

LOCAL GEOLOGICAL SITES

EPHING FOREST DISTRICT



EpG2 Blackweir Pond, Epping Forest

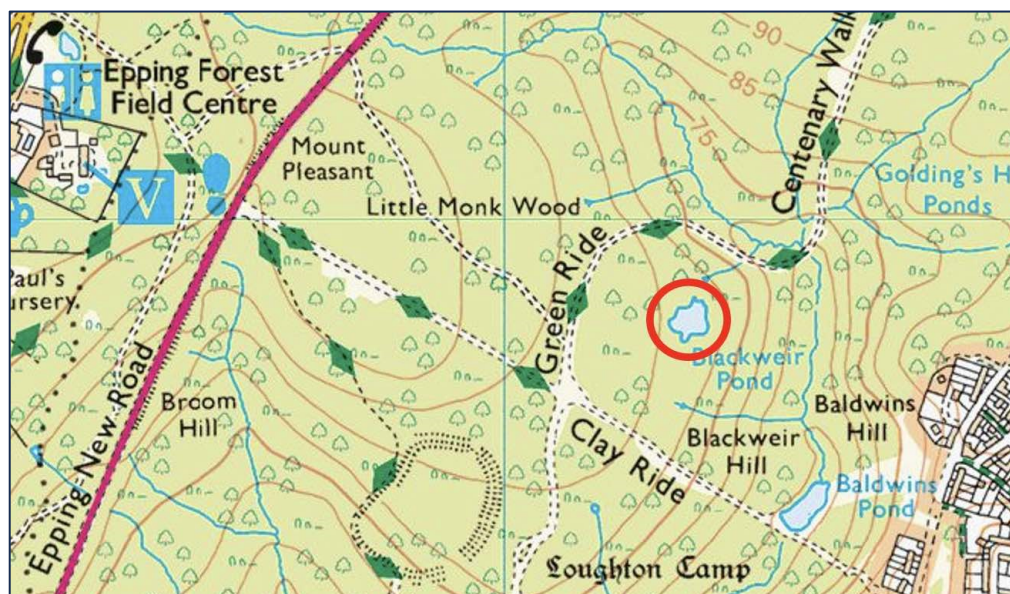
Site location: Blackweir Pond, Epping Forest, Essex

Grid Reference: TQ 423978

Status: Public – accessible at all times

Summary of the geological interest:

Blackweir Pond is a picturesque pond in Epping Forest that was originally a gravel pit. The origin of the gravel (Woodford Gravel) is a subject of scientific debate; as a deposit of a northward-flowing tributary of an early Thames that crossed central Essex at the time or, diametrically opposed, as southward-flowing outwash from the Anglian glacier. Thus, there is significant value in investigating the gravel further.



Location map

Site Assessment. Local Geological Sites (LoGS) in Essex are assessed using criteria based on DEFRA guidance. An assessment form is used which asks key questions under four value categories: scientific, educational, historical and aesthetic. This site has been assessed and qualifies under these criteria.

Access

Blackweir Pond is not adjacent to any path or track. Access can be made along a track from the car park at Mount Pleasant on the Epping New Road (A104) or from Baldwins Hill via the Clay Ride. Both lead to the Green Ride, from which Blackweir Pond can be accessed by trekking through the woodland.

Scientific interest and site importance:

The Woodford Gravel is found on both sides of the Roding Valley, extending on the western side over c.10 km discontinuously from Great Monk Wood in the north to South Woodford, and 3 km on the eastern side from north of Chigwell to Woodford Bridge. The Woodford Gravel overlies London Clay.

One line of argument is that the Gravels are hill-top deposits, declining in height northwards, laid down by a northward-flowing tributary of the ancient Thames which crossed central Essex about 500,000 years ago, before the Anglian glacier blocked it and diverted it into its present valley. The presence of Greensand chert suggests a source in the Weald of Kent/Surrey. However, geological mapping of the Gravels shows them to be valley-side deposits, declining in height from 80+ m OD in the north at Great Monk Wood, some 20 m lower than the Stanmore Gravels capping the Epping Ridge at High Beach, to 50-60 m OD in South Woodford. Only in South Woodford, where the Epping Ridge is lower, is the Woodford Gravel a hill-top deposit. More detailed stone counts show the presence of a wide range of northern stone types, such as Rhaxella chert, brought in by the Anglian glacier c.450,000 years ago, which extended down what is now the Roding Valley. Associated with the Woodford Gravel are boulder clay (till) deposits, giving direct evidence of the presence of the Anglian glacier.

The valley-side positions of Blackweir Pond, Strawberry Hill Pond and Lord's Bushes are crucial evidence indicating that the Woodford Gravel is not a hill-top deposit but lateral outwash deposits, possibly forming kame terraces, of the Anglian glacier.

Condition report. 16 June 2025

Since its last inspection the site has become more densely vegetated, particularly in Area 1 (TQ 42272 97826) on the map where there are no longer any exposures, but surface gravel occurs at Areas 2, 3, 4 (TQ 42305 97856, 4339 97858, 42311 97802).

There are no points showing steep slopes suitable for exposing a section for sampling, but there would be less adverse visual impact if the slope around Area 1 were utilised.

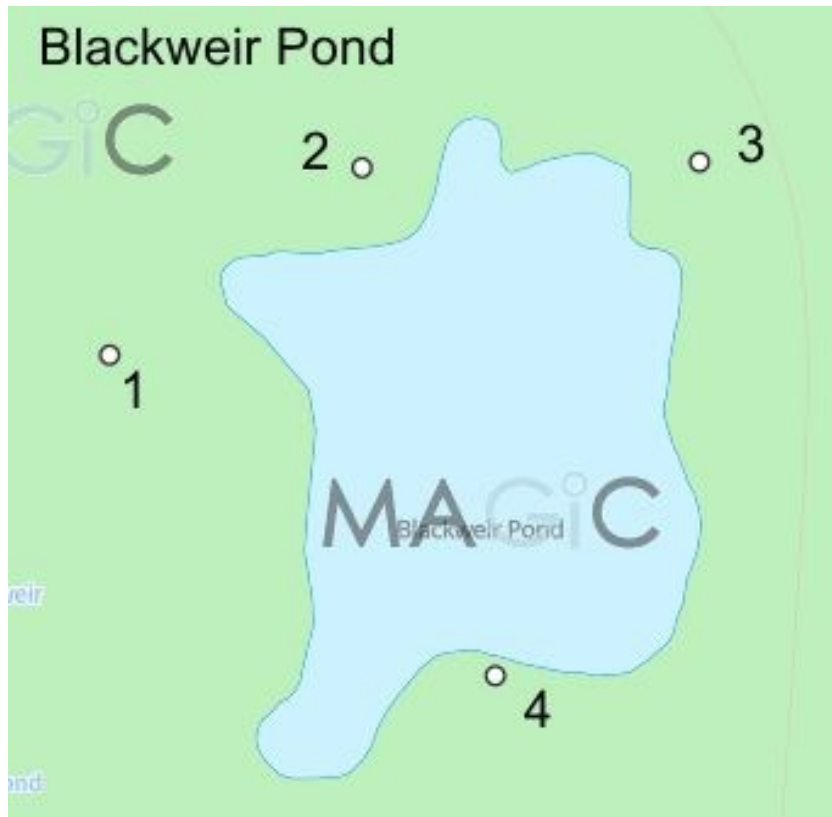
References

DINES, H.G. & EDMUNDS, M.A. 1925 The Geology of the Country Around Romford. Memoir of the Geological Survey, Sheet 251 (England and Wales). Page 27.

ELLISON, R.A. 2004 Geology of London. Special Memoir for 1:50,000 Geological sheets 256 (North London), 257 (Romford), 270 (South London) & 271 (Dartford) British Geological Survey. Pages 52-57.

GIBBARD, P.L. 1994 Pleistocene History of the Lower Thames Valley. Cambridge University Press. Page 14.

THOMPSON, P. 1914 On the occurrence of Rhaxella chert in Epping Forest gravel. Essex Naturalist. 17. Pages 256-260.



Location map, Blackweir Pond



Dense vegetation at Area 1

Photo: P. Allen June 2025



View of Blackweir Pond from Area 4 looking towards Area 2
Photo: P. Allen June 2025



Detail of gravel at Area 2
Photo: P. Allen June 2025



Detail of gravel at Area 4
Photo: P. Allen June 2025