

LOCAL GEOLOGICAL SITES

THURROCK DISTRICT



ThG8 Chafford Gorges Nature Park

Site location: Drake Road, Chafford Hundred, Grays, Thurrock

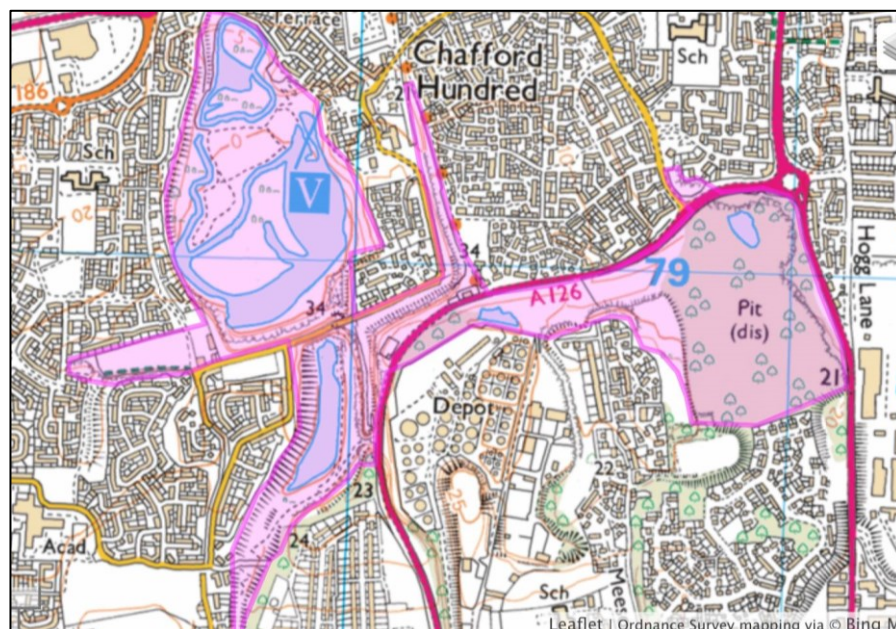
Grid Reference: TQ 598 793 (approx)

Status: Publicly accessible

Summary of the geological interest:

The Chafford Gorges Nature Park in Thurrock, owned by Essex Wildlife Trust, is one of the best places in Essex for promoting geology to the public. The impressive landforms, created by decades of chalk quarrying, allow the visitor literally to see the foundations of the Thurrock landscape. The park consists largely of three disused chalk quarries (now called 'gorges') that have been retained as green space, together with the Chafford Gorges visitor centre is set in a spectacular position over looking Warren Gorge.

There are two main areas of interest – the bedrock geology and the overlying superficial (Ice Age) geology. The bedrock geology is the Chalk, the overlying Thanet Sand and associated geological features, such as sarsen stones. The superficial geology includes glacial and interglacial deposits largely laid down by the pre-diversion Thames. The superficial geology in the park has provided information about the fauna, flora and climate during the numerous cold and warm stages of the Ice Age, as well as evidence for early human occupation and includes one of the most important Ice Age sites in Britain (Lion Pit Tramway Cutting, which is a geological SSSI).



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.

Further information and site importance

Essex Wildlife Trust took over management of the park in 2005 on completion of the housing development. The three quarries that form the main part of the park (Grays Chalk Quarry, Lion Pit and Warren Pit) have been renamed Grays Gorge, Lion Gorge and Warren Gorge. Also part of the park is a spectacular chalk cliff called Wouldham Cliff that formed the perimeter of the former Wouldham Quarry, and two fine cliffs of Thanet Sand. Gravel from former course of the Thames can be seen capping the chalk and Thanet Sand in various places. The park also incorporates a geological SSSI (Lion Pit Tramway Cutting) which provides evidence of early human occupation in the area.

The main geological sites in the park are as follows (see map for locations):

- 1 Wouldham Cliff (Devonshire Road section)** (TQ 601 789). An impressive 300 metre long vertical chalk cliff.
- 2 Wouldham Cliff (Solution pipes)** (TQ 600 787). A chalk cliff accessible by a sloping path displaying numerous spectacular chalk 'pipes' filled with Thanet Sand.
- 3 Wouldham Cliff (Merlin Close section)** (TQ 601 794). A low section of chalk cliff overlain by sediments showing 'involutions' created by freeze-thaw action during the Ice age.
- 4 Lion Gorge (Lion Pit)** (TQ 599 785). A large flooded former chalk quarry.
- 5 Grays Gorge (Grays Chalk Quarry)** (TQ 609 789). A large flooded former chalk quarry with fine sarsen stones around the rim at the north end. The quarry is a biological SSSI.
- 6 The Sandmartin Cliff** (TQ 607 792). Cliff of Thanet Sand overlain by Thames gravel.
- 7 Mill Wood Sand Cliff** (TQ 594 787). Cliff of Thanet Sand overlain by Thames gravel.
- 8 Lion Pit Tramway Cutting** (TQ 598 781). Cutting at the south end of Lion Gorge showing Ice Age sediments yielding evidence of prehistoric human occupation. A geological SSSI.
- 9 Warren Gorge (Warren Pit)** (TQ 598 792). Large flooded former chalk quarry with Ice Age sediments at the north end and fine exposures of 'coombe rock'.

Chafford Gorges Nature Park is an outstanding geological site with numerous areas of geological interest. The geological exposures, however, require regular maintenance to prevent the overgrowth of vegetation, particularly *buddleia*. Regrettably, the intensity of housing development has proved to be a problem with new houses situated close to the edge of quarries in some places making it more difficult to remove invasive vegetation.

A full description of the geology of Chafford Gorges Nature Park can be found in the Essex Naturalist (Lucy 2009). A self-guided geology trail leaflet for the park called '*The Chalk Walk*' was published by GeoEssex in 2009. A further guide relating to the Ice Age geology of the park is in preparation.

Other information

Chafford Gorges Nature Park is accessible at all times. The nearest stations are Grays or Chafford Hundred. The visitor centre is in a spectacular position with a terrace overlooking Warren Gorge and formerly provided information and displays on the wildlife and geology of the park as well as a café and small shop. Unfortunately, in January 2019 Essex Wildlife Trust made the decision to close the visitor centre to the public and there is no access to the toilets.

References

LUCY, G. (2009). **The Geology of Chafford Gorges Nature Park, Thurrock.** *Essex Naturalist*. Vol. 26 (New series). Pages 99-112.