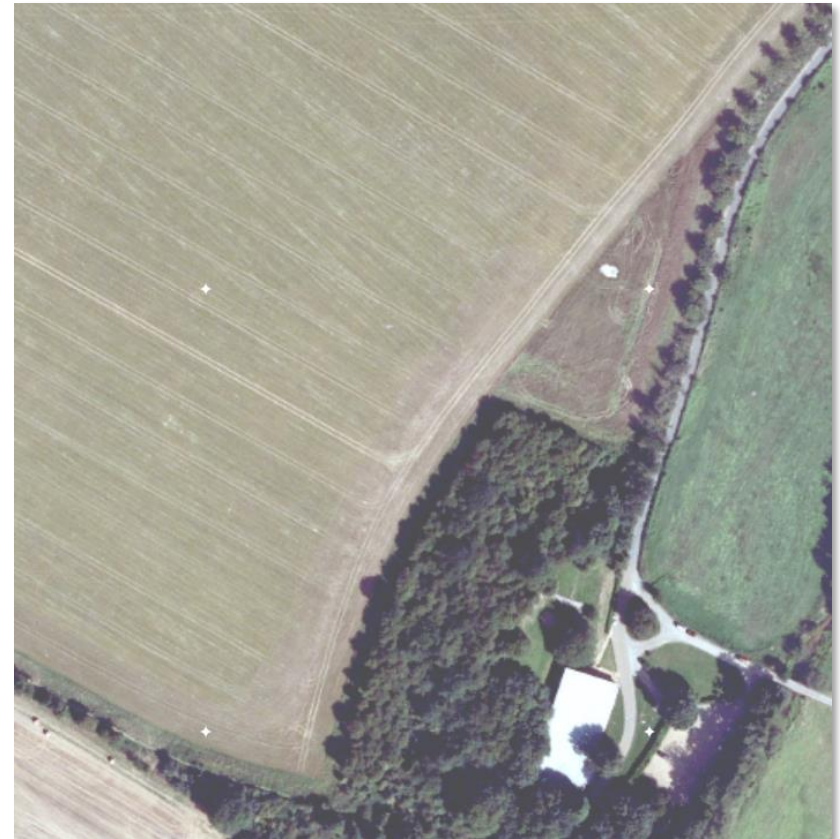
A plough headland is an earthen bank and cultivation feature of the open field system at the terminal of a furlong. The headland was the turning-point of the plough and oxen teams, as well as the junction with the unploughed grass baulks which served as boundaries for the furlongs. The headlands were usually ploughed after the rest of the furlong, though they were occasionally left unploughed and to both provide access between furlongs and an area for livestock-grazing.

What to look for:

Even where traces of the open fields and ridge and furrow patterns are no longer visible on the ground, headlands can still commonly be seen as low ridges which cross-cut modern field boundaries. Other possible defining characteristics include:

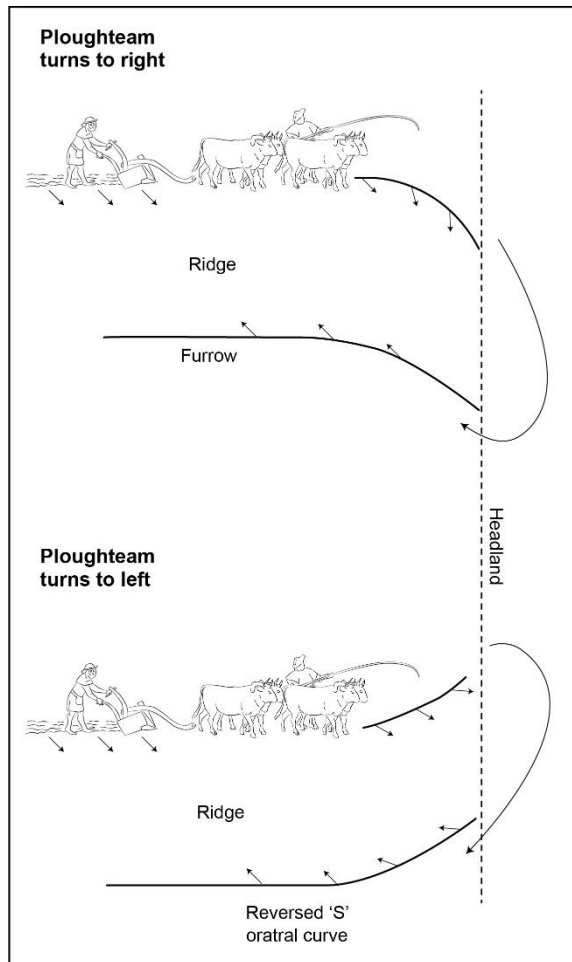
- Possible associated ridge and furrow
- Evidence of earthen bank

Aerial photo of modern plough headland used as track in fields behind Lullingstone Roman Villa (© Kent County Council aerial 2008)



Ridge and Furrow

Ridge and furrow was a field system type which consisted of a series of parallel, raised ridges separated by furrow ditches, and it was used to provide well-drained land and prepare the ground for arable cultivation. Over larger areas the system tended to adopt a sinuous reverse 'S' shape to allow for the turning circle of a plough team.



Characteristic of the medieval period, the origins of ridge and furrow go back to at least as early as the 10th century, though it was much more widespread by the 13th. The creation of the furrows allowed them to not only function as open drains, but also as demarcations of individual plots or units of production, often lying in the hands of each tenant or owner. In the south-east, ridge and furrow commonly exists in woodland as a result of a number of strips being repeatedly ploughed in the same direction. Its occurrence in former commons or heathy ground may represent brief cultivation before abandonment, and elsewhere in secondary woodland it can indicate former orchard. In more restricted areas, the ridge and furrow would have been dug by hand, as there was not room for a heavy plough team to manoeuvre.

Diagram explaining ridge and furrow process (based on Aston's Interpreting the Landscape and drawn by Charles Rousseaux © DVLPS)

Ridge and Furrow

What to look for:

Both the size and shape of furlongs could vary considerably, even in Kent, where a contrast can be seen between the small irregularly-shaped blocks of conjoined strips in the Weald and the larger, more rectangular examples in the east of the county. Some characteristics which can help in identification include:

- Long narrow strips which can be up to 700m in length and between 5-20m wide
- Form of a reversed 'S' in plan, or occasionally shallow curving C-shape

Further reading:

Historic England 2018, *Field Systems: Introductions to Heritage Assets*. Historic England: Swindon.

<https://historicengland.org.uk/images-books/publications/iha-field-systems/heag204-field-systems/>



Aerial photo of possible ridge and furrow system at Old Chetney Farm, Iwade, Swale (© Kent County Council aerial 2008)

Water Meadow

A water meadow is an area of grassland which was fertilized by allowing floodwater from rivers or streams to cover it in the winter months. This was done by digging a series of engineered channels so that a thin sheet of water flowed across the meadows and oxidised the soil at prescribed points in the year, reducing the effects of frost in the winter and raising moisture levels in the summer.

From the medieval period until at least the 18th century, the flooding involved simply blocking a watercourse and allowing it to 'float upwards' onto the surrounding farmland. More sophisticated 'floating downwards' systems were also developed which enabled stricter control of the water flow, though water meadows fell out of use from the late 19th century after the onset of agricultural recession.

Aerial photo of water meadow at Preston Farm, Shoreham, showing distinctive ditches running from secondary channel (© Kent County Council aerial 1960)



What to look for:

The remains of water meadows depend on the type of system which was used and the extent to which the meadow was subsequently levelled. Whilst ‘floating upwards’ systems largely consisted of dams for blocking watercourses, the downward-floated meadows had more complex patterns of drains and carriers which varied from site to site in their layout and size. A few distinguishing characteristics might be detected to help in identification, including:

- A system of gutters, drains or feeder ponds within a field or meadow, which could either be geometric or irregular in their layout
- Indications of built structures including bridges, aqueducts, culverts, sluices and weirs
- A location adjacent to a river or streambed

*Weir along the Darent
near Shoreham (© DVLPS)*



Further reading:

Historic England 2018, *Water Meadows: Introductions to Heritage Assets*. Historic England: Swindon

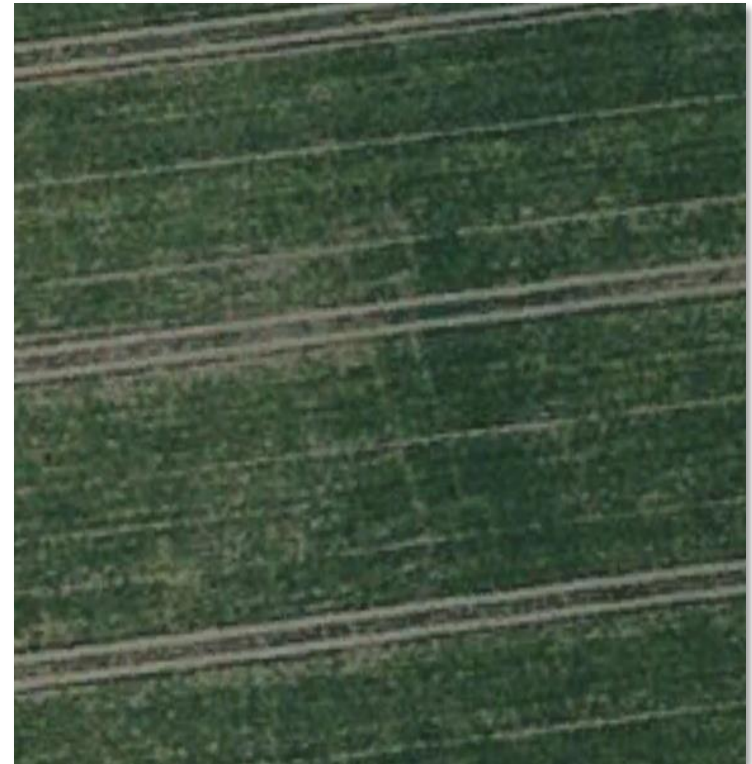
<https://historicengland.org.uk/images-books/publications/iha-water-meadows/heag237-water-meadows/>

Settlements vary considerably in their definition, although they are generally understood as places which were formerly inhabited and contained dwellings. This could range from individual domestic houses and structures to communities, some of which were on a scale large enough to be considered the equivalent of towns.

Some settlement types appear elsewhere within other monument types in this gazetteer.

Here, the forms of monument which will fall under settlement type include:

- Building Platform
- Deserted Settlement
- Garden / Park
- Industrial Site
- Moated Site
- Settlement (Other)



*Cropmarks of Trottiscliffe Roman Villa
(Google Earth 2017)*

Further reading:

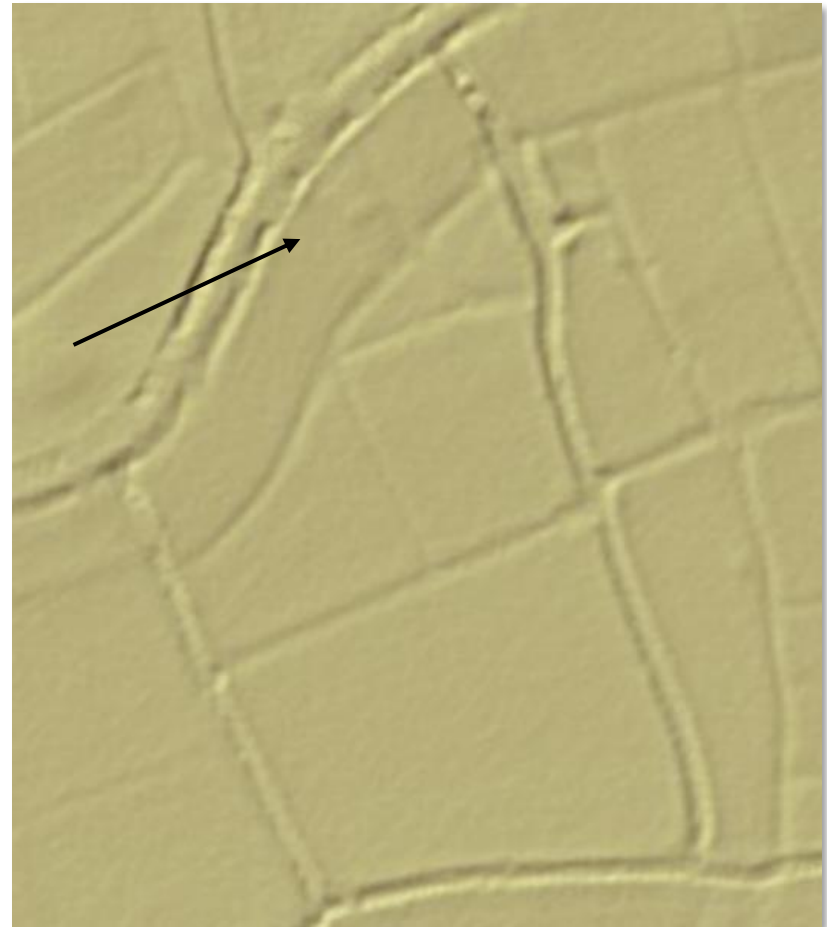
Historic England 2018, *Medieval Settlements: Introductions to Heritage Assets*. Swindon: Historic England. <https://historicengland.org.uk/images-books/publications/iha-medieval-settlements/heag210-medieval-settlements/>

A building platform is a site which gives indications that a former building once stood. They are normally identified by a level area of ground which is often compacted or made from man-made materials.

What to look for:

- Usually a rectangular shape several metres in size
- Occasionally garden plants may be growing close by, including fruit trees or outgrown garden hedges
- Possibly with an associated hollow way

LiDAR image of medieval field system and building platform at Burmarsh (LiDAR imagery is 1m DTM EA open data hosted by Enfield Archaeological Society)



Deserted Settlement

A deserted settlement is any settlement which has been abandoned, although it is usually associated with those of the medieval period, traditionally referred to as 'deserted medieval villages'. There are over 3,000 of these deserted medieval settlements in Britain, commonly clustering in areas which are now pastureland or cultivated fields.

Although plague (and the Black Death in particular) has often been attributed to the decline and abandonment of many settlements from the mid-13th century onwards, sites are well-documented as being levelled and laid waste to in Norman times, whether as targets for the invading armies or as land sought by monastic institutions. Many settlements were also abandoned from the 15th century as a result of the thriving wool trade, at which point much arable land was converted for pasture, or to make way for emparkment and landscaping around stately manor homes.

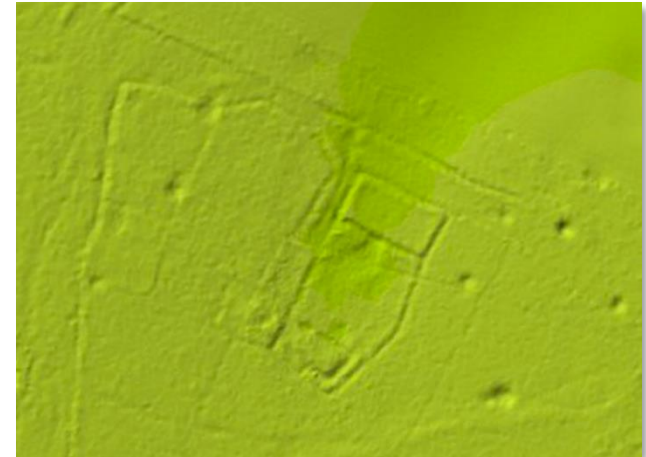
Aerial of earthworks at deserted medieval settlement at St Cosmus and St Damian in the Blean (© Kent County Council aerial 2008)



What to look for:

The earthworks and depressions which survive and give indications of these former settlements can include built platforms, wall foundations, field boundaries and trackways, although sometimes they are only visible as cropmarks. Whilst isolated churches are commonly assumed to indicate the presence of a deserted village, many rural churches were not in immediate proximity to known settlements and should not be taken as evidence for abandoned settlement. Other general indications which can aid in identification include:

- Signs of rectangular earthen platforms for former structures, ditches for moated sites, linear banks demarcating fields and plots, etc
- Quantities of medieval pottery which were spread across fields
- Nettles or other vegetation indicating former middens
- Associated ridge and furrow field systems



LiDAR of medieval manorial complex in Iffin Woods, south of Canterbury (LiDAR imagery is 1m DTM EA open data hosted by Enfield Archaeological Society)

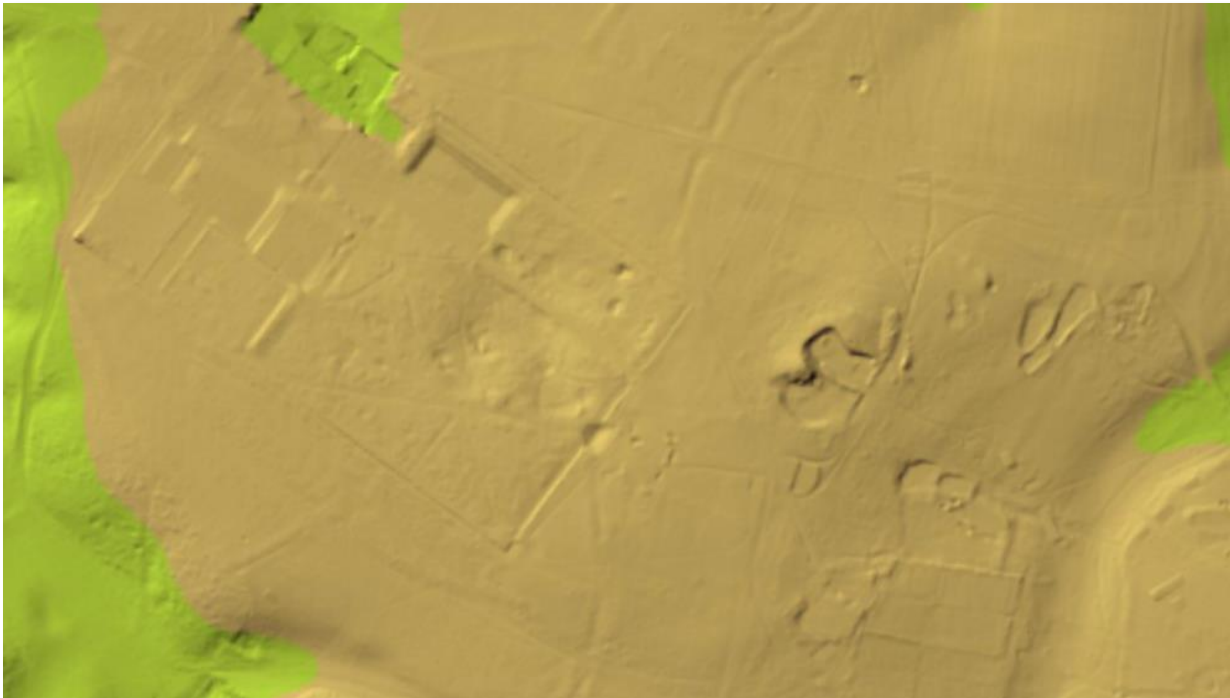
Further reading:

Historic England 2018, *Medieval Settlements: Introductions to Heritage Assets*. Swindon: Historic England.
<https://historicengland.org.uk/images-books/publications/iha-medieval-settlements/heag210-medieval-settlements/>

Garden / Park

Gardens and parks are enclosed pieces of grounds which were predominantly used for recreational purposes or visual enjoyment. Whilst gardens are devoted to the cultivation of flowers, fruit or vegetables, parks were used for hunting, as well as cultivating trees and grazing sheep and cattle.

Although designed landscapes are known in the Roman period, it is the medieval landscape where such features become more prominent. This designed landscape can include gardens which are immediately around the house, castle or other main structure, as well as within a wider zone beyond; parks, on the other hand, often lie some distance from the main house.



LiDAR image of formal gardens and medieval deer park at Knowle (LiDAR imagery is 1m DTM EA open data hosted by Enfield Archaeological Society)

What to look for:

Gardens and parks can vary considerably in their scale and the individual features found within: benches, trelliswork screens, tunnels, arbours, fountains, pools, statues, specimen trees and beds of flowers, herbs, etc. In the 15th century, knot gardens began to appear where paths divided the area into compartments and curvilinear patterns. The setting of more extensive designed landscapes was dominated by water, with moats, meres, fishponds and millpools all essential for its management. Many parks, particularly from the 18th century onwards, also had a wide range of structures, including lodges, gates, temples and seats, often at key viewpoints. Other characteristics which might help in identification include:

- Indications of walls, terraces and earthworks which would have formed complex patterns, compartments and avenues
- Signs of water management, such as canals or dams for the creation of lakes
- Occasional building platforms at key points on paths or drives

Further reading:

Historic England 2018, *Gardens: Scheduling Selection Guide*. Swindon: Historic England.

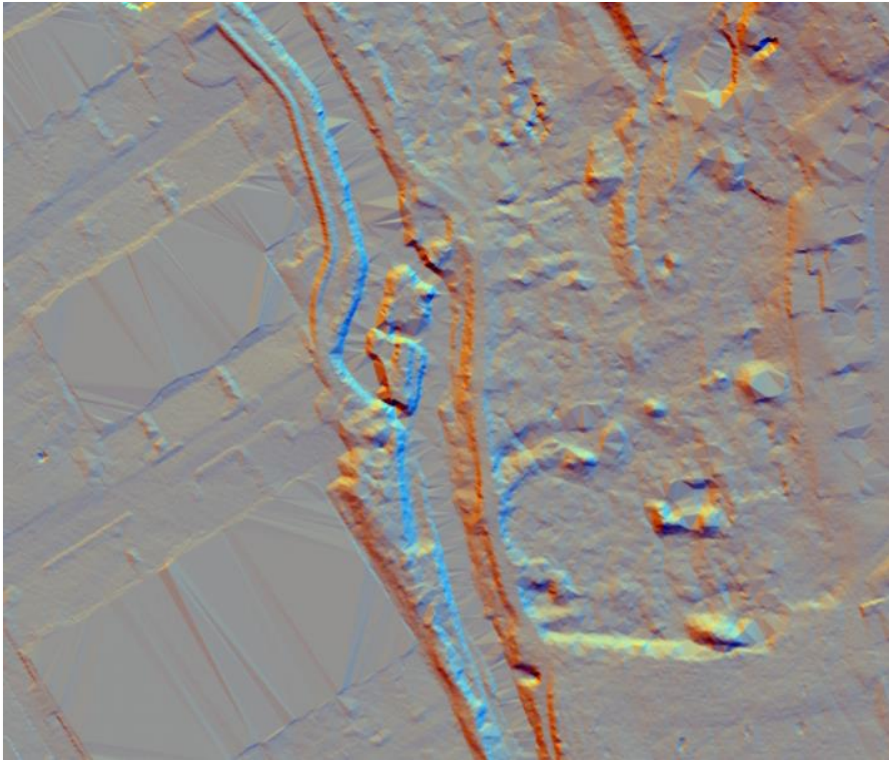
<https://historicengland.org.uk/images-books/publications/dssg-gardens/heag244-gardens-ssg/>

Historic England 2017, *Garden and Park Structures: Listing Selection Guide*. Swindon: Historic

England. <https://historicengland.org.uk/images-books/publications/dlsg-garden-park-structures/heag108-garden-and-park-structures-lsg/>

Industrial Site

An industrial site is area or space which is believed to have been used for trades and/or manufacturing activity and is largely characterised by signs of built structures and scattered debris. Often they are associated with woodland, as this was the source of many of the raw materials which were used. Most industrial sites can be classified as either extraction sites (such as digging for minerals or ore) or areas of processing (e.g. iron, glass, brick, etc), although both were often in close association with each other. Although many sites are likely to be of relatively recent origin, Roman and medieval works are known from excavation.



*LiDAR imagery of Dartford Gunpowder Works, showing central mill on island, sluice-gates and channels to former buildings
(© Kent County Council)*

What to look for:

Industrial sites might include more permanent structures such as brickworks, bloomeries and cottages, or their traces might be the platform terraces associated with temporary activities such as charcoal burning, woodworking and mineral extraction. Many of the works can be found in close proximity to the sources of extraction, as for instance with the close relationship between kilns and the clay pits, or they may be indicated via their by-products (e.g. traces of slag). Other signs in the landscape which might help in identification include:

- Indications of permanent structures such as brickworks, engine houses, bloomeries, etc
- Evidence of water engineering for industrial sites which relied on water power, including hammer ponds, reservoirs, leats and mill races
- Associated extraction pits or spoil heaps
- Unusual vegetation which thrives in mineral waste sites (e.g. mountain pansies indicating areas of heavy ore or seaside plants thriving where salt mining took place) or lack of plants as growth has been stunted

Further reading:

Historic England 2018, *Industrial Sites: Scheduling Selection Guide*. Swindon: Historic England.
<https://historicengland.org.uk/images-books/publications/dssg-industrial-sites/heag246-industrial-sites-ssg/>

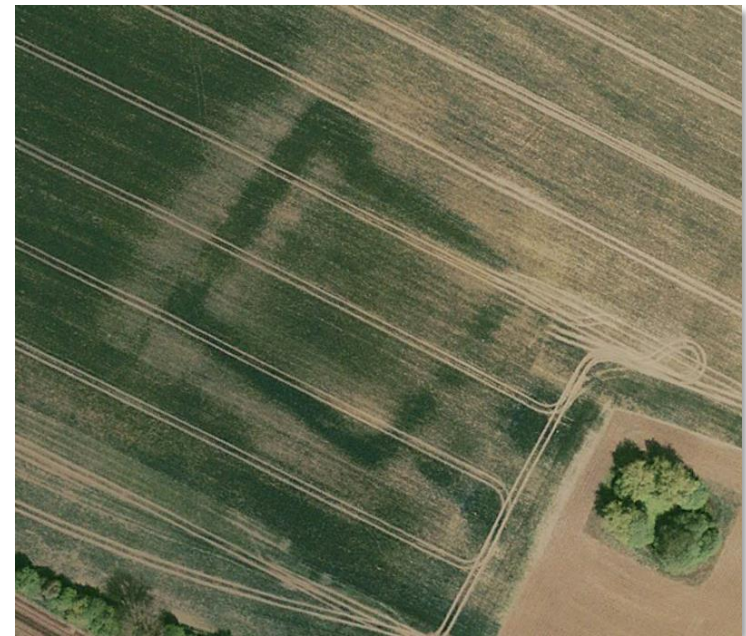
Moated Site

A moated site is one which involves a wide ditch enclosing an island, usually but not always filled with water. Most would have served as prestigious aristocratic residences, with the moat intended to be a status symbol rather than military defence. Whilst the majority of moated sites had buildings within their interior, some were known with no evidence for structures, with the island serving as a paddock or place for horticulture. There are around 6,000 moated sites known in England and the majority date to between AD 1250 and 1350.

What to look for:

Moated sites were highly diverse in their forms and size, although the majority were square in shape, and often the moat itself only partially enclosed the island on three sides. Although in the 12th century many were found adjacent to villages, by the 13th century there was a tendency to move out to settlement peripheries. Today, most moats will have had their ditches infilled or island flattened, but some characteristics to help in identification include:

- Signs of a linear bank and ditch which follows a generally square shape
- A location usually near to the church or village
- The 'manor' element retained in the house name



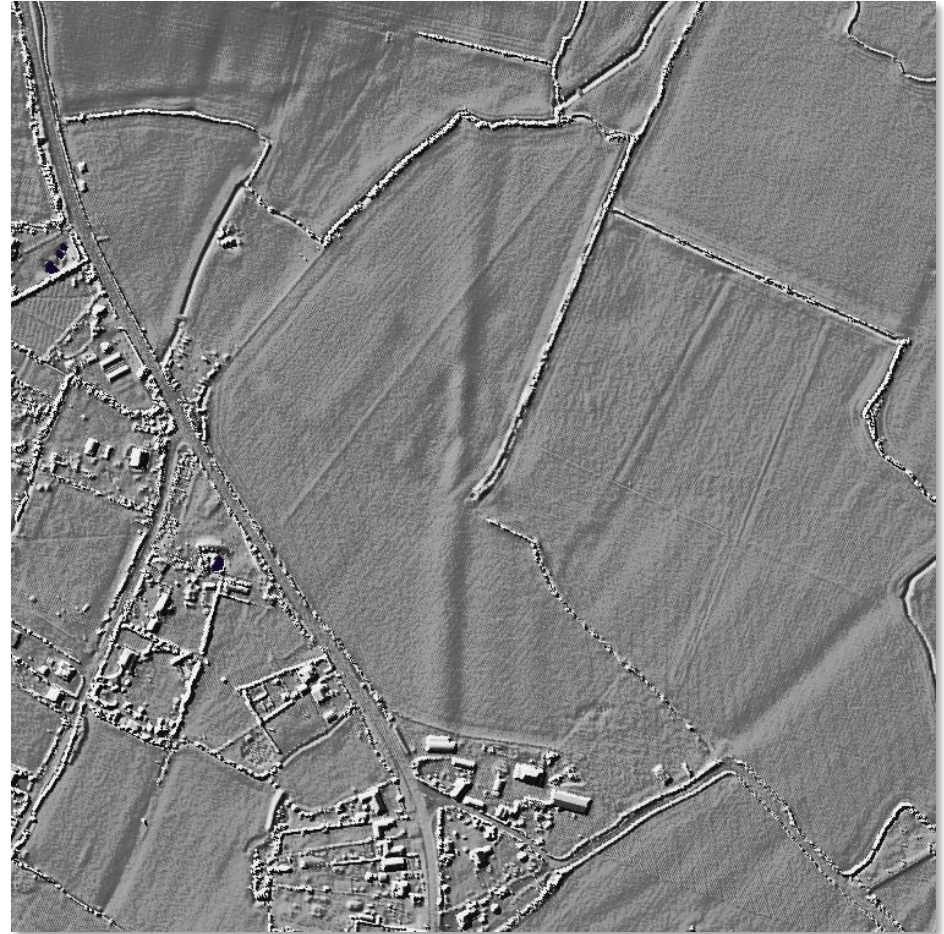
*Cropmark of moated site at Lenham
(Google Earth 2007)*

Permanent trackways have existed since Neolithic times, though by the end of the prehistoric period purposely engineered roads began to develop. Many routeways are difficult to define by their appearance today, and classification is best attempted through their intended function.

Here, the forms of monument which will fall under routeway site type include:

- Drove Road
- Road
- Hollow Way
- Trackway

LiDAR of aggar of Roman road north of Staplehurst heading to Maidstone and Rochester (EA open source data)



Further reading:

Historic England 2018, *Pre-industrial Roads, Trackways and Canals: Introductions to Heritage Assets*. Historic England: Swindon.

<https://historicengland.org.uk/images-books/publications/iha-preindustrial-roads-trackways-canals/heag224-pre-industrial-roads-trackways-canals/>

Drove Road

A drove road or driftway is a road or track which was usually used specifically by drovers or herders to drive their animals to pasture or market. Although many are of prehistoric origin, most examples which survive in today's landscape were of medieval or more recent use, with a particular peak in the 18th century before the coming of the railroad.



*Drove road and cross-dykes at Pen Hill in the South Downs
(© Chris Gunns, under Creative Commons License)*

What to look for:

Drove roads tended to be wide unsurfaced tracks which though walled (or fenced) on both sides had enough vegetation for grazing as the herd passed along. Herd control was usually easiest on routes which did not have toll gates, carriages or other obstruction, and many drover's routes generally avoided villages and other settlement areas. A few characteristics to look for include:

- Evidence of halting points every 16-19km (a day's walk), possibly in the form of inns
- Possible polished appearance to stone sections of road
- Lack of linear ruts, indicating wheeled vehicles and path for other purposes

*Former drove road at Finglesham
Drove near Sandwich (© Hugh
Craddock, under Creative
Commons License)*



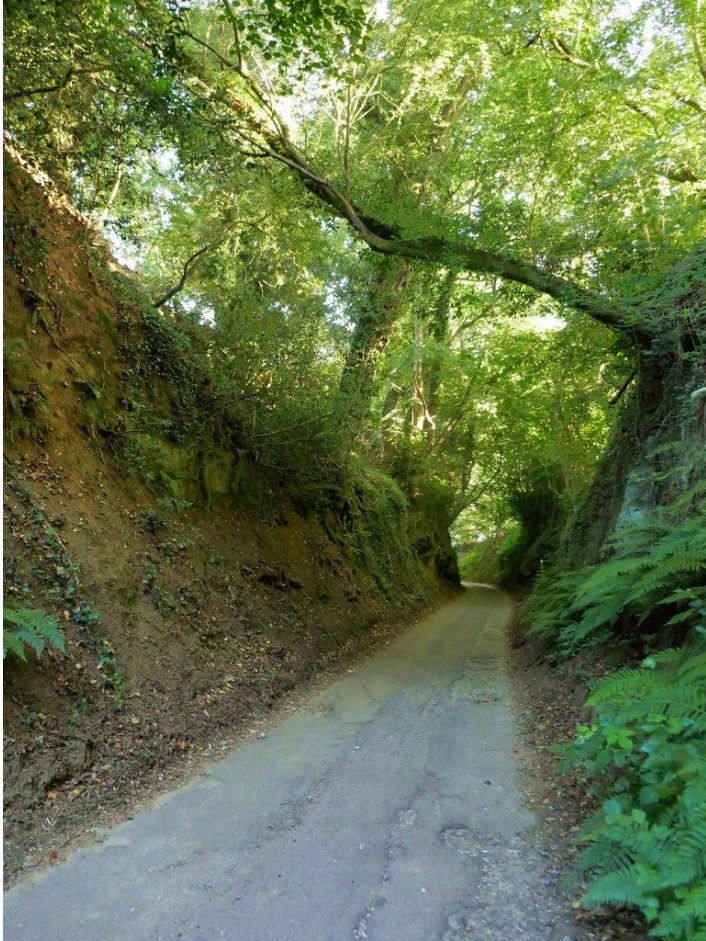
Further reading:

Historic England 2018, *Pre-industrial Roads, Trackways and Canals: Introductions to Heritage Assets*. Historic England: Swindon

<https://historicengland.org.uk/images-books/publications/iha-preindustrial-roads-trackways-canals/heag224-pre-industrial-roads-trackways-canals/>

Hollow Way

A hollow way or sunken path is a path or road through a cutting which forms a prominent linear (sometimes sinuous) hollow and is generally associated with well-used routes. As they usually remain in use for a long period once formed, they can also become drainage gullies, which deepens them even further.

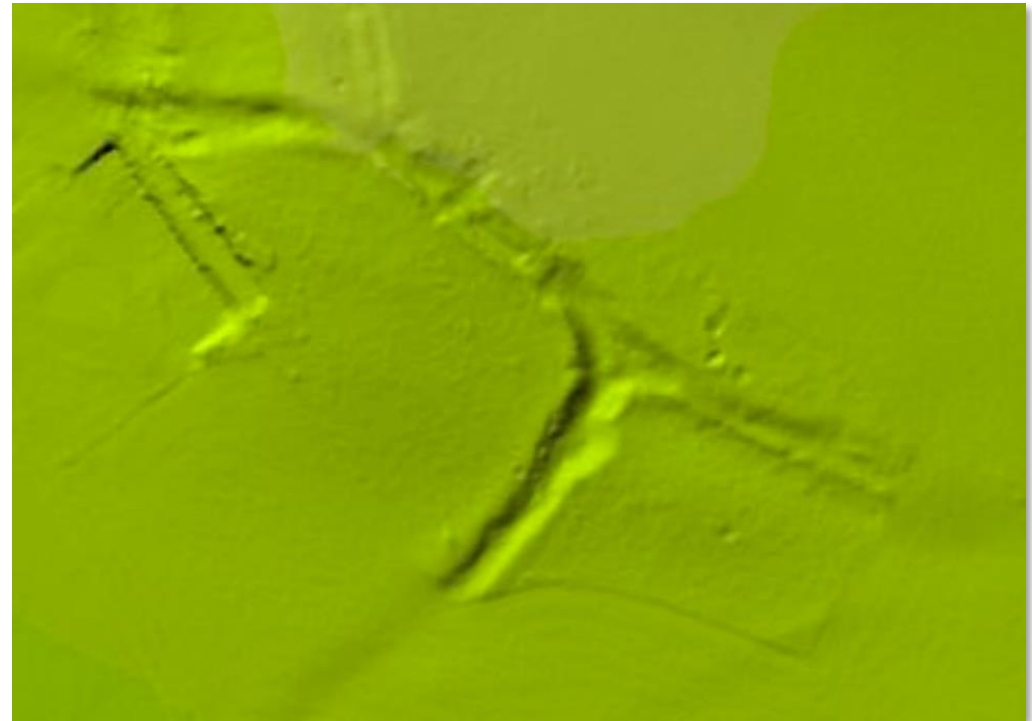


Hollow ways are found particularly on ground which steeply rises and near to or within woodland, with many associated with routes for timber extraction, or as linking routes between iron ore sources in the Weald and settlements on the Greensand and chalk hills. Others may be for access to fields and associated with lynchets (more specifically termed lynchet ways). Some hollow ways with prehistoric origins were later used as drove ways in the medieval period.

*Hollow way near Albury, Surrey
(© Stefan Czapski, under Creative
Commons License)*

What to look for:

- Deep tunnel-like tracks with steep bank sides
- General association with sloping ground and woodland
- Hedgerows or ancient trees lining the route (which will differ depending on the location e.g. more commonly bounded by yew or beech trees on the chalk or Greensand, versus oak trees on clay soils)



LiDAR image of former 'pilgrims route' and hollow way at Eastwell and Wye (LiDAR imagery is 1m DTM EA open data hosted by Enfield Archaeological Society)

Further reading:

Historic England 2018, *Pre-industrial Roads, Trackways and Canals: Introductions to Heritage Assets*. Historic England: Swindon.

<https://historicengland.org.uk/images-books/publications/iha-preindustrial-roads-trackways-canals/heag224-pre-industrial-roads-trackways-canals/>

Road

A road is a way between different places, used by horses, travellers on foot and vehicles and is a route which has been deliberately engineered. Roads are normally major routes which run for long distances between settlements such as towns or other centres.

Although prehistoric ones are known, roads are traditionally viewed as an innovation which was introduced by the Romans, speeding the transport of messages, reinforcements and supplies to the frontier zones and allowing an efficient network amongst the towns.

Medieval roads, though less often metalled than their Roman predecessors, also connected major towns and were particularly densely concentrated in London and southern England.



*Cropmarks of Stone Street –
as a pair of ditches – south
of Canterbury (Google Earth
aerial 2017)*

What to look for:

The route of Roman roads can often survive in sections along modern roads or later boundaries, most often characterised by their straight or angled course which does not follow the easiest route or natural lie of the land. Their hard, durable, metalled surface was also usually accompanied by an ‘agger’ embankment, side ditches or quarry pits, and cleared strip on either side, adding to their total width. Although many post-Roman roads were more trackway-like in their characteristics, other possible features to help in identification include:

- Width of between 5m and 10m
- Routes with straight stretches
- Signs of angles (or even zig-zags) when the route changes, often when the gradient changes on hilltops or higher ground
- Shallow side ditches which tended to be U-shaped and 1-2m wide
- Stone kerb revetments or cobble layers to form the metalled surface (usually a finer top layer overlying larger stones)

Further reading:

Historic England 2018, *Pre-industrial Roads, Trackways and Canals: Introductions to Heritage Assets*. Historic England: Swindon.

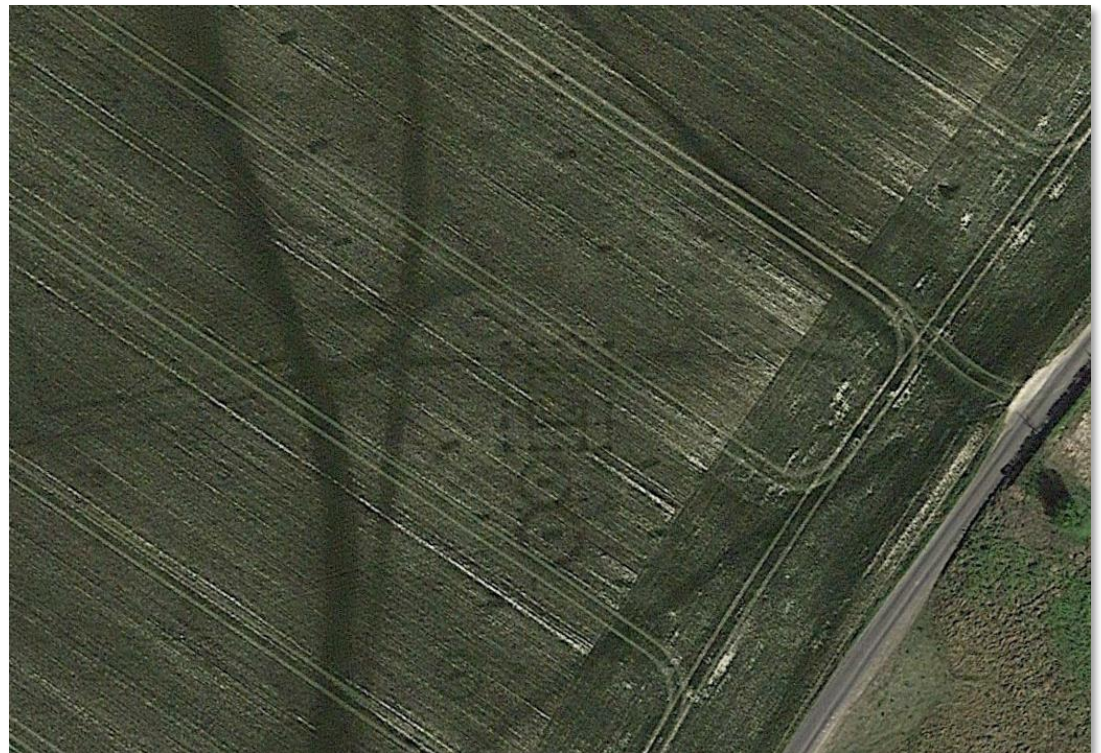
<https://historicengland.org.uk/images-books/publications/iha-preindustrial-roads-trackways-canals/heag224-pre-industrial-roads-trackways-canals/>

Trackway

A trackway is a pathway, not necessarily designed as such, which has been beaten down over time by the feet of travellers and passage of other traffic. There is a great variety to the monument type, with hollow ways themselves a form of trackway, as well as ridgeways, terraced trackways, etc.

The earliest tracks date to the Neolithic (c. 4500 BC) when there was need to connect farms, fields and other sites. Prehistoric routes include the long-distance ridgeways which followed along the high ground of chalk and limestone hills, as well as later prehistoric timbered trackways in lower-lying waterlogged areas. Many new roads from the post-Roman period lacked metalled surfacing and had the look of heavily used trackways, despite being purposely-built roads.

Trackways leading to probable Romano-British complex near Patrixbourne (Google Earth aerial 2017)



What to look for:

A trackway is not necessarily defined by its appearance, and many trackways which remained in use over time still survive today as modern roads, field boundaries, farm tracks, bridle paths and footpaths. Others may only survive as breaks in trees, or are slight ridges or earth banks across fields. Occasionally, multiple lines or paths are known, as with ridgeways, allowing for the best route possible given changing seasonal conditions. Further characteristics include:

- Possible parallel ditches along sides for drainage
- Evidence of more than one path (in the case of ridgeways), depending on the season and other travel conditions



Cropmark of trackway and enclosures near Upstreet (© Kent County Council aerial 1990)

Further reading:

Historic England 2018, *Pre-industrial Roads, Trackways and Canals: Introductions to Heritage Assets*. Historic England: Swindon.

<https://historicengland.org.uk/images-books/publications/iha-preindustrial-roads-trackways-canals/heag224-pre-industrial-roads-trackways-canals/>

Historic England's *Introductions to Heritage Assets (IHAs)* are an excellent starting point for more detailed information on monument types, including illustrated examples.

Other suggested sources:

Bannister, Nicola 1996. *Woodland archaeology in Surrey: its recognition and management*. Surrey County Council.

Bannister, Nicola 2007. *The cultural heritage of woodland in the South East: with reference to the High Weald, Kent Downs, Surrey Hills Areas of Outstanding Natural Beauty*. South East AONBs Woodlands Programme (<https://www.highweald.org/downloads/publications/32-cultural-heritage-of-woodland-in-the-south-east-complete-book-low-resolution/file.html>)

Bannister, Nicola & Debbie Bartlett 2004. *Exploring your woodlands history: a guide for community groups and woodland owners, based on the experiences of the Clowes Wood Archaeology Project 2002-2004* (<https://www.forestresearch.gov.uk/tools-and-resources/historic-environment-resources/other-sources-of-information-about-the-historic-environment/>)

North Wessex Downs AONB. *Woodland Archaeology in the North Wessex Downs Area of Outstanding Natural Beauty* (<http://www.northwessexdowns.org.uk/publications-resources.html>)

Ochota, Mary-Ann 2016. *Hidden Histories: a spotter's guide to the British landscape*. Quarto.

Weald Forest Ridge Landscape Partnership. *Feature Identification Charts: a toolkit for wooded landscapes* (<http://www.highweald.org/downloads/publications/33-feature-identification-toolkit-final-feb-2012/file.html>)

This **Gazetteer of Monument Types** was produced by the Darent Valley Landscape Partnership Scheme for interpretation of the LiDAR data on the **Kent LiDAR Portal**

Written and compiled by Dr Anne Sassin, Darent Valley Community Archaeologist, with image contributions from Chris Blair-Meyers (Kent Archaeological Society) and Andrew Mayfield (Kent County Council); monument classification has been adapted from the system created by Dr Ed Peveler (Chilterns AONB) for the Beacons of the Past LiDAR Portal

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