



Geopark Way

circular trail

Alfrick and the Suckley Hills



5 mile circular geology & landscape trail



Rocks along the trail

Sedimentary rocks are made up of particles deposited in layers. They usually form on the sea floor, in lakes and rivers, or in deserts. The sediment layers are compacted and consolidated by the weight of overlying material. The particles within the layers can also be cemented together by minerals (e.g. iron) carried by water percolating through the sediments. Eventually, over millions of years, the compressed sediments become rock.

Sedimentary rocks today are being formed over much of the Earth's surface.

Limestone is composed primarily of the mineral calcite. Limestones are very variable rocks. The fossil rich limestone seen along the trail was deposited in a warm shallow sea where shell fragments from millions of dead creatures fell to the bottom of the sea and accumulated to great thicknesses.



Shale is composed of millions of tiny fragments of material. This material was deposited in thin layers on the sea floor.



Sandstone is composed of broken fragments of older rocks. The fragments of rock range between 0.05mm and 2mm in diameter. The sandstones seen along the trail were transported, as sediment, by water from their source before being deposited in rivers and later cemented together.



Conglomerate is composed of broken fragments of older rocks. It is defined as containing rounded fragments of rock greater than 2mm in diameter. The conglomerate seen along the trail is the result of a flash flood event.



The Abberley and Malvern Hills Geopark

...is one of a new generation of landscape designations that have been created specifically for the interest of the geology and scenery within a particular area.
www.Geopark.org.uk

The Geopark Way

...winds its way for 109 miles through the Abberley and Malvern Hills Geopark from Bridgnorth to Gloucester. The Geopark Way passes through delightful countryside as it explores 700 million years of the Earth's history.

Geopark Way Circular Trails ...

...form a series of walking trails that each incorporate a segment of the Geopark Way linear long distance trail.

The walk has been researched and written by
 Herefordshire and
 Worcestershire Earth
 Heritage Trust
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This walking trail takes you through the rural Worcestershire parishes of Alfrick and Suckley. Hills, vales and river valleys shape the landscape, which in turn is woven with a tapestry of woodland, orchard, pasture and farmland.

The geology along the walk is divided between rocks of Silurian age and rocks that are Triassic in age. All of the rocks seen along the trail are sedimentary in nature.

Silurian aged rocks (444 – 416 million years old)

During Silurian times this area lay about 30° south of the equator. At the beginning of the Silurian times this area was experiencing a transition from land to the margin of a tropical ocean, as sea levels rose with the melting of ice at the end of the Ordovician Ice Age (around 445 million years ago). The earliest rocks from the Silurian age are thought to have formed from flash-flood events which washed sediment into the shallow sea. Later, limestones and siltstones were formed from sediments laid down in the warm, shallow tropical sea stretched westwards to the deeper ocean beyond the Welsh Borders. The Silurian seas teemed with life. The wide variety of weird and wonderful creatures that inhabited this environment can be found today, as fossils, in some of the limestone rocks seen along the trail.



Artist's reconstruction of a Silurian sea

Triassic aged rocks (251 – 200 million years old)

By Triassic times this area had drifted northwards into the semi-arid regions of 31° north of the equator. The tropical seas were long gone. A vast rift valley, the Worcester Basin, was the dominating landscape of the area: A hostile environment to life in comparison to the Silurian tropical seas. Criss-crossing the vast basin floor was a powerful braided river system (the 'Budleighensis River'). The sediment from this river would have built up over millions of years. Eventually, after compaction, it would form sandstones, conglomerates and siltstones. These distinctly red sedimentary rocks can be seen along the trail.

Start Point: St Mary Magdalene Church, Alfrick

Grid reference: SO 748 529

Ordnance Survey map: Explorer 204

The trail begins on ground underlain by Triassic rocks before climbing Crews Hill onto the Silurian aged rocks of the Suckley Hills. The trail then traverses a variety of sedimentary rock types, all of Silurian age, on its way to and through the Knapp and Papermill Nature Reserve. From the reserve the trail passes back onto Triassic rocks on its return to Alfrick church.

1) With your back to the church gate, follow the lane around to the right for approximately 400m. Over the cross roads, continue ahead until you reach a kissing gate on your left. Go through the gate and cross the field to a wooden post. Follow the field boundary uphill to a gate. Go through the gate and continue on the path to an opening obstructed by a wooden bar. Lift this up and head straight onto another gate.

During this gradual ascent from the lane you have crossed over the boundary between the Triassic and Silurian aged rocks, a step spanning some 192 million years. Between here and step 2 turn around to admire the views out across the Worcester Basin to the Clent and Lickey Hills.

2) Follow the path between the parallel wooden fences, until you reach a gate located within a hedgerow. Through the gate, turn right for 20m along the lane to a metal gate on your left. Go through the gate into a field, and follow the path to the left of an old Oak tree to a stile.

3) Exit the field onto a lane, turn left and follow the lane for 130m. Just after White House Farm cross the stile on the right and follow the track downhill to a gate. Go through the gate and onto a stile. Go over the stile and then over a 2nd immediately on your right. Follow the path to the left and over a 3rd stile on your left into a field.



View from the end of step 5 looking east across the Worcester Basin. The Malvern Hills can be seen on the horizon on the far right of the picture

4) With the field boundary on your right, head up the hill into the orchard. As the fence bends round to the right, keep the fence line to your right as you walk along the edge of the orchard. Continue to a stile in the hedgerow slightly to the left, which may be partly obscured by vegetation.

5) Cross the stile and bridge into a field. Walk across the field with the field boundary on your right. Where the field boundary turns 90° to the right, continue straight across the field to the fence line that runs up the hill towards the woods. Here, turn left following the field boundary, now on your right, uphill to the woodland.

This short climb is rewarded with commanding views: On the horizon to the north-east lie the Clent Hills (composed of Permian rocks approximately 299 million years old) and the Lickey Hills (composed of Ordovician rocks approximately 488 million years old). To the east lies the relatively flat Worcester Basin (underlain by Triassic rocks 251–200 million years old), and to the south-east lie Bredon Hill and the Cotswolds escarpment (composed of Jurassic rocks 199 million years old). To the south lie the Malvern Hills (composed of Precambrian rocks 670 million years old). A truly prehistoric view!

6) Go over the stile, into the woodland and along the path up into Crews Hill Nature Reserve (refer to text box over page). Just over the brow of the hill there is a path crossroads. Follow the path straight ahead that leads downhill and then veers to the right. Continue along the path exiting onto a lane. Turn right for about 120m to a small clearing on the right hand side of the lane.

Crews Hill Wood Nature Reserve is owned and managed by Worcestershire Wildlife Trust. This wood is a wonderful example of oak, lime and ash ancient woodland. The varied under storey includes field maple, hornbeam and hazel and the dense ground flora is rich in a magnificent selection of fungi, particularly in the autumn.

The reserve contains a number of old quarries and pits which form part of a long line of Silurian aged limestone (Wenlock Limestone) quarries along the Suckley Hills ridge line. They are believed to have been worked as far back as the 18th century through to the 20th century. This fossil rich, hard limestone was used as an aggregate. Other uses for local limestone include rough building stones and as an agent in agricultural/industrial processes.

Limestone scree litters the footpaths along the Suckley Hills ridge line. Some of this scree contains fossils, most commonly brachiopods, crinoids and corals.

A Selection of Silurian fossils found in the Wenlock Limestone



Trilobite



Brachiopod



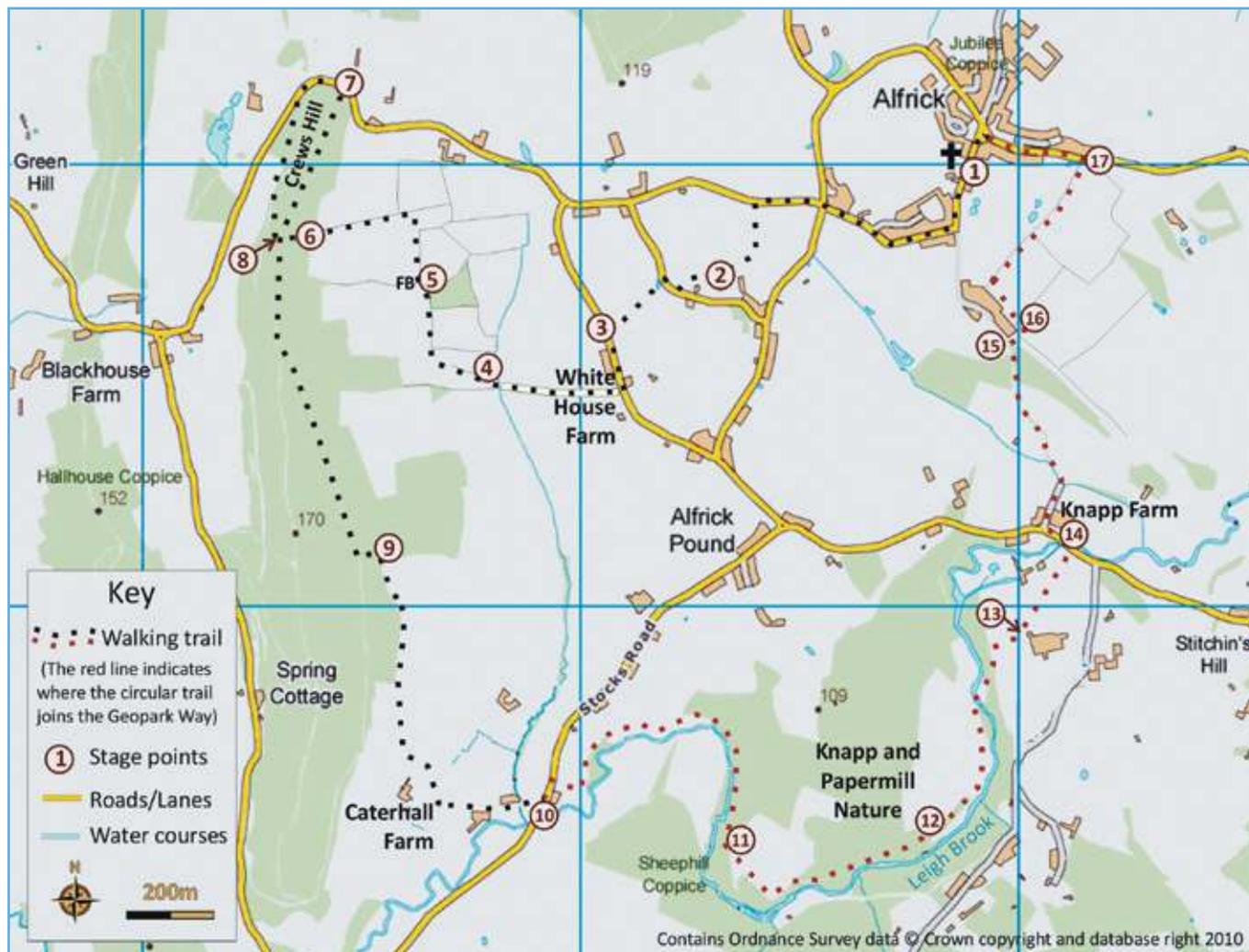
Coral



Crinoid

7) At the far end of the clearing walk up the steps back into Crews Hill Nature Reserve. Follow the permissive path through the reserve for approximately 350m until you reach the path crossroads that you met in step 6.

8) Head straight on at the crossroads until you reach a gate at the Nature Reserve exit. Go around the gate and follow the path until it forks. Take the left hand fork downhill. Follow this wide track for ½ km to a wooden way marker post on your left. Here turn sharp left onto a narrower path. Follow the path downhill and round to the right to a stile.



9) Go over the stile, with the field boundary on your right, walk along the top of the field to a metal gate and stile. Over the stile continue ahead to where the woodland steps back to your right.

Spectacular views over the local landscape open up in front of you. In the distance to the south-east lie the Malvern Hills; closer, to the south are the hills of Storridge and Cradley. To the west of these hills stretching northwards is a valley cut into soft Silurian shales. Directly east of this valley lie the hills of Old Storridge Common composed of hard Silurian sandstones and conglomerates (refer to photograph in next column).



View from between steps 9 and 10 looking south east over the Silurian landscape and on to the Malvern Hills

Go through the electric fence and continue diagonally downhill to the far corner of the field. Go through the large gap at the end of the hedgerow and follow the wide track for 30m to a stile on the right. Cross the stile and follow the path to a 2nd stile next to Catterhall Farm. Over the stile, turn left along the metalled track exiting onto Stocks Road in Alfrick Pound.

10) Turn left along the road for about 50m, then right to a set of steps hidden from view in the hedgerow and up to a stile. Cross the stile. Keeping the field boundary on your right, follow the path around the field and then down to Leigh Brook. Over a stile into a field, follow the course of the brook to a field gate. Go through the gate and into woodland following the path for about 500m to another stile. This marks the entrance to Worcestershire Wildlife Trust's Knapp and Papermill Nature Reserve. Go over the stile and continue on the path ahead.

The Leigh Brook flows through the centre of the steep sided gorge of the Knapp and Papermill Nature Reserve. From its source to the south the brook follows relatively low ground, but here it suddenly enters the high ground formed by the hard Silurian rocks before emerging onto the Severn Plain. The valley through the hills is narrow and meanders on a scale fitting a much larger river.

It is believed that before the Ice Age, and before the soft rocks in the surrounding countryside were so greatly eroded away, a large river flowed along this course but on a wide plain at an altitude close to that of the present hill peaks. Some evidence for this rests in the small patches of river gravels found high on the adjacent hills.

During the Anglian Ice Age (500,000 years ago) this area was at the edge of a large ice sheet. As this ice melted, large quantities of melt water gushed down the river and cut a valley through the Silurian rocks to create the gorge we see today.

There are a few small rock exposures in the floor of the footpaths and in the banks of the brook within this reserve (steps 11-12). The rocks are a mixture of green sandstones, gritstones and conglomerates, and are the oldest Silurian rocks in the area - 443 million years old (known as the Cowleigh Park Formation). They formed from material that was being washed off a large landmass thought to be located somewhere to the east of the area. This material was then carried westwards by water to the

sea (the same sea in which the Wenlock Limestone of the Suckley Hills would later form). These rocks are very hard and so were quarried for use as an aggregate material. Along step 12 there is a considerable amount of scree on the left of the path.

11) Go through a gate and into a meadow. Follow the path past a derelict building, then a gate, both on your right, and onto another gate. Go over the stile, near the gate, back into woodland. Follow this path to a gate.

12) Go through the gate into a meadow and follow the path ahead until you reach a footbridge on your right. Cross over the bridge and follow the path as it veers to the left and gently uphill exiting over a stile, next to gate, into a field. Keeping the field boundary on your left walk around the field edge exiting over a stile into yard.

You have now passed back over the boundary between the Silurian and the Triassic aged rocks. This juxtaposition of two very different aged rock types is due to a fault (a line of weakness in the Earth's crust along which movement occurs) that runs through the area. This movement has brought the Triassic aged rocks to sit against the Silurian aged rocks.

13) Walk straight ahead across the yard to a gate on your left. Go through the gate, then over a stile into a field. Walk straight ahead downhill through two fields, exiting via a kissing gate onto a lane. Turn left, go over a bridge and then cross the road to a small layby adjacent to a road-side quarry.

The rocks in the quarry are Triassic sandstones. The rock face is criss-crossed with fractures which contain the mineral calcite. These fractures and subsequent mineral infill formed much later than the sandstone itself. It is thought that they formed as a consequence of the stresses applied to the rock during movement along the fault which you crossed on your way out of the Knapp and Papermill Nature Reserve.

14) With your back to the quarry turn right up the lane. After 20m, at the Knapp Farm entrance turn right onto a metalled track. Follow the track ahead and then round to the left (it changes from a metalled surface to a rough track which is often muddy) and on to where the track begins to climb up a sunken lane.

The sunken lane cuts through Triassic aged rocks of varying grain size, deposited in the Worcester Basin some 220 million years ago. The rock types seen are fine grained siltstones, coarse sandstones and conglomerates containing large pebbles.

15) Just at the top of the sunken lane turn sharp right, go through a gate, turn left, through a 2nd gate into a field. Walk past the barn and veer left to a stile in the field boundary.

From here there are spectacular views out across the Worcester Basin. Stretching northwards is the Abberley Hills ridge line. The distinctive double peaks of the Clent Hills and, just to their right, the Lickey Hills can be seen to the north east. To the south east a large hill, Bredon Hill, rises out of the Worcester Basin. On a clear day the Cotswold Escarpment can be seen beyond, defining the Worcestershire /Gloucestershire border.

16) Go over the stile and head for the bottom left hand corner of the field by following the field boundary on your left around two sides of the field to a gate. Do not walk diagonally across the middle of the field. Go through the gate and through a 2nd field, exiting via a gate onto a road.

17) Turn left following the road into Alfrick. Turn left at the Post Office and follow the road to the church gate and into the churchyard.

Alfrick's parish church of St Mary Magdalene dates back to the late 12th century (nave and chancel). The north transept and vestry were added in 1885 by Aston Webb. A great variety of building stones have been used in the church walls, the majority of which are rubble stone. The belfry end wall best displays the variety of rock types used which include local Triassic sandstones, Silurian sandstones and conglomerates, together with rocks from further afield.



St. Mary Magdalene church, Alfrick