

GLA 25: Putney Heath, Proposed LIGS

London Borough of Wandsworth, TQ 231 732 (best exposure)

Ownership: Local Authority. Open access.

Putney Heath

Putney Heath has been selected as a site of local importance for its exposures of Black Park Gravel. The area cited is a plateau on the top of the wider parkland area which becomes Wimbledon Common to the south. This plateau also extends into adjacent Richmond Park to the east, separated by the valley cut by the Beverley Brook which flows north into the Thames.

Black Park Gravel

The Black Park Gravel is the oldest of the Thames Terraces, deposited immediately after the retreat of the Anglian Ice Sheet about 400,000 years ago (Oxygen Isotope Stage 12-11). On Putney Heath the height of the top of the exposure is 53 m which falls within the range of Black Park Gravel recorded from elsewhere (eg Hornchurch Railway Cutting SSSI, GLA19, and Mark's Warren Quarry Complex, GLA 37, in East London) (see [BGS Special Memoir](#), p. 61-64 and reference ¹ below). At Hornchurch it overlies the glacial till abandoned by the retreating ice sheet of the biggest of the Ice Age glaciations, the Anglian, the only one to extend to London, although it never reached as far south as Putney. The gravel contains a larger proportion of exotic fragments than the later gravels as a direct consequence of its proximity to the icesheet that carried clasts from all over the country. As in the other Thames gravels by far the greatest proportion of the pebbles are flints. No animal bones or human artefacts have been found within the gravels of the plateau but they have been found in gravel of the same age at Hillingdon. On Putney Heath the deposit is about 3 m deep but it deepens westward to Richmond Park because there is an overall dip in that direction. It is probably because of the poor agricultural quality of soil underlain by acidic gravel that the land remains an open space of heath and birch woodland. The best exposure can be seen round the edges of King's Mere Lake.

Older geology on Wimbledon Common/Putney Heath

On Putney Heath the Black Park Gravel overlies the London Clay but further south on Wimbledon Common it overlies the sandier Claygate Beds at the top of the London Clay and in the southwest, the younger Bagshot Sand. As the name suggests the London Clay is the 'solid' rock that underlies most of London. As it is a soft clay it is easily eroded and usually difficult to see in outcrop. The top of the London Clay is about 50 million years old and so there must have been this many years of erosion before the Black Park Gravel was deposited. The Claygate Beds and the Bagshot Sands originally extended right across the London area, deposited in a near-shore marine environment. There may also have been younger rocks which left no traces. After deposition great earth movements saw the close of the precursor to the Mediterranean Sea as Africa collided with Europe and the Alpine Chain was created. In England old faults were reactivated in the process so that the deep basin of the Weald of southeast England was elevated in an upfold and the London Valley became a downfold, thus protecting the sediments to some extent, as erosion is much more prevalent in high areas. The London Clay itself was deposited in deeper water than the Claygate Beds and Bagshot Sands at a time when southeast England was covered by a warm tropical sea. Seasonal rain caused wide rivers to discharge large amounts of clay into the sea from a coastline probably now in the Midlands. Fossils of land plants and animals found within the marine clay have allowed researchers to compare the scene to Malaysia at the present day. A reconstruction showing turtles and a nautiloid swimming close to a shoreline of mangroves and nipa palm can be found in a book about the natural history of Wimbledon Common and Putney Heath³. A London Clay fossil of a nautiloid was obtained from a borehole on Wimbledon Common described in the chapter on the geology. Microfossils of foraminifera found locally indicate that the water depth was in the region of 200 m at the time of deposition².

At the western edge of the Putney Heath plateau where the Beverley Brook has eroded a deep valley it may be possible to see temporary exposures of London Clay, particularly around the Queen's Pond and up the hill to the Visitor Centre by the Windmill.

Access

Putney Heath has open public access and is well supplied by public transport along the A3 Kingston Road and the A219 Wimbledon Parkside. There is a car park adjacent to the windmill at the end of Windmill Road

which allows access to the middle of the area. There is also a Visitor Centre, toilets and refreshments but it can be crowded at weekends. The Capital Ring crosses the Heath at this point (www.walklondon.org.uk).

¹ Gibbard, P.L. 1985. *The Pleistocene History of the Middle Thames Valley*. Cambridge University Press.

² Drakefield, T. and Sutcliffe, U. 2000. *Wimbledon Common and Putney Heath: A natural history*. Wimbledon & Putney Conservators, p. 12.

Exposure of Black Park Gravel around the perimeter of Kings Mere lake on Putney Heath.

Source: Diana Clements (2011)



Site Map

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Source: London's foundations, page 159

