GeoEssex
Promoting the geology and landscape of Essex

Epping Forest District Council
Report on Local Geological Sites

Prepared for Epping Forest District Council by

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LoGS report for Epping Forest District
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Citations for individual LoGS approved by the Local Sites Partnership and proposed LoGS.

Cover photographs:

Above: A view north at the west of High Beech, Essex, *GL Wikipedia*
Below: Holyfield Puddingstone detail

1. Introduction

The rocks beneath the Essex landscape are a record of the county's prehistory. They provide evidence for ancient rivers, volcanoes, deserts, glaciers and deep seas. Some rocks also contain remarkable fossils, from subtropical sharks and crocodiles to Ice Age hippos and mammoths. The geology of Essex is a story that stretches back over 100 million years.

GeoEssex

GeoEssex is the primary source of information about the geology and physical landscape of Essex. The GeoEssex team, or 'Steering Group', consists of professional and amateur geologists, representatives from local authorities, geological and natural history societies, and from Natural England, the Government's nature conservation body.

GeoEssex promotes geology in all its aspects, from quarries, cliffs and boulders to spas, springs and building stones. It also promotes the county's rich geological heritage of mineral extraction, scientific research and fossil discoveries. The fascinating and often magical world of geology is all around us, if only we know where to look.

A primary task of GeoEssex is to identify the best places in Essex to find out about the Earth's distant past and the landscape processes going on today. These sites are called Local Geological Sites, or LoGS (formerly called Regionally Important Geological Sites or RIGS). It also advises and assists landowners with the management of sites.

GeoEssex aims to advocate and represent geodiversity in planning processes and other initiatives.

Geodiversity

What is geodiversity and why is it important?

Geodiversity is an integral part of the natural environment. It is the variety of rocks, fossils, minerals, landforms and soil, and all the natural processes that shape the landscape.

The only record of the history of our planet lies in the rocks beneath our feet. Here, and only here, can we trace the cycles of change that have shaped the Earth in the past, and that will continue to do so in the future. This is particularly true in Essex, where the record of climate change during the Ice Age is preserved in our quarries and coastal cliffs. The record is unique and much of it is surprisingly fragile.

Apart from the obvious benefits of providing mineral resources such as sand, gravel, chalk and clay, the diversity of the geology is what shapes the landscape, influencing soils, and in turn influencing all of our habitats and species. Geodiversity also has a cultural role to play, influencing the character of our built environment through building stones, providing inspiration to art, and helping to define where we live and our 'sense of place'. It is the link between geology, landscape, nature and people.

And, of course, it must not be forgotten that ***almost everything we know about the Earth's distant past has been learnt by studying geological sites***.

Local and national Geodiversity Action Plans

The UK Geodiversity Action Plan (UKGAP) sets out a shared framework for geodiversity action across the UK. It establishes a common aim, themes and targets which link national, regional and local activities. It encompasses how geodiversity can inspire people and what needs to happen to conserve Britain's geodiversity. The Plan for Essex has been drawn up within this framework.

A Local Geodiversity Action Plan (LGAP) has been produced for Essex. It sets out a framework for geodiversity action in Essex. It is an essential document to conserve the County's geodiversity.

The Essex Local Geodiversity Action Plan aims to:

- *Identify, conserve and enhance the best sites that represent the geological history of an area in a scientific, educational, recreational and cultural setting.*
- *Promote geological sites and make geoconservation relevant to people.*
- *Provide a local geodiversity audit (an audit of sites and skills).*
- *Influence local planning policy.*

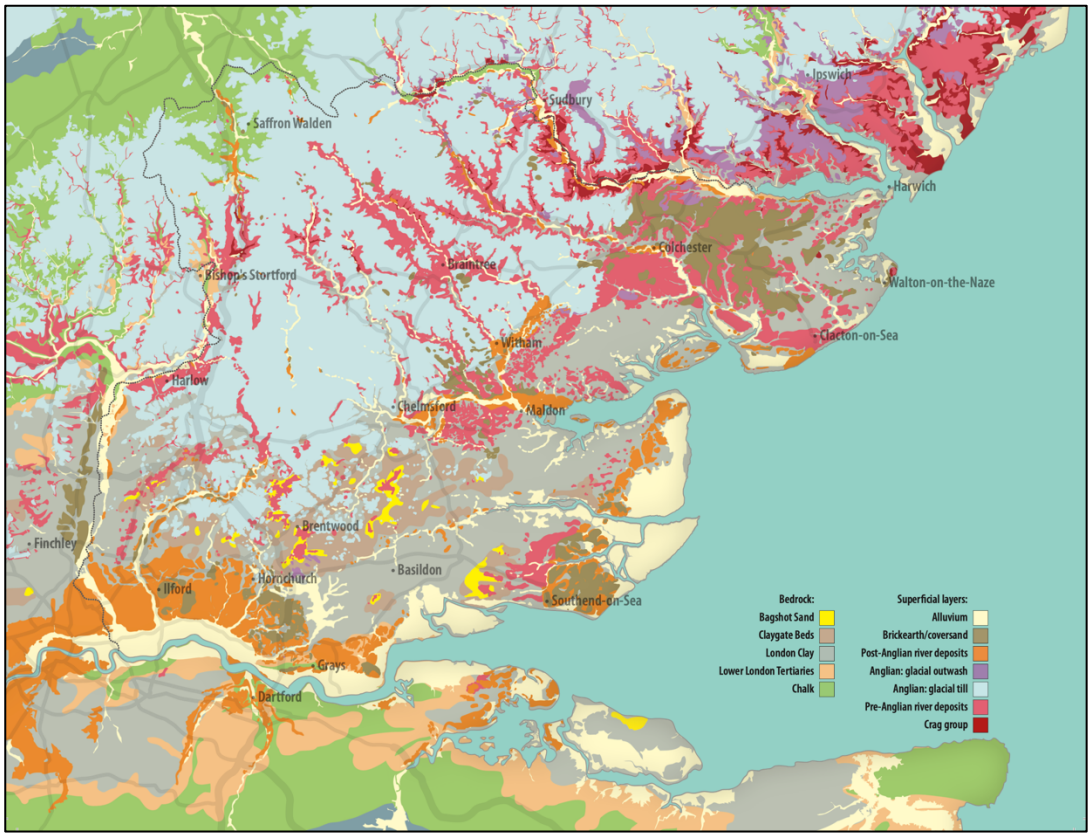
2. The Geology of Essex

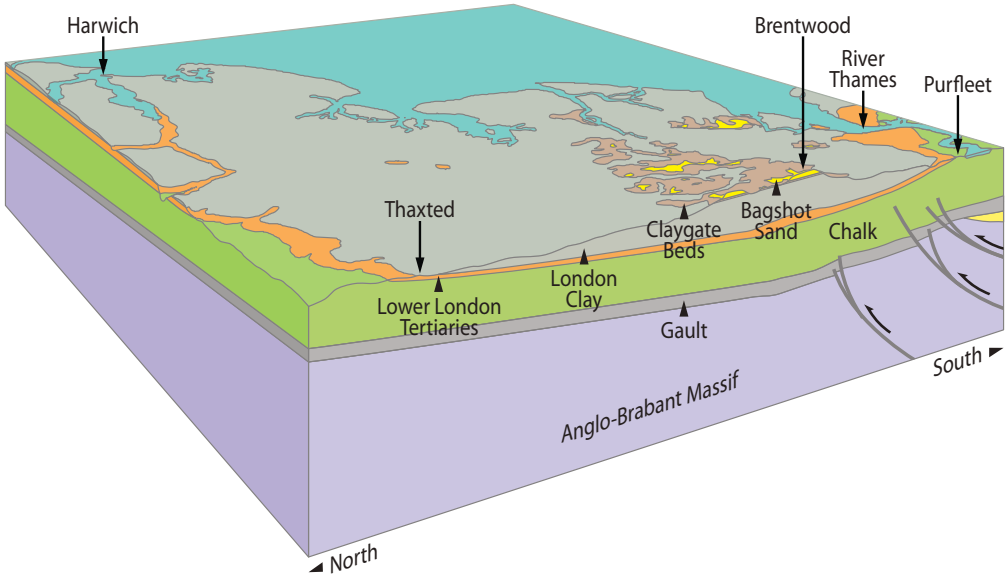
Compared to most other parts of Britain the rocks of Essex and adjoining counties are young in geological terms. Even the oldest surface rock in Essex (the Chalk) is only about 80 million years old. Much older rocks are, however, present at depth. We have some idea about these ancient rocks because of the records of boreholes that have been sunk in search of coal and oil.

The surface rocks of Essex that were formed before the Ice Age (from the Chalk to the Red and Norwich Crags) are described as the 'bedrock' or 'solid' geology. Much of this bedrock geology is concealed beneath the deposits left behind by glaciers and rivers during the Ice Age. The material laid down during the Ice Age is known as 'Superficial' or 'drift' deposits.

Era	Period or Epoch		Approx. age in millions of years	Geological formations in Essex
Caenozoic	Quaternary Ice Age	Holocene	0.01	Recent peat and alluvium
		Pleistocene	0.45	River terrace deposits and brickearth (loess)
				Boulder clay (till) and glacial gravel
			1	Kesgrave (Thames) sands and gravels
				Norwich Crag (Chillesford Sand)
			2.4	Red Crag
	Pliocene		10	*No evidence of rocks of this age in Essex but derived Miocene and Pliocene fossils are found in the Red Crag*
	Miocene			
	Oligocene		20	
	Eocene		50	Bagshot Sand
				Claygate Beds
				London Clay (includes the Harwich Formation)
	Palaeocene		55	Lambeth Group (Woolwich and Reading Beds)
				Thanet Sand
Mesozoic	Cretaceous		80	Chalk
			100	Gault and Upper Greensand (Beneath Essex)
	Jurassic		150	*No evidence of rocks of these ages beneath Essex with the exception of Jurassic Oxford Clay in a graben (a sunken part of the crust bordered by faults) beneath East Tilbury.*
	Triassic		220	
Palaeozoic	Permian		250	
	Carboniferous		300	
	Devonian		400	Shales and mudstones dating from these periods occur at depth (about 300 meters) beneath Essex
	Silurian		420	
	Ordovician		450	*No evidence beneath Essex, however, boreholes have not been drilled deep enough to confirm.*
	Cambrian		500	
Pre-Cambrian	Precambrian		Age of Earth 4,600	

Geological Map of Essex





Essex through geological time

The earliest evidence we have for our geological story is the hard rocks deep beneath Essex formed some 400 million years ago in the Silurian and Devonian periods. They form the 'Palaeozoic basement' of Essex.

Deserts to Dinosaurs

- For a very long time (and before the age of the dinosaurs) these hard Silurian and Devonian rocks formed the surface of the land that was eventually to become Essex. During the Permian and Triassic periods Essex was a desert upland in the middle of a vast continent known as Pangea.
- By 200 million years ago, at the start of the Jurassic period, tropical seas had spread around this land forming a dinosaur-infested, forested island.

Buried Island

- If you could dig down 1000 feet (300 metres) under Essex you would reach the hard rocks of that dinosaur island.
- All trace of forests and animals from this time have been swept away from the eroded surface of the island, so there are no dinosaur fossils in Essex.
- By 100 million years ago, in the Cretaceous period, the sea flooded across the island to spread **Gault** Clay and **Greensand**. The sea then deepened to deposit hundreds of metres of soft white limestone known as **Chalk** all over the island as well as much of what is now Britain.

Pebbles and Clay

- The North Atlantic Ocean, which did not previously exist, began to open out to the west, the land of Essex lifted and tilted to the east, chalk hills were worn down and flints were eroded out. Billions of these flints were tumbled on beaches to form layers of sand and beautifully-rounded pebbles across our area.
- Around 50 million years ago, in the Eocene period, a deep sea fed by muddy rivers spread across what is now Essex and London depositing a great thickness of clay, the **London Clay,** on the sea floor, together with the remains of many plants such as palms and cinnamon, and animals including birds, sharks, turtles, and tiny horses. Atlantic volcanoes poured their ash into this sea.

The Alps and the Thames

- Colliding continents pushed up south and mid-Essex, bending the crust to form the vale of the Thames river system through mid-Essex. About 2.4 million years ago offshore sandbanks formed red shelly sandstone layers across north Essex known as the **Red Crag**.
- Global cooling led to the Ice Age (the Pleistocene epoch), with many warm periods such as the one we are in right now, which is known as the Holocene. As the sea retreated, the ancestral River Thames spread a succession of flint-rich river gravels across the middle of Essex, through Harlow, Chelmsford and Colchester, and out across the area where the North Sea is now.

Ice and people cover Essex

- During an exceptionally cold stage 450,000 years ago a gigantic ice sheet covered most of Britain and Essex as far south as Hornchurch. The moving ice diverted the Thames towards its present-day course and dumped its load of boulder clay, or glacial till, on top of these old Thames gravels.
- During the past million years of the Ice Age, there have been numerous cold and warm stages (right now we are in a warm period known as the Holocene) and humans have migrated to and from Essex, together with the animals they hunted. They have left thousands of flint tools and tool-making debris on the banks of the ever-changing Thames and its tributaries. Thus, in south Essex we have the best geo-environmental and archaeological record in Europe of the last half a million years.

3. Background to Geological Site designation

What is special about Essex Geodiversity?

Essex is an area of predominantly subdued relief with gentle slopes, the result of its underlying geology of soft, relatively young rocks. These generally yield fertile soils. The result is an attractive 'lived in' landscape dominated by arable agriculture, but still retaining forested and heathland areas, particularly where gravels and sands, many of glacial and fluvial origin, have yielded poorer soils.

A mammoth tooth from Essex

Although lacking the more dramatic geology and landforms of many 'hard rock' areas, Essex geology and geomorphology is still of great interest, possessing abundant evidence of the huge environmental and biodiversity changes that our area has witnessed over the last 100 million years. Among the key themes are dramatic and sometimes long-lasting changes in the distribution of land and sea, major shifts in climate, and mass species extinctions. Many of these phenomena are of great relevance today, and so an understanding of our past is essential in interpreting the challenges to come.

Geodiversity's influence on Essex's development

Essex's geodiversity has exerted a major influence on land use, agriculture and landscape.

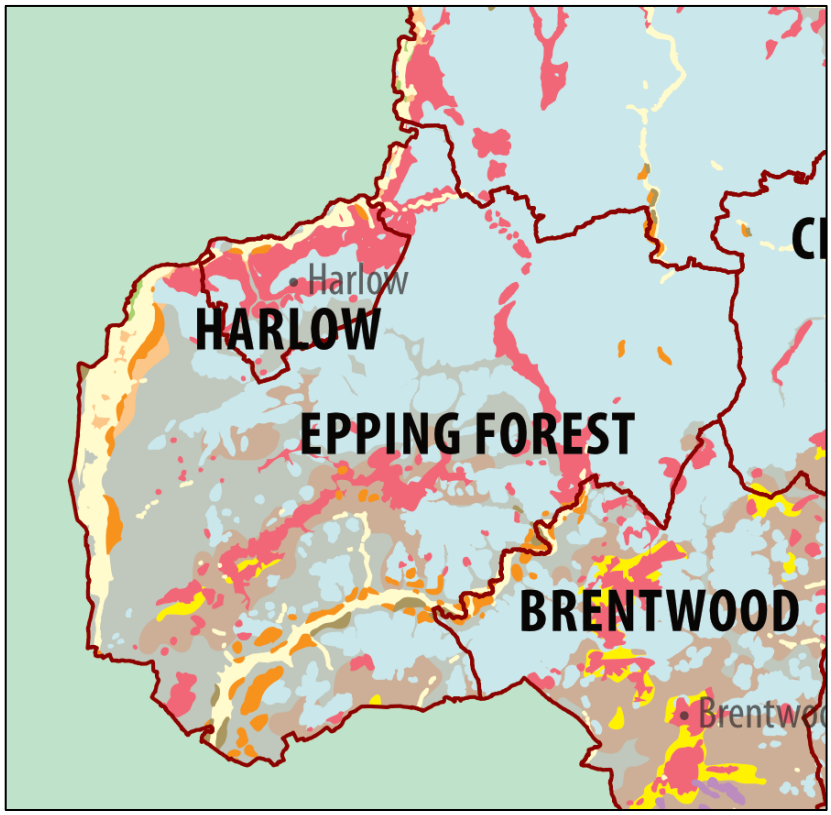
The distribution of less fertile glacial gravels has been a major influence on historical land use, resulting in the preservation through to the present day of extensive tracts of woodland and to a lesser extent heathland, in a predominantly arable county. These are of great significance both for biodiversity and recreation.

The chalky boulder clay, or glacial till, found north and west of Chelmsford is highly suitable for cereal cultivation, especially wheat. London Clay outcrops south of Chelmsford, providing soils less suitable for arable agriculture and more suited to pasture. The brickearth of the Tendring district is the basis of the rich agricultural land of this peninsula.

In earlier times rivers penetrating deep inland, together with proximity to the Continent, provided a succession of invaders and colonisers – from Palaeolithic peoples, through to Roman, Viking and Saxon - with easy access.

The deposits of the ancestral Thames and its tributaries and associated glacial outwash deposits have provided Essex with a source of gravel and sand for construction since Roman times. A special kind of gravel naturally cemented by iron called ferricrete was used extensively as a building stone and is found in many medieval churches.

The Geology of the Epping Forest Area



	Recent alluvium	
	Post-Anglian river deposits	Ice Age deposits
	Glacial Till	
	Kesgrave sand & gravel	
	Bagshot sands	Eocene 50-54 million years ago
	Claygate beds	
	London Clay	

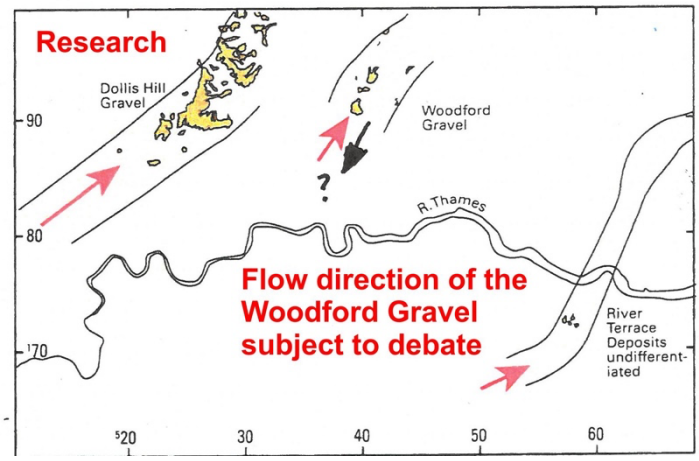
Epping Forest district lies between the valleys of the Rivers Lea and Roding, rising to over 110 metres above sea level at its highest points. Hidden beneath the trees and heathland is a fascinating geological story that has shaped the landscape we see today.

The geological map of the Epping Forest District shows that the pre-Ice Age (bedrock) geology of the district is mainly London Clay, laid down on the floor of a subtropical sea 54 million years ago. The Claygate Beds, above the London Clay, were laid down as the sea became shallower and the sediments sandier; this culminated in deposition of the Bagshot Sand as river deltas spread out into the shallow sea. The Claygate Beds and overlying Bagshot Sand are now only exposed on high ground of the Epping Forest ridge such as at High Beach. There is a gap in the sedimentary record after this as the area was uplifted and was a land surface for much of the succeeding time until the climate deteriorated at the onset of the Ice Age 2.58 million years ago.

The higher ground is capped by gravels laid down at various times by large rivers during the Ice Age. The gravels protected the softer, older beds from erosion while the rocks of the surrounding areas were slowly reduced to the present lowland.
The ice sheet was not able to surmount the Epping Forest ridge, but lobes of ice went round it to the southwest. As the ice sheet moved over the land and as it finally melted, it left a layer of glacial till, coloured blue on the map, which marks the approximate limit of the ice sheet here. You can still see these glacial deposits today at places such as Wintry Wood Brick Pit, one of the few

public sites in Essex where boulder clay (or "till") can be seen, and at Blackweir Pond, where meltwater left ridges of sand and gravel that later filled with water to form the ponds. Following the melting of the ice, rivers resumed flowing in a more southerly direction. As the land tilted up from the northwest, during each subsequent cold period, the rivers cut down into their previous deposits leaving the remains of these as terraces of sand and gravel adjacent to modern rivers. Even today, the forest streams continue to shape the land. The winding course of the Loughton Brook, cutting into flint gravels, shows how water slowly carves out new features.

The sands and gravels have been worked for aggregate and brick making in the past. They are notoriously difficult to age date and correlate, so there is still need to access these deposits and to be able to employ the latest research techniques.



Scattered across the district there are rare, transported stones: puddingstone and sarsens. Several examples, such as the famed boulder at Holyfield, mark key local sites along roadsides. Sarsen stones occur as isolated boulders in the landscape, such as the example at Copped Hall Green.

Sarsen stones

Sarsens are boulders of extremely hard sandstone that were formed at a time of great warmth, about 55 million years ago, when sandy strata on top of the Chalk were above sea level in desert conditions and were cemented by silica (quartz) from ground waters. This discontinuous layer was extremely resistant to erosion and boulders were transported by ice swollen rivers. They were removed from fields and often set up in conspicuous places.

Puddingstones

Puddingstone has a similar origin to Sarsen and was formed at the same tome in areas where there had been a pebbly beach. The boulders have been surrounded by much folklore and hence have been placed in prominent places as well.

Geodiversity and National Planning Policy

The importance of geodiversity as an integral part of nature conservation and the planning system is reflected in The National Planning Policy Framework (NPPF), and in legislation – Wildlife & Countryside Act 1981 and Countryside and Rights of Way Act 2000.

The NPPF states that:

> "Planning policies and decisions should contribute to and enhance the natural and local environment by protecting and enhancing valued landscapes, sites of biodiversity or geological value and soils" (Paragraph 174);
>
> "Plans should protect and enhance biodiversity and geodiversity" (Paragraph 179).

The current Epping Forest District Local Plan was adopted in March 2023 and covers the period 2011 – 2033. The Local Development Scheme, published on 6 March 2025, is the first update since the adoption of the Local Plan. A Local Plan Review is scheduled for completion in March 2028.

This report will enhance the evidence base for the incorporation of geodiversity alongside biodiversity into future planning policy.

Site designations

The most important geodiversity sites have been declared as **Sites of Special Scientific Interest** (SSSIs) which are statutorily protected for their scientific importance.

The next tier of geodiversity sites is known as **Local Geological Sites** (LoGS) These have replaced the earlier 'Regionally Important Geological Sites' (RIGS) terminology in line with government guidance.

Local Geological Sites (LoGS) are broadly equivalent to Local Wildlife (species and habitats) Sites ('LoWS') but have a broader remit as they can be designated for their scientific, educational, historical and recreational benefits. Typical Essex LoGS include quarries, pits, walls, boulders, cliffs, springs, and river meanders. Local Wildlife Sites and Local Geological Sites are both designed to provide a system of locally-valued, non-statutory sites.

Most importantly, the NPPF gives Local Geological Sites a weighting equal to Local Wildlife Sites, and both are collectively referred to as 'Local Sites'. However, in actuality, the attention and priority afforded to the designation and management of LoGS has historically lagged, and continues to lag well behind that of LoWS.

4. Objectives of current report

Supporting Local Planning Authorities

Biodiversity protection is familiar to planning authorities but geodiversity less so. This report will assist planning authorities in meeting their obligations under the National Planning Policy Framework and helping them identify potential development impacts on LoGS.

GeoEssex is therefore seeking to help Local Planning Authorities fulfil their responsibilities with respect to geodiversity.

> "*Local and neighbourhood plans and planning decisions have the potential to affect biodiversity or geodiversity outside as well as inside designated areas of importance for biodiversity or geodiversity"* (extract from: www.gov.uk/guidance/natural-environment)

Further guidance on statutory obligations is given in Circular 06/2005 (*Biodiversity and Geological Conservation*). Geodiversity should be therefore included alongside biodiversity in local authorities' Local Plans. Identifying these non-statutory sites therefore helps local authorities to meet their obligations.

LoGS can also contribute to *sustainability* programmes by providing information about a key element of the environment that contributes to our natural heritage. In addition, the *awareness raising* and *education* function fits well with the principle of community involvement and enabling people to regain their sense of place.

5. Site selection

Site selection and notification to planning authorities

LoGS in Essex are identified by **GeoEssex**, a largely voluntary group composed of representatives from the major Essex geological and conservation bodies and supported by the Essex Field Club, Essex Rock and Mineral Society, Essex Wildlife Trust, Natural England and Essex County Council (Place Services). The site selection process is based on clearly defined criteria (see below) and includes scientific, educational, historical and aesthetic values. When selecting sites GeoEssex aims to gain the support of landowners whenever possible. The majority of LoGS are on private land and site selection does not infer any right of access.

Like LoWS, proposed LoGS are presented to the Local Sites Partnership for endorsement and then passed to local authorities for inclusion in their Local Plans. Local authorities receive a citation and boundary map.

The sites selected as LoGS in the Epping Forest district are summarised below, together with a list of other sites which are potential LoGS. Other sites may be identified in the future, occasioned by housing or other development and restoration following mineral extraction.

Site protection

Like their biodiversity counterparts, LoGS have no statutory protection and the conservation and management of individual sites relies heavily on the support of landowners. Inclusion within local plans also forms a vital role in the protection of LoGS. An example of a comprehensive natural environment policy incorporating geodiversity can be provided on request.

It is recommended that the Local Sites Partnership should be consulted if any development is proposed that would affect a LoGS.

Site Assessment Criteria

The assessment criteria used for identifying LoGS are based on DEFRA document *Local Sites: Guidance on their identification, selection and site management* (2006). The guidance states that assessment is a matter of judgement but must be based on an understanding of geological principles and processes, and the distribution and abundance of the resource (national, regional and local). Those sites selected must be 'of substantive importance to the geodiversity of the local area'.

There are four value categories: scientific, educational, historical and aesthetic. A site qualifies for notification as a Local Geological Site if it fulfils the criteria under one or more of these categories. Each site is also given a site assessment score. This score is not a measure of the site's value or importance but a relative assessment of the usefulness of the site in promoting geodiversity.

Land Ownership Notification

Details of the sites listed herein are publicly available on the GeoEssex website which should be consulted by landowners in conjunction with planning applications. They are also listed on the Essex Field Club database which is available both to the general public and to developers through the Essex Recorders partnership.

6. Additional Sources of Information

Scientific literature

If a LoGS has been referred to in the scientific literature these references are of given in the LoGS citation. If a site has been referred to in the scientific literature this means that the site is of historical interest and some of these sites will have potential for research.

Site interpretation

If a site is accessible or simply visible to the general public, it is the aim of GeoEssex to provide interpretive information where possible and practical. This could be in the form of interpretive boards or leaflets. Such interpretation will be with the cooperation of landowners and other interested parties.

Other organisations

GeoEssex www.geoessex.org.uk
Background geological information for Essex, together with a selection of sites in each district (SSSIs and publicly accessible sites) can be found on the GeoEssex website

Essex Field Club www.essexfieldclub.org.uk
The Essex Field Club, founded in 1880, exists to promote the study of the county's natural history, and geology. The Club has a centre for Biodiversity and Geodiversity in Wat Tyler Country Park at Pitsea, near Basildon, with extensive collections. It is open to the public the first Saturday of the Month (10.00am to 4.00 pm). Their website provides comprehensive data on wildlife and geological sites in the county which can be searched in a number of ways. Details of several hundred geological sites across Essex can be found here which includes LoGS and potential LoGS.

British Geological Survey www.bgs.ac.uk
Other geological resources, maps and borehole information are available on the website of the British Geological Survey.

Essex Rock & Mineral Society www.erms.org.
The Essex Rock and Mineral Society, founded in 1967, is the club for Essex geological enthusiasts.

Earth Heritage Magazine www.earthheritage.org.uk
Earth Heritage magazine is produced for the geological and landscape community by Natural England, Scottish Natural Heritage, the Countryside Council for Wales.

Geologists' Association www.geologistsassociation.org.uk
The Geologists' Association, founded in 1858, is Britain's largest society for amateur geologists.

Quaternary Research Association https://www.qra.org.uk
The Quaternary Research Association researches 'Ice Age' geology, palaeobiology and Palaeolithic archaeology and has published several field guides covering many sites in southern and eastern Essex.

Books and articles relating to Essex geology and geoconservation

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WHITAKER, W. 1889. **The Geology of London and of Part of the Thames Valley**. Memoirs of the Geological Survey. HMSO.

7. List of Sites

The following is a representative list of geological sites in the district. For completeness it includes geological SSSIs but these sites are statutory sites and do not form part of this report.

The list gives an idea of the range of sites that can qualify as Local Geological Sites (LoGS). It includes those LoGS that have already been approved by the Local Sites Partnership.

Note: *Not all of the sites here described are accessible. Some sites are on private land and can only be viewed from footpaths that pass through or alongside the site. Inclusion of a site on this list does not, therefore, imply any right of access.*

Sites of Special Scientific Interest (SSSIs)

No geological SSSIs have been notified in this district

Local Geological Sites (LoGS)

Sites agreed by Local Sites Partnership to date

EpG1 - Beauchamp Roding Sarsen stone
Large sarsen stone in the churchyard of St. Botolph's Church. It is close to the north-east corner of the church.

EpG2 - Blackweir Pond, Epping Forest
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.

EpG4 - Copped Hall Green Sarsen Stone
A large sarsen stone near Lodge Farm at the junction of two farm tracks. Also known as the Upshire Stone.

EpG6 - Holyfield Puddingstone, Waltham Abbey
In the hamlet of Holyfield is a puddingstone boulder 90 cm long on the grass verge only a few yards from the main road and a short distance along Puck Lane. This is the boulder that started E.A. Rudge on his quest for evidence of an ancient conglomerate trackway across southern England.

EpG7 - Lords Bushes, Buckhurst Hill
The site lies on the western side of the Roding Valley, with Woodford Gravel in the higher western area, giving way downhill, eastwards, to London Clay, with downwash (head) obscuring the junction. 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.

EpG8 - Loughton Brook Meanders
Meanders are a common feature of lowland rivers but usually they are large, making it difficult to appreciate them from ground level. Loughton Brook has a fine group of small-scale, slightly incised meanders which are easy to study and accessible to visitors. The precise reasons why a river adopts a meandering course are uncertain, but the sinuous curves may be the result of the balance between energy and friction when a low energy river moves fine sediments down a shallow gradient.

EpG9 - Oak Hill Pit, Theydon Bois
This former brickworks pit in Epping Forest forms a deep amphitheatre in the forest with a 7 metre high slope covered in beech trees. The pit dates back to at least 1884 and is historically important as well as providing a potential exposure of Claygate Beds. Although currently there are no exposures, the sandy clay and seams of sand are often visible in the roots of fallen trees and in heaps thrown out from animal burrows.

EpG10 - Shales More Tufa Springs, Stapleford Tawney
Tufa springs at the junction of London Clay and overlying Anglian till. Calcium salts in solution (derived from dissolved chalk in the till) are precipitated on small twigs and leaves as a covering of calcareous tufa. The stream that runs along the western boundary of the wood (a tributary of the River Roding) has fine incised meanders and what appears to be an abandoned meander.

EpG11 - Strawberry Hill Pond, Epping Forest
Strawberry Hill Pond 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.

EpG12 - Temple Cottage Puddingstone, Stanford Rivers
A large boulder of Hertfordshire puddingstone (120cm x 45cm x 30cm in size) outside Temple Cottage on Colemans Lane. Usually obscured by vegetation. Last cleared in 2011 with the assistance of the landowner.

EpG13 - Wintry Wood Brick Pit, Epping
Wintry Wood Brick Pit is a former brickworks pit in the Lower Forest, which worked boulder clay. It has been disused since 1895 and is very overgrown but boulder clay can still be seen in one or two places in the sides of the pit. It is one of the few publicly accessible places where you can see direct evidence for the former existence of glaciers in Essex.

Other sites of geological interest in the district.

For completeness, the following sites also contribute to the geodiversity of the district.

Boulders and Stones

Bushes Farm Boulders, Moreton
Epping Road Boulders, Roydon
Fyfield Church Sarsen Stone
Greens Farm Sarsen Stones, Magdalen Laver
Kents Farm Sarsen Stone, Moreton
Lambourne Hall Boulder
Magdalen Laver Church Boulders
Magdalen Laver Hall Puddingstone
Roydon Ferricrete
Shelley Sarsen Stone
Stanford Rivers Sarsen Stone
White Hart Boulders, Moreton
Willingale Sarsen Stone
EpPG14 Wyldingtree sarsen stones, North Weald Basset

Other Sites

EpPG3 Cobbins Brook, Waltham Abbey
EpPG5 Hainault Forest
Norton Heath Gravel Pits

END OF REPORT