



Farming the historic landscape

Caring for archaeological
sites on arable land



This leaflet has been designed to help farmers, land managers and farm advisers identify archaeological sites that are on arable land and achieve best practice in their management.

WHAT ARE ARCHAEOLOGICAL SITES AND WHY ARE THEY IMPORTANT?

The countryside of today and tomorrow is also the countryside of yesterday, and its historic features are fundamental to its diversity, attractiveness and fascination. The landscape and the archaeological sites it contains are the only evidence we have for most of human history: a story in which every farmstead and estate in England has played its part.

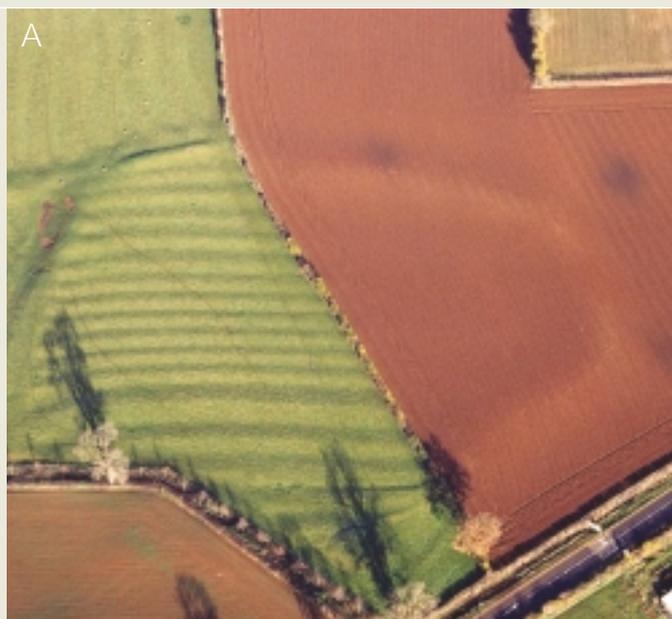
The term archaeological site is extremely broad, covering anything from the find spot of a single object to the upstanding remains of internationally important monuments such as Stonehenge or Hadrian's Wall. These sites are fragile and can be damaged by any significant ground disturbance, because this displaces vulnerable features (such as ditches and walls) and finds (such as pottery and bone). Once lost, these sites are irreplaceable.

Managing archaeological sites on cultivated land presents a particular challenge, since regular cultivation – or only one instance of deeper ploughing – can damage or destroy any hidden remains. Nevertheless, although these sites have been damaged in the past, and many may be suffering harm now, the process is often partial and gradual. As a result, large numbers of sites under cultivation still remain of great importance and would benefit from action to halt or minimise the impact of ploughing.

Farmers can play a vital role in ensuring that these sites are passed down to future generations.

HOW CAN I FIND OUT WHAT ARCHAEOLOGICAL SITES ARE ON MY LAND?

The key to caring for archaeological sites is knowing where they are on your farm. This will allow you to plan farming tasks to manage them well and prevent damage occurring. All known sites are recorded on Historic Environment Records maintained by local authorities (see contact details on the back page).



WHAT IS A SCHEDULED MONUMENT?

These are nationally important sites protected by law from damaging works. The locations of scheduled monuments can now be checked on the Multi-Agency Geographic Information for the Countryside website at www.magic.gov.uk.

Works on Scheduled Monuments need consent from the Department for Culture, Media and Sport. To carry out works without consent may constitute a criminal offence, although cultivation may be permitted on scheduled monuments in certain carefully specified circumstances.

If you are unsure whether there is a Scheduled Monument on your land, or what your legal obligations are, please contact your English Heritage Regional Office (see contact details on the back page).

A A prehistoric enclosure overlain by medieval ridge and furrow earthworks, in Northamptonshire. Cultivation has destroyed much of the ridge and furrow and is damaging the underlying enclosure. Photograph English Heritage NMR 21405-24.

B Colour changes or stony patches in the plough soil can reveal the presence of archaeological sites, such as this medieval road near Coughton, in Warwickshire. Photograph The Oxford Archaeological Unit.

C This Iron Age dyke near Damerham, Hampshire, survives well in grassland, but is levelled and reduced to a soil mark where it is being cultivated. Photograph English Heritage NMR 15766-35.



HOW CAN I RECOGNISE THE PRESENCE OF ARCHAEOLOGICAL REMAINS?

Most archaeological sites have yet to be discovered. Only close inspection of the land provides hints of what lies hidden, and you may be aware of sites on your land that are not listed in Historic Environment Records. Local Authority Archaeologists will always welcome information about new discoveries.

Archaeological sites and remains come in many shapes and sizes. Some are easily recognisable, for example, earthworks (such as ridge and furrow and burial mounds) and large monuments (such as hill forts).

Many more cannot be seen: they are buried below the level of normal ploughing, surviving as pits, ditches and walls, and finds in the sub-soil.

There is a wealth of evidence to indicate the presence of remains on arable land. The following are the more common indicators:

- Scatters of finds brought to the surface by ploughing, such as pottery, burnt clay, flint tools (arrowheads), metalwork (nails and brooches), human and animal bone, and building stone
- Patches of stony ground and building materials representing disturbed walls, roads or yards
- Darker or lighter patches in a field representing the contents of buried features (pits, ditches and buildings)
- Differences in crop growth caused by buried archaeological features (see cover photograph). The growth of crops, especially cereals, can reflect the depth of soil and available water. Where there are pits and ditches in the sub-soil, the crops grow better because the soil is deeper and wetter. Conversely, reduced soil depth over walls and patches of stone, together with restricted water, can lead to wilted crops, stunted growth and early ripening.

D Where ploughing erodes soil, archaeology – such as this prehistoric field system on Cranborne Chase – will also be damaged. Measures to protect soil will benefit archaeology. Photograph English Heritage NMR 18460-19.

E Well preserved remains can be surprisingly close to the surface. This Roman mosaic in Warwickshire has been scarred by one episode of deeper than normal ploughing. Photograph Bryn Walters.



WHY IS ARABLE CULTIVATION DAMAGING?

Arable cultivation damages archaeological remains by levelling out earthworks (ancient 'humps and bumps' visible above the surface of the field), by cutting through and churning up below-ground remains, and by eroding protective layers of soil. This problem is intensifying as the mechanical power of farm machinery increases. Some types of cultivation are particularly damaging. These include cultivation of previously unploughed land, stone clearance, sub-soiling and growing of root crops.

Even regular cultivation to the same depth can result in damage to archaeological deposits. This occurs particularly where the management of an arable field, combined with factors such as slope and soil type, leads to thinning of the plough soil and increasing cultivation of the sub-soil.

Situations where this risk is greater include archaeological sites located on:

- Light soils vulnerable to soil thinning from water and wind erosion, especially when coupled with deep cultivation and/or autumn sowing
- Heavy soils requiring drainage, sub-soiling and deep cultivation
- Peat soils which are especially vulnerable to drying-out and shrinkage as a result of drainage and subsequent wind erosion
- The top or middle of slopes vulnerable to the down slope loss of topsoil
- Land where compaction leads to the thinning of soil depth and loss of topsoil through run-off

F This Roman mosaic at Dinnington, Somerset, has also been damaged by an episode of deeper ploughing. Subsequently, the site was removed from cultivation through an agri-environment agreement to protect it from further damage. Photograph Somerset County Council.

G Archaeological sites near field edges can be managed as uncultivated margins or corners. These prehistoric burial mounds in Hampshire are well managed under grassland, seen here after cutting. Photograph English Heritage NMR 15703-22.

H Agri-environment schemes can remove larger areas from cultivation to protect important sites. Segsbury hillfort in Oxfordshire was once a ploughed field: now flower-rich chalk grassland has developed. Photograph English Heritage.



HOW CAN I RECOGNISE DAMAGE?

It is often difficult to recognise damage as archaeological remains are hidden. As a general rule, if soil is eroding on an archaeological site, ploughing is the likely cause and damage is likely to occur. Look for fresh archaeological material lying on the surface and fresh subsoil. Both are signs that the plough has cut into previously undisturbed deposits. Examples of archaeological material that may indicate recent disturbance are substantial fragments of plaster or fired clay, large and unworn pieces of pottery, and intact metalwork.

WHAT CAN I DO TO PREVENT OR MINIMISE DAMAGE?

Careful site management can avoid these problems, and grant-aid may be available from Defra, English Heritage or some local authorities to help you deliver improved management.

The best way to protect a ploughed archaeological site is to remove it from cultivation. Instead of cultivation, consider putting it down to permanent grass or long-term, non-rotational set-aside. This can also help to reduce soil erosion and provide a wildlife habitat.

Taking land out of cultivation, however, is not always a viable proposition and may not suit all arable systems. If you wish to continue cultivation on buried archaeological sites, you can try the following options. They are listed in order of their effectiveness in protecting archaeological deposits, but remember that unploughed land can have buried sites that remain intact as little as 5–10 cm (2–4 in) below ground level.

- Avoid tilling (and bear in mind that periodic ploughing to reduce compaction and facilitate water filtration might also be damaging)
- Direct drill
- Use minimum cultivation techniques
- Maintain the current plough depth to avoid new damage on level land (this is unlikely to work on slopes)

If these options are not possible, you can try these simple steps to give some protection to sites under cultivation:

- Take particular care when introducing larger equipment that might increase the plough depth
- Watch out for isolated in-field sites (such as burial mounds) under grass, since these are vulnerable to encroachment by ploughing
- Avoid sub-soiling, pan busting, stone cleaning or new drainage operations
- Avoid growing potatoes, sugar beet, short rotation coppice or turf
- Avoid any harvesting operations that involve rutting, soil removal, significant soil compaction or soil erosion (to prevent soil erosion, follow the advice in Defra's Code of Good Agricultural Practice for Soil)

On known archaeological sites, take care with:

- Farm tracks, fences or buildings
- Irrigation or slurry lagoons
- Vehicle access across sites, especially in wet weather
- Ploughing up old pasture
- Ploughing too close to standing monuments or earthworks
- Planting new field boundaries or trees
- Removing historic field boundaries
- Digging new drainage ditches or draining wetlands
- Altering the soil's chemical balance
- Allowing scrub growth or animal burrowing to infiltrate sites (these ungrazed sites should be cut at a minimum two-yearly interval to prevent scrub growth and deter burrowing animals)

HOW CAN I GET ADVICE ON CARING FOR HISTORIC SITES OR GRANT-AID?

You can obtain advice on how to protect archaeological sites on your land or on grant schemes for site management from the following organisations:

- **Department for Environment, Food and Rural Affairs:** Defra agri-environment scheme advisers can advise you about grants for environmental land management, including the protection of archaeological sites. A list of local offices is available on the Defra website at www.defra.gov.uk by selecting *Contact Defra*
- **English Heritage:** Your local English Heritage Regional Office can supply details about the location and management of Scheduled Monuments and may offer grants for their management. A list of regional offices is available on the English Heritage website at www.english-heritage.org.uk by selecting *Contact Us*
- **Local Authority:** Your Local Authority Archaeologist can supply general advice about site management. Some authorities may be able to offer help with site management. A list of Local Authority Archaeologists is available from the Association of Local Government Archaeological Officers' website at www.algao.org.uk
- **Farming and Wildlife Advisory Group:** FWAG Advisers work closely with Local Authority Archaeologists and are able to offer practical on-farm advice on the integration of all aspects of farm conservation management. A list of regional offices is available on the FWAG website at www.fwag.org.uk

REMEMBER to take account of known archaeological sites when you develop plans for soil management, farm waste management, farm development or habitat creation, or make applications for agri-environment schemes.

For copies of this leaflet, please contact English Heritage Customer Services Department on 0870 333 1181 or email: customers@english-heritage.org.uk
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