

Areas of greatest potential for slope instability

The assessment of the potential for slope instability

Due to a long history of intensive landuse and urban development it has only been possible to recognise and map, with confidence, a few areas of past landslide activity. However, beyond the north London district, areas of similar bedrock geology and topography contain significant areas of mapped landslides. Therefore, a slope instability assessment has been made to act as a guide to where areas of significant landslide potential are present, but obscured, and where further information regarding their stability are needed before development or major changes in landuse are made (Forster et al. 2003).

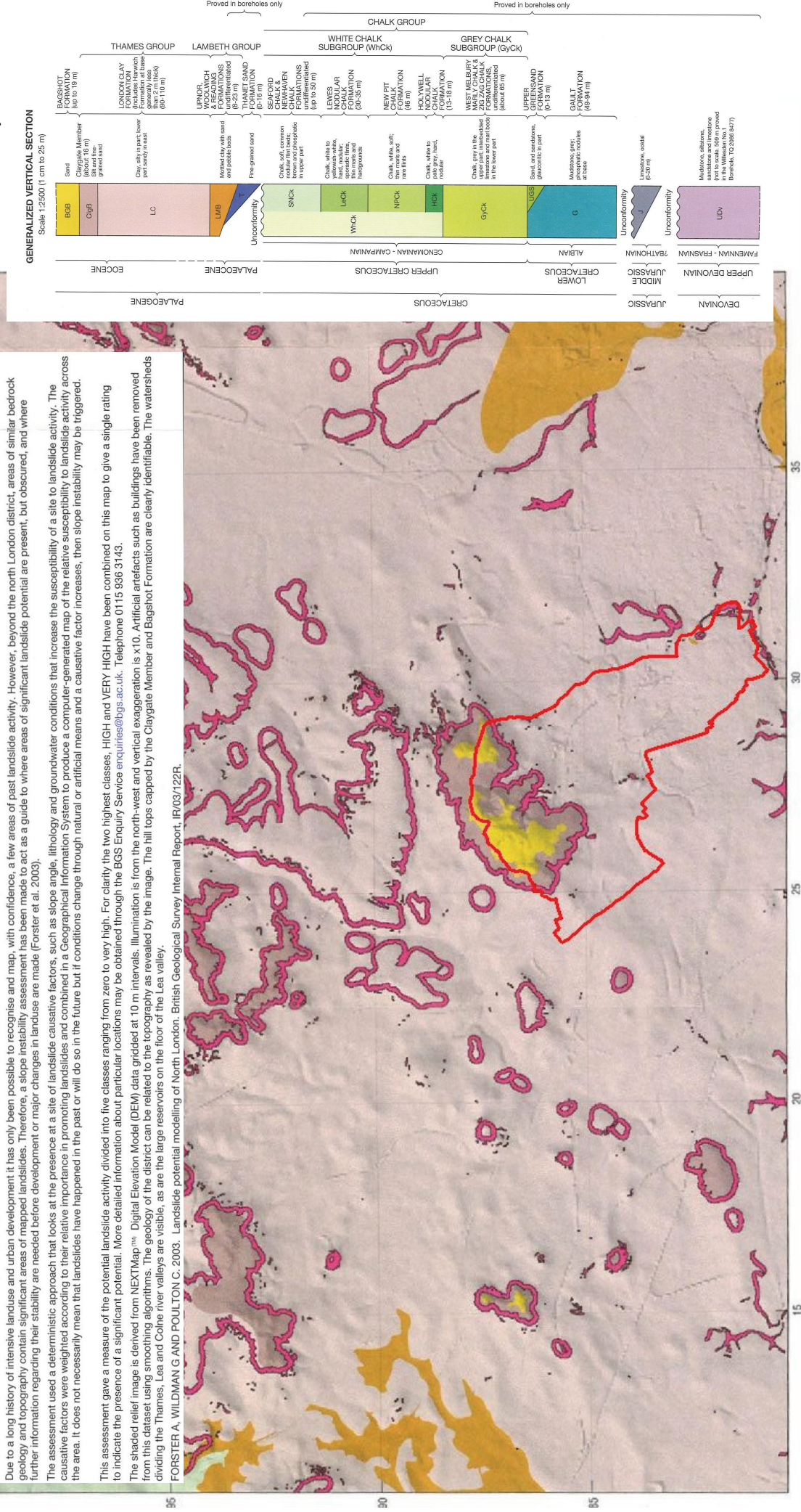
The assessment used a deterministic approach that looks at the presence at a site of landslide causative factors, such as slope angle, lithology and groundwater conditions that increase the susceptibility of a site to landslide activity. The causative factors were weighted according to their relative importance in promoting landslides and combined in a Geographical Information System to produce a computer-generated map of the relative susceptibility to landslide activity across the area. It does not necessarily mean that landslides have happened in the past or will do so in the future but if conditions change through natural or artificial means and a causative factor increases, then slope instability may be triggered.

This assessment gave a measure of the potential landslide activity divided into five classes ranging from zero to very high. For clarity the two highest classes, HIGH and VERY HIGH have been combined on this map to give a single rating to indicate the presence of a significant potential. More detailed information about particular locations may be obtained through the BGS Enquiry Service enquiries@bgs.ac.uk. Telephone 0115 936 3143.

The shaded relief image is derived from NEXMap™ Digital Elevation Model (DEM) data gridded at 10 m intervals. Illumination is from the north-west and vertical exaggeration is X10. Artificial artefacts such as buildings have been removed from this dataset using smoothing algorithms. The geology of the district can be related to the topography as revealed by the image. The hill tops capped by the Claygate Member and Bagshot Formation are clearly identifiable. The watersheds dividing the Thames, Lea and Colne river valleys are visible, as are the large reservoirs on the floor of the Lea valley.

FORSTER A, WILDMAN G AND POULTON C. 2003. Landslide potential modelling of North London. British Geological Survey Internal Report, IR/03/122R.

Areas of significant landslide potential



Source - British Geological Society, 1:50,000 Series England and Wales Sheet 256 - North London

Camden Geological, Hydrogeological and Hydrological Study
Areas of landslide potential