

Imprints in the chalk

A self guided walk around White Horse Hill in Uffington



The White Horse, Uffington © Webb Aviation www.webbaviation.co.uk

Explore one of Britain's most atmospheric ancient sites
Visit a chalk horse, an Ice Age valley and England's oldest road
Discover how geology and weather shaped myths and legends
Find out how the landscape has influenced centuries of human activity

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*the stories of our landscapes
discovered through walks*







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Imprints in the chalk

Discover how geology has shaped society and culture in Oxfordshire

Introduction

Kings, saints, goddesses, fire-breathing dragons and a giant horse. Welcome to one of the most intriguing and atmospheric sites in Britain.

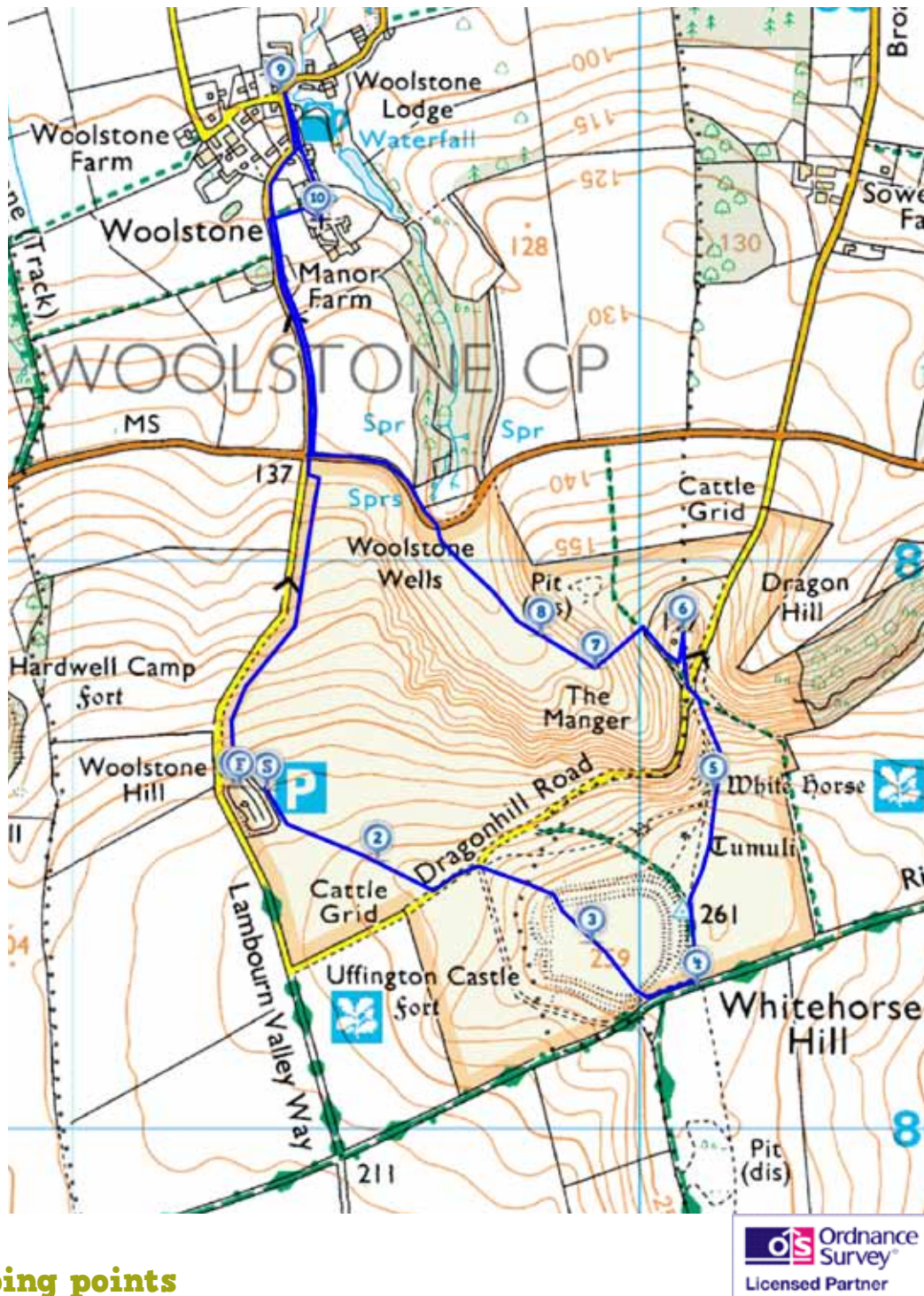
At Uffington in South Oxfordshire, you can enjoy spectacular panoramic views, discover a unique collection of ancient landmarks and explore a picturesque village. This walk uncovers some of the stories behind and beneath this popular place.



Giant's Stair, The Manger
Rory Walsh © RGS-IBG Discovering Britain

You will discover how the underlying rock of a place – in this case chalk – strongly influenced human activity: their fortifications and defences, their religion and culture, their travel and trade, their settlements and buildings. It is a fascinating story of how the physical landscape has shaped human activities and behaviour.

Route overview



Stopping points

1. White Horse Hill car park
2. Path between car park and Dragonhill Road
3. Uffington Castle
4. The Ridgeway
5. The White Horse
6. Dragon Hill
7. The Manger
8. The Manger
9. White Horse Inn, Woolstone
10. All Saints Church, Woolstone
11. White Horse Hill car park
12. White Horse Hill car park

Practical information

Location

Uffington, South Oxfordshire, Southeast England

Getting there

Car - Uffington is south of the B4507 between Ashbury and Wantage. Access via Junctions 14 and 15 of the M4. Look for signposts off A420 Swindon to Oxford road.

A National Trust pay and display car park is at White Horse Hill. Free for National Trust members.

Bus - Weekday bus services by Heyfordian Travel link Uffington with Wantage, Faringdon, and Stanford-in-the-Vale. The nearest stop is 200 metres downhill from the Horse.

On Saturdays only, Thamesdown Transport runs buses to Uffington from Swindon. No bus services on Sundays.

Train - the nearest railway station is Swindon (12 miles away). Also accessible from Didcot (15 miles) and Oxford (21 miles). Regular services run from Bristol Temple Meads, Reading and London Paddington.

Bicycle - access via the Ridgeway, ideal for mountain bikes. Cycle rack at the White Horse Hill car park.

Start point & Finish point

National Trust car park, White Horse Hill, SN6 7PT

Distance

3 miles

Level

Challenging – some very steep ascents and descents across rural land. Unsuitable for wheelchairs, pushchairs or prams.

Conditions

The grassy slopes can get very slippery after wet weather and the route is often blustery. Wear strong walking shoes / boots. Weatherproof clothing is recommended and you may also want to consider taking a walking stick.

Though Woolstone village is quiet the roads are narrow with no pavements. Look out for traffic, especially when walking with children.

Suitable for

Families – an exciting location for children of all ages though bear in mind the notes on Level and Conditions

Dogs – should be kept on a lead in grazing areas

Refreshments

The only refreshments available on the route are at the White Horse Inn in Woolstone village (Stop 10)

You may want to consider preparing / buying provisions before going on the walk. There are plenty of places on the route to enjoy a picnic.

Facilities

There are no public toilets on the walk route except at the White Horse Inn (Stop 10)

Other info

Wayland's Smithy Neolithic burial site is just 1 mile from the Uffington White Horse. The site is maintained by English Heritage, access via the Ridgeway (Tel: 0870 333 1181)

Ashdown House is a nearby 17th century chalk house in Lambourne, RG17 8RE. Owned by the National Trust. Access by guided tour only (Tel: 01793 762209)

1. A walk in the chalk

White Horse Hill car park

My name is Andrew Goudie and I am a professor of geography at Oxford University. My specialist field is physical geography, and in particular the study of landforms, which is called geomorphology.

Today we're in the southwest corner of Oxfordshire. The line of hills here forms a natural border and the other side is the county of Berkshire. We've also got Swindon and the county of Wiltshire to the west. I chose this walk not only because it's a great spot for a walk with wonderful views, but also because this landscape has a particular story to tell.



The ridge of hills dropping away steeply to the valley bottom are central to the story of this walk
© Leigh Williams, Wikimedia Commons

On the walk today you'll learn about chalk landscapes. By this I mean places where underneath your feet is a type of rock called chalk. We'll see how the properties of chalk have shaped the landscape that you can see today – a long ridge with steep slopes dropping to the valley bottom. We'll also learn about the people that have lived here in this landscape from prehistoric times to the present, finding out why they chose to live here and what structures and buildings they created.

The walk is circular. We start in the car park near the top of the hill, drop down to the village below and return back up the hill to our starting point. It's about three miles long. It's a steep slope downwards – and back up again – so go at your own speed. I hope you enjoy the walk!

Directions 1

Leave the car park through one of the three gates onto White Horse Hill. Walk diagonally uphill. Stop partway up the hill to look back down the valley.

2. Underneath your feet

Path between car park and Dragonhill Road

We are on what is known as White Horse Hill and down below you is the Vale of the White Horse. This hill is the highest point in Oxfordshire, reaching an altitude of 262 m (857 feet). This means that there are wonderful views on a clear day but it can also be very bracing up here!

Let's orientate ourselves. If you are standing on the hill looking down at the valley, you are looking north. If you look to your left – which is a north-westerly direction – you should be able to see the Cotswold Hills – on a clear day at least!



Section of a Geological Map of Great Britain
The mid-green colour arching from Dorset up through the Chilterns to East Anglia is chalk

We need to start our story today by thinking about the land between where you're standing and the Cotswold Hills in the distance. In particular, we're going to think about what's beneath your feet – the rocks that formed here millions of years ago.

What you should be able to see looking from here into the distance is a series of hills and valleys. The Cotswold Hills in the distance and the forested ridge in the middle ground are made of rocks called limestone, some of which are more than 150 million years old. We call it Jurassic Limestone because it was made in a period of time that geologists (the people who study rocks) call the Jurassic period. In between the hills and ridges are valleys. Underneath the low-lying valley bottoms, including the Vale of the White Horse in front of you, is a different type of rock called clay.

White Horse Hill itself that you are standing on is underlain by what we call white Cretaceous Chalk. This is a type of limestone rock that was formed about 80 million years ago when this area was covered by the sea and the climate was a lot warmer than today.

This cross section of land – the ridges and the valleys – and the typical underlying rock is not just found here. The same pattern can be found in a great arc up the centre of England from the Dorset coast to Yorkshire.

Directions 2

Continue uphill across the field. Cross the road and continue diagonally upwards to the summit of the hill, which is Uffington Castle. Stop on the earthen ramparts of the castle.

3. Hill top defence

Uffington Castle

At the summit of the White Horse Hill is Uffington Castle. This is not a castle in the sense that is normally used because it hasn't got great battlements constructed of stone and a moat or anything like that. Rather, it's a great hill fort that was constructed in the Iron Age round about 2,700 years ago.

It has a single ditch and rampart. The rampart was certainly once deeper – perhaps by three metres – than it is today, and has become partially infilled over the years by the washing of material down the slope, the trampling of sheep, and the activities of earthworms.

The ramparts were also once topped by a timber palisade – a defensive line of stakes. The main entrance appears to have been on the north, which was protected by an earthen passageway that would have been further protected by wooden stakes. And smaller entrances through the south and northeast ramparts were created by the Romano-British during their occupation of the site.



The hill top position with commanding views in all directions was ideal for a fort in Iron Age Britain
Rory Walsh © RGS-IBG Discovering Britain



Nowadays, Uffington Castle is defended by sheep
Jenny Lunn © RGS-IBG Discovering Britain

The fort comprises an area of approximately 3 hectares (7.4 acres) and between the castle and the White Horse, which we'll see later, lie a number of burial mounds that date from the Neolithic and Bronze ages but which were reused for Romano-British and Anglo-Saxon burials.

It has sometimes been proposed (though with little evidence) that the castle also marks the site of the Battle of Badon, which was the scene of Arthur's great victory over the Saxons but, as we'll see, there are lots and lots of myths and legends associated with this area.

Directions 3

Cross the centre of the castle or go round the embankment to the south east corner, which is on the opposite side to the view over the Vale of the White Horse. Find the gate which leads out of the perimeter fence. Go through the gate and stop on the pathway.

4. The oldest road in the country

The Ridgeway

Immediately to the south of Uffington castle, there's a lovely green lane streaked with white chalk where vehicle ruts have been made. This is The Ridgeway, part of what is now a National Trail. It's thought to be the oldest road in the country, having been in existence for about 5,000 years since a period called the Neolithic.

The National Trail (as it is today) extends for 139 kilometres (that's about 87 miles) from the great prehistoric stone circle at Avebury in Wiltshire to the Iron Age fort on top of the Chilterns at Ivinghoe Beacon. The ancient roadway, though, is longer than that and provided a link between Dorset and the Wash.



The Ridgeway, running along the chalk ridge,
© Nigel Brown, Geograph (Creative Commons License)



The Ridgeway is popular with walkers and bikers
© Steve Daniels, Geograph (Creative Commons License)

It's very high and very dry, which is why people used it. Down in the vale, it would get very marshy as the clays got wet in the winter months but up here it would be predominantly dry underfoot. So Neolithic people would have used this path to go and see their friends, or to go to market, or to raid their neighbours.

It has also been used in more recent times by the Romans, by the Saxons, by medieval sheep drovers, and – until a recent ban – by four-wheel drive enthusiasts.

Directions 4

Return through the gate and follow the grassy path straight ahead, keeping the Castle embankment on your left. Shortly after the trig point, the path bears right. Follow this grassy path through the dip. This should bring you to the edge of a steep slope near the top of the White Horse, stop here.

5. The horse goddess

The White Horse

In southern England, there are quite a lot of figures carved in the chalk. There's the famous white giant at Cerne Abbas down in Dorset. There's also quite a recent figure on the way out of Weymouth of George III. And there's another White Horse down at Westbury, not so far away from here. But the Uffington White Horse is the most impressive of all the white chalk figures in Britain and attracts visitors from all over the world. It may also, at 3,000 years old, be the oldest such figure.



The White Horse being cleaned by volunteers
© Dennis Simpson, Geograph
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It's about 114 metres long (that's 374 feet) and is a sort of stylised representation of a horse, though some would say a dragon. It's formed from deep trenches filled with crushed white chalk. We used to think that – like the castle – it

was the product of the Iron Age, but recent dating using a scientific technique called Optically Stimulated Luminescence (which is based on radiation levels in the soil) now suggests that it is earlier than this and dates back to the late Bronze Age.

Images similar to the outline of the horse have been found on coins from the Iron Age. It may be that the figure represents a horse goddess connected with the local Belgae tribe – we know that horse goddesses were worshipped throughout the Celtic world – and it may be that it's best seen from the air because they wanted the goddess to be able to see it. That's why in some ways on the ground at the viewpoint it doesn't look that impressive.

Until the late nineteenth century, the horse was scoured every seven years as part of a more general local fair held on the hill and which involved cheese-rolling down its steep bounding slope. The slope is very, very steep so you need to be very careful not to imitate bouncing cheeses!

Directions 5

You now need to make your way down the hill keeping the White Horse on your left. It is very steep in places so take your time. Cross the road and follow the path on the other side up onto Dragon Hill. Stop on the plateau of Dragon Hill.

6. Slaying the dragon

Dragon Hill

Having descended steeply down from the White Horse, we've now arrived at Dragon Hill and we can look back to the White Horse and get a rather good idea of its outline – particularly we can see its the tail.

Dragon Hill is a flat-topped mound, almost perfectly conical in shape. It has a level summit and this led to the assumption over the years that it was a man-made mound, similar to Silbury Hill near Avebury in Wiltshire. However, it is only the top that appears to be artificially flattened.



Flat topped Dragon Hill
Rory Walsh © RGS-IBG Discovering Britain

There are lots of legends as to how the hill came into being. Indeed, there are lots of legends about nearly all the features of this particular area. Legend has it that the hill was the site of a battle between St George and the Dragon, hence its name.

It was believed that when St George struck the final fatal blow, blood gushed out of the dragon and that the grass where this happened has never grown since. Indeed there is a great white patch in the middle of the hill. Others argued that it was the burial mound of King Arthur's father, Uther Pendragon. In fact, it still remains a mystery, but it adds to the grandeur and fascination of the whole site.



Site of the battle between George and the Dragon...
Painting of Saint George Fighting the Dragon by Raphael
(c. 1503-1505)

Uther-Pendragon. 



...or the burial mound of Uther Pendragon?
Illustration from The Story of King Arthur and His Knights
by Howard Pyle (1903)

It's also a lovely place, in season, to see typical grassland flowers. There are so few of the old, unimproved pastures left in England, but here on the hill we have a lovely, old-fashioned meadow. You can see cowslips in season and lots of other flowers in the course of the year. There are also lots and lots of birds in the area and one can almost always hear the skylark as it hovers up above.



Skylark
Vogelartinfo, Wikimedia Commons
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Directions 6

Retrace your steps back down from Dragon Hill. Turn right at the bottom of the steps and follow the footpath. Cross the stile ahead and then cross a second stile on the left. This takes you onto the rim of The Manger.

7. A valley with no stream

The Manger

As we clamber down from Dragon Hill, we come into a great green valley, which is called The Manger. This valley is cut back steeply into the chalk and heads up to the White Horse itself.

It's a superb example of a feature that occurs widely in the chalklands of Britain which we call a dry valley. It is, indeed, a valley and it's also dry – there's no stream in it today – but it must have been created by a stream that no longer exists and so may be a product of climate change in the distant past.



The Manger from above
© Frasmacon, Wikimedia Commons
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One theory has it that it was cut by a retreating spring at a time when it was wetter than today. At that time, the water table under the ground was higher. Today there are springs in the village of Woolstone but if it had been wetter, they might have occurred higher up the landscape.

An alternative view is that The Manger was cut by vigorous streams during the Ice Age. These streams might have been fed by snow melt in the early summer. Also, there would have been severe frost attack, which would have weakened the chalk – made it softer, made it more erodible. When it was very cold, the area was underlain by frozen sub-soil we call permafrost, which would have stopped any rain from running through the soil – it would have run off the surface rather than soaking down as it would today. We know that the greatest ice cap of the Ice Age reached down to south of Oxford, so the area would certainly have had a very severe climate, rather like that one finds today in Siberia or Alaska.

Directions 7

Follow the footpath down into The Manger. Take care as again the ground is rough and steep. When you reach the bottom turn right. Stop at the wooden gate.

8. Avalanche!

The Manger

We're now right down in the bottom of The Manger. If one looks down valley – that is away from the direction of the White Horse and towards the vale – we find that The Manger has some very intriguing and interesting features along its sides.

On the left hand side as you look down the valley, there is a series of more-or-less parallel trenches on the side. One theory for these is that they are the remains of features we find today in very cold areas – which we call tundra or peri-glacial areas – such as Siberia and Alaska.



Avalanche chutes in The Manger
© Pam Brophy, Geograph (Creative Commons License)

These features are called avalanche chutes. Great snow patches would have accumulated on top of the chalk in the Ice Age, and these would have liberated large avalanches and avalanches cause erosion. Once they created a track – which is called an avalanche track – this tends to be followed by subsequent avalanches which thus makes them still deeper.

Also in the valley, on both sides there are some terraces. Such terraces are quite common in the chalk in southern England and historical geographers or archaeologists call them strip lynchets. These are probably the result of generations of ploughing, which allowed cultivation to be practised on steep slopes at a time when land was in short supply. The flatness of the floor of The Manger may also result from the same process.

Directions 8

Continue along the flattest ground at the bottom of this dry valley. Do take a moment to look back up at the view of the White Horse. Go through the gate onto the road. Unfortunately there is no footpath here and you will need to walk on the road for a short distance. This is a minor road but it can be busy with visitors to White Horse Hill and there are several blind bends. Make sure you walk against the traffic and keep a constant lookout for vehicles. At the crossroads, turn right towards Woolstone village. Follow the road down into the village for about 600 metres. Stop when you reach the T-junction beside the White Horse Inn.

9. A long and thin village

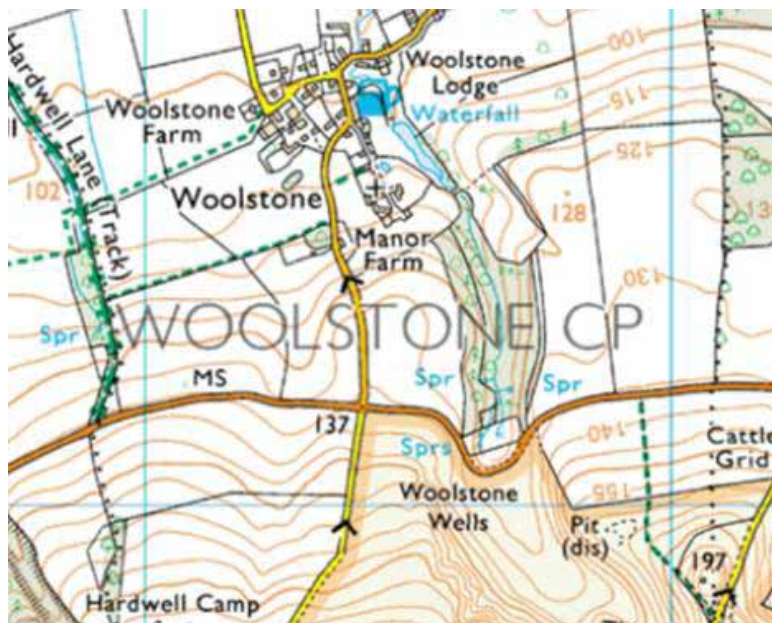
White Horse Inn, Woolstone

We're now in Woolstone Village. This is a beautiful village located in the clay vale of the White Horse. The parish is a curious shape – it's long and thin – it extends just over 6.4 kilometres (4 miles) from north to south, but it is less than 1.6 kilometres (1 mile) wide. This is a characteristic of what are called spring-line villages.

Springs occur on steep slopes where you have a junction between the chalk and the underlying clay. It's at this point that the spring gushes out and it provides water for the village. So that's why the village is where it is but, by being long, the parish also had access to the important grazing lands of the chalk downs behind.

Woolstone is not only beautiful, it's also very old and Iron Age pottery has been found nearby. It also once had a Roman Villa. The Parish Church of All Saints was built in about 1195 AD.

There are some wonderful ancient hedgerows in the parish, and the crab apples are especially numerous, producing exquisite blossom in spring and large crops of very varied fruits in the autumn. They make excellent apple jelly!



The map shows steep slopes, springs emerging near the base and spring line villages such as Woolstone
Ordnance Survey map, licensed to RGS-IBG

Directions 9

Do take time to explore the village. You can follow either road from the T-junction for a short distance. In particular look out for different building materials, which you will hear about at the next stop. When you are ready, retrace your steps back to The White Horse Inn. About 100 metres from the Inn, the road bends to the right. But there is also a road straight ahead signposted All Saints Church. Follow this road and enter the churchyard.

10. A hotchpotch of building materials

All Saints Church, Woolstone

We're now in the churchyard of the parish church of Woolstone and I want to say something about the buildings and what they're made of. We're in a landscape that is underlain by rather weak rocks including chalk but round here is also Greensand, which is very erodible, and in fact there are sunken lanes developed in it because it is so soft. We've also got the Gault Clay, which is also not good for building. So what did people do?

There is no good building stone as people would have used in the Cotswolds or in Dorset, so people used what they could find. One material that is used in the parish church is some relatively hard chalk called clunch and this forms the bulk of the upper walls. Elsewhere flints derived from the chalk have been used. The villagers also employed some blocks of local sandstone – sarsen stone – which we will discuss at our final stop.



A mixture of building materials used for houses in Woolstone village
Jenny Lunn / Rory Walsh © RGS-IBG Discovering Britain

The church is very often open and it's well worth going inside because it's a beautiful church. One can see the clunch walls on the inside at close quarters. There is also abundant use of brick, perhaps made from the local clay, especially for vital parts of the building structure such as window arches, doorways and corners. Timber was also much used and there is a timber-framed public house in the village – the White Horse. For roofing, a great deal of thatch has been used because none of the local rocks make good roofing material. It is the rather random conjunction of all these different materials that gives the village so much of its charm.



Woolstone Church with walls made from clunch
Rory Walsh © RGS-IBG Discovering Britain

Directions 10

Do take time to look in the church. When you are ready, find the gate in the bottom corner of the churchyard opposite to where you came in. Go through the gate and cross the field. Turn left onto the road and retrace your steps back up to the crossroads. Go straight across, which is signposted Uffington White Horse and Waylands Smithy. After a few metres, enter the gateway on the left hand side. Here there is access to a field path up the hill which avoids walking on the road. Follow the path all the way up the hill parallel to the road. Take care as the hill is fairly steep and can be slippery. Stop in the car park.

11. Stones like sheep

White Horse Hill car park

We're now in the car park which is an unusual place to have a stop but if you look around – not least in the middle of the car park – there are a whole series of curiously-shaped brown rocks made of a hard sandstone. We've seen similar rocks in some of the buildings down in Woolstone.

Now these blocks of rock are called 'Sarsen stones'. Sometimes they have also been called 'greywethers' because where they appear in fields at a distance they look like sheep – and sheep used to be called 'wethers'.



Sarsen stone in Woolstone village
Rory Walsh © RGS-IBG Discovering Britain

These Sarsen stones are very widespread in southern England and were extensively used in the construction of all sorts of prehistoric monuments and they make up, for example, the stone circle at Avebury, the stones found at Waylands Smithy (which is just nearby on the top of White Horse Hill) and in the valley in which the Ashdown House lies (a house that looks like a French chateau and belongs to the National Trust, just a few miles to the south).



Sarsen stones at Waylands Smithy
© Paul Farr, Geograph (Creative Commons License)

It is generally believed that the sarsens are the resistant remnants of a formerly more extensive cover of material that once overlaid the chalk and which has been largely removed by millions of years of erosion (and of course by humans).

Similar materials still occur today in some tropical areas such as the Kalahari and so may be indicative of the warmer conditions that were a feature of the British Isles before the onset of the Ice Ages some two or three million years ago.

Directions 11

Remain in the car park for Stop 12.

12. Living with the chalk

White Horse Hill car park

This walk has explored a classic example of a chalk landscape in Britain. By this, we mean that the rocks underneath are made of chalk, a rock that has a white colour. Chalk is a very soft rock so physical processes like frost and water have worn it away and created particular shapes. For example, we saw The Manger, which once had a stream that carved away the rock but is now what we call a dry valley.

We've also seen how human beings have lived and worked in chalk landscapes for at least 5,000 years. We've seen how the chalk ridge was a good defensive site for Uffington Castle. We've seen how the ridge provided a line of travel – The Ridgeway – for generations of travellers right up to the present time. We've also seen how the chalk ridge became a ritual site, although exactly why these rituals were located here is unknown.

Chalk has also affected humans at the bottom of the slope. We saw how springs of water emerge at the foot of the slope, again because of the chalk. When locating a village one needs water, so this was a perfect location. Water emerging also meant that it fed crops, so we get very fertile agricultural fields. We also learned that because the chalk rocks underneath our feet are soft, they are not very good for building so other materials have been used in their place.

So we've seen how the physical landscape influences the human landscape and also how humans have adapted their activities to the physical landscape. Elsewhere in Britain, if you go to chalk landscapes – such as Wiltshire or Dover – a lot of the story that you've heard today will be relevant there too.



Chalk's influence on human activity in South Oxfordshire (top to bottom): religion and rituals; travel; building materials and farming
Jenny Lunn /Rory Walsh © RGS-IBG
Discovering Britain

Credits

The RGS-IBG would like to thank the following people and organisations for their assistance in producing this Discovering Britain walk:

- **Professor Andrew Goudie** for creating the walk
- **Jenny Lunn** and **Rory Walsh** for editing the walk materials and taking photographs
- **Caroline Millar** for editing the audio commentary
- **Nick Stanworth, Gemma Coate, Olivia Antrobus** and **Florence Lee** for assistance with compiling walk resources
- **Jonathan Webb** for kind permission to use his aerial photograph of the White Horse
- **Pam Brophy, Nigel Brown, Steve Daniels, Paul Farr, Dennis Simpson** and **Leigh Williams** for additional photographs





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