



# The Historic Landscape Characterisation Report for Essex, Volume 2

HLC project results: HLC types and  
Broad Groups

February 2011

working in partnership with



ENGLISH HERITAGE



Essex County Council

# The Historic Landscape Characterisation Report for Essex

February 2011

Compiled by Alison Bennett

Cover illustration: Aerial view of Pleshey

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## **Acknowledgements**

The Essex Historic Landscape Characterisation Project was carried out by the Essex County Council Historic Environment Branch (ECCHEB), under the management of Lynn Dyson-Bruce between 2000 and 2005, funded and supported by English Heritage. The digitisation was carried out by Lynn Dyson-Bruce, David Locke, David Green, Adrian Turner, Mohammed Osman and Debbie Knopp. Two students who can not now be identified also did some work.

This document has been prepared by Alison Bennett, Team Leader of the Essex Historic Environment Record, with contributions from Maria Medlycott, Paul Gilman, Lynn Dyson-Bruce and Adrian Gascoyne, and funded by English Heritage and Essex County Council. The layout has drawn on a wide range of previous Historic Landscape Characterisation (HLC) reports, particularly the Buckinghamshire, Lancashire, Hertfordshire and Cheshire HLC reports.

Special thanks are given to David Green, Buckinghamshire County Council, for advice on the methodology employed in Essex, Maria Medlycott (ECCHEB) for her contributions, advice and encouragement, and Paul Gilman (ECCHEB) for his management, contribution and editing of the report. Thanks also go to Graham Fairclough, Dave Went and Peter Herring of English Heritage, for their support in the production of this report, and to Judith Meyer (ECCHEB) for assistance with the analysis.

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## Executive Summary

The county of Essex is today subjected to enormous pressures from housing and transport infrastructure developments, but many historic elements can be seen to survive in the landscape. A Historic Landscape Characterisation (HLC) project has therefore been carried out as part of the English heritage national programme to assess the rural landscape in terms of its historic origins.



*View of the Stour valley*

The aim of the project in Essex was to *characterise the distinctive historic dimension* of the current rural landscape. This has been carried out as part of, and using the methodology developed for, the East of England Regional HLC project. The regional project is sponsored by English Heritage and covers the six counties of Suffolk, Norfolk, Essex, Hertfordshire, Bedfordshire and Cambridgeshire, plus the unitary authorities within the region.

In Essex desk-based research using modern and historic mapping sources was carried out to identify and map the historic character of the landscape through the application of defined Historic Landscape Character types. The result of the project is a comprehensive Geographic Information System (GIS) which provides a complete coverage of the county with information on current and past landscape origins.

The resulting information has, in turn, formed an important element in Essex County Council's Historic Environment Characterisation projects. This complements the archaeological and historic building information to form a product designed to serve as a tool in the creation of Local Development Frameworks by Local Government Planners.

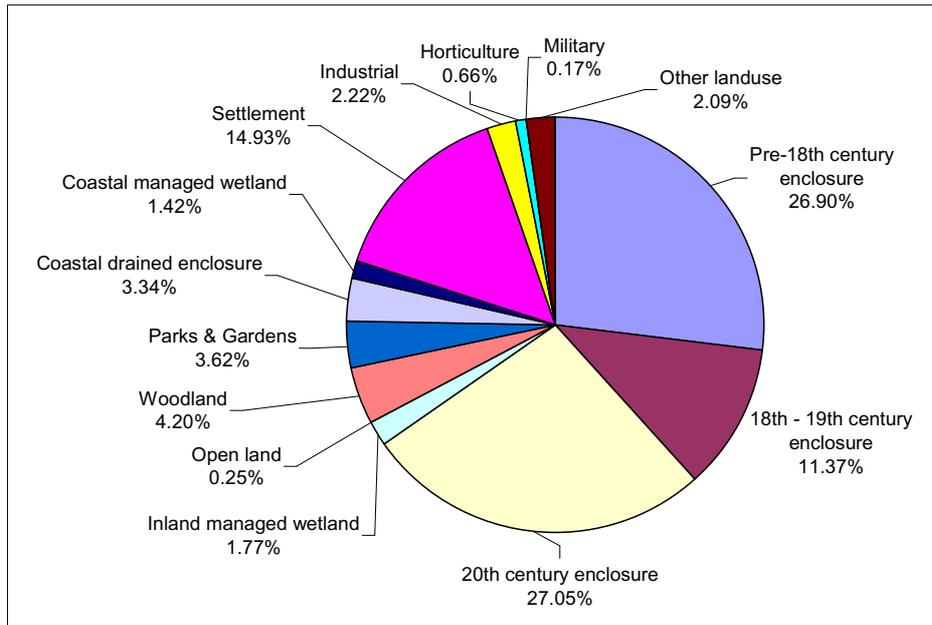


This volume and volume 3 of the report summarise the results from the project. Volume 1 presents the background to the HLC project with an overview of the Essex Landscape and its development. A description of the methodology, database and the terminology developed can be found in the appendices in volume 4. It is also intended to place this report and appendices onto our web pages at [www.essexcc.gov.uk](http://www.essexcc.gov.uk).

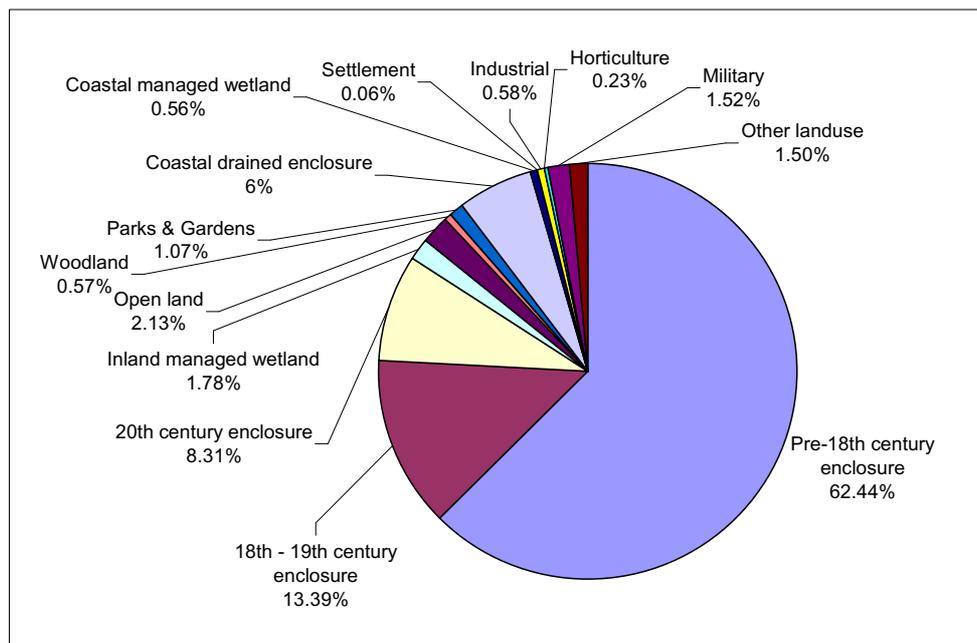
## 5 DESCRIPTION AND ANALYSIS OF THE HLC BROAD GROUPS

### 5.1 INTRODUCTION

The section below includes descriptions of the HLC Broad Groups and a selection of the more important HLC types. The Broad Groups within Enclosed Land cover 67% of the land area of Essex. Settlement is the next main land cover Group, covering 15%. The remainder of the county is covered by Coastal types (just under 5%), Woodland (4%), Parks and Gardens (just under 4%), Industrial (just over 2%), Horticulture (Just under 1%), and Military and sundry other small scale Landuse types (2%).



*Pie chart showing the composition of the current landscape by percentage area*



*Pie chart showing the composition of the relict landscape by percentage area*

The following table lists all the Broad Groups as grouped within this report, together with the HLC type and codes.

Broad Code HBSMR	Broad Code	HLC type	Code	HLC Code
<b>Enclosed Land</b>				
Pre-18th century enclosure	AEF	unenclosed common arable	ca	AEF-ca
Pre-18th century enclosure	AEF	coaxial enclosure	cf	AEF-cf
Pre-18th century enclosure	AEF	dual-axis - rectilinear 'co-axial' fields	df	AEF-df
Pre-18th century enclosure	AEF	dual-axis - sinuous 'co-axial' fields	ds	AEF-ds
Pre-18th century enclosure	AEF	irregular enclosure	if	AEF-if
Pre-18th century enclosure	AEF	rectilinear enclosure	rf	AEF-rf
Pre-18th century enclosure	AEF	irregular sinuous enclosure	sf	AEF-sf
Marginal	MAR	unimproved rough pasture	rp	MAR-rp
18th -19th century enclosure	LEF	piecemeal enclosure by agreement	le	LEF-le
18th -19th century enclosure	LEF	formal style parliamentary enclosure	pe	LEF-pe
18th -19th century enclosure	LEF	piecemeal style parliamentary enclosure	ps	LEF-ps
20th century agriculture	TEF	boundary loss	bl	TEF-bl
20th century agriculture	TEF	boundary loss - with relict elements	br	TEF-br
20th century agriculture	TEF	"20th C" enclosure	te	TEF-te
Miscellaneous	MIS	mixed origin	mo	MIS-mo
Inland - managed wetland	IMW	enclosed meadow	mp	IMW-mp
Inland - managed wetland	IMW	water meadow	wm	IMW-wm
<b>Open Land</b>				
Commons, wastes, heaths	CWH	commons with a built margin	cb	CWH-cb
Commons, wastes, heaths	CWH	commons with an open margin	cm	CWH-cm
Commons, wastes, heaths	CWH	green	gn	CWH-gn
Commons, wastes, heaths	CWH	heath	ht	CWH-ht
<b>Woodland</b>				
Woodland	WDS	ancient woodland	aw	WDS-aw
Woodland	WDS	19th -20th century woodland plantation	wp	WDS-wp
<b>Parks and Gardens</b>				
Parks, gardens, recreation	PGR	informal parkland	ip	PGR-ip
Parks, gardens, recreation	PGR	leisure / recreation	tl	PGR-tl
<b>Coastal</b>				
Coastal - drained enclosure	CDF	drained reclamation - curvilinear - pre-18th C	dc	CDF-dc
Coastal - drained enclosure	CDF	drained reclamation - rectilinear – 19th/20th C	dr	CDF-dr
Coastal - managed wetland	CMW	unimproved marine marsh or brackish fen	mm	CMW-mm
Coastal - managed wetland	CMW	saltings	sa	CMW-sa
Coastal - managed wetland	CMW	unimproved intertidal	ui	CMW-ui
Water features	WAT	sea defences	sd	WAT-sd
<b>Settlement</b>				
Built up areas - historic	BUH	religious institutions	ri	BUH-ri
Built up areas - historic	BUH	built-up areas - historic	bh	BUH-bh
Built up areas - modern	BUM	built-up areas - urban development	ba	BUM-ba
Built up areas - modern	BUM	hospital, school, university	hs	BUM-hs
Built up areas - modern	BUM	plotlands	pl	BUM-pl

Broad Code HBSMR	Broad Code	HLC type	Code	HLC Code
<b>Industrial</b>				
Mineral	MIN	disused mineral extraction	de	MIN-de
Mineral	MIN	mineral extraction	me	MIN-me
Mineral	MIN	restored land	rl	MIN-rl
Industry	IND	disused industrial	di	IND-di
Industry	IND	industrial	in	IND-in
<b>Horticulture</b>				
Horticulture	HOR	allotments	ag	HOR-ag
Horticulture	HOR	orchard	at	HOR-at
Horticulture	HOR	nursery with glass house	ng	HOR-ng
<b>Military</b>				
Military	MIL	disused post-medieval military	dm	MIL-dm
Military	MIL	military airfield	ma	MIL-ma
Military	MIL	post-medieval military	pm	MIL-pm
<b>Landuse</b>				
Historic earthwork	EAR	historic earthwork	he	EAR-he
Water features	WAT	water reservoir	wr	WAT-wr
Communications	COM	airfield - civilian	ap	COM-ap
Communications	COM	motorway, railway	mr	COM-mr
Miscellaneous	MIS	duck decoy pond	dd	MIS-dd
Miscellaneous	MIS	rabbit warren	rw	MIS-rw
Miscellaneous	MIS	stud farm	st	MIS-st
Inland - managed wetland	IMW	watercress beds	wb	IMW-wb
Coastal - managed wetland	CMW	oyster beds	ob	CMW-ob

**Table 1: HLC Broad Groups, HLC Types and codes**

Each of these Broad Groupings follow with an introduction to that group, together with analysis and details of most of the individual HLC types. All the HLC types are also listed with brief details in Appendix B. The detailed description of each HLC type follows the format of the template on the next page.

## Broad Group

### HLC type (code)

GIS Legend



<b>Total Area:</b>	Total area of HLC type in ha	% of total area of Essex mapped	<b>Relict Area:</b>	Total relict area of HLC type in ha	<b>Av. Polygon:</b>	Average size in ha
<b>Polygons:</b>	Number of GIS polygons	% of total polygons	<b>Relict Polygons:</b>	Number of GIS polygons	<b>Occurance:</b>	<b>Very rare (&lt;1%)</b> <b>Rare (1-5%)</b> <b>Occasional (5-10%)</b> <b>Common (10-25%)</b> <b>Abundant (25-50%)</b> <b>Dominant (&gt;50%)</b>

*Photograph of HLC type*

*Distribution map of HLC type*

#### **Description:**

Brief description.

#### **Time-Depth:**

Likely dating for the HLC type

#### **Degree of change:**

% loss with measure of change from 1880's to c 2009: Stable (<5% change); Minor change (5-29%); Moderate change (30-60%); Major change (>60%); Extinct (no surviving examples).

#### **Factors influencing change:**

Description of factors, either leading to loss or creation, which influence this HLC type.

#### **Capacity to absorb change:**

Low/Medium/High defined according to factors that influence the HLC type.

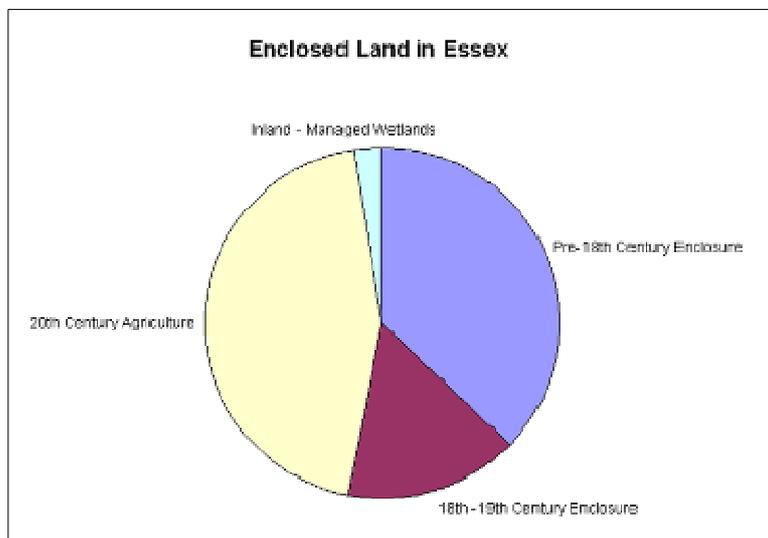
#### **Management:**

Recommended management and has this HLC type been recognised in any form of designation or management regime.

## 5.2 ENCLOSURE IN THE ESSEX HLC

### 5.2.1 INTRODUCTION

Enclosed land comprises the most extensive HLC type in Essex, amounting to almost 70% of the land cover. Its main use is for agriculture, primarily arable production but also pasturing of livestock.



The landscape of Essex has been formed by the gradual simplification of the medieval landscape through the loss of field boundaries, woodland and heath. It is the product of a long process of social and agricultural evolution. The landscape of 18th-century Essex was substantially similar to that of the 10th century (Hart 1993). The farming revolution transformed Essex from the fairly

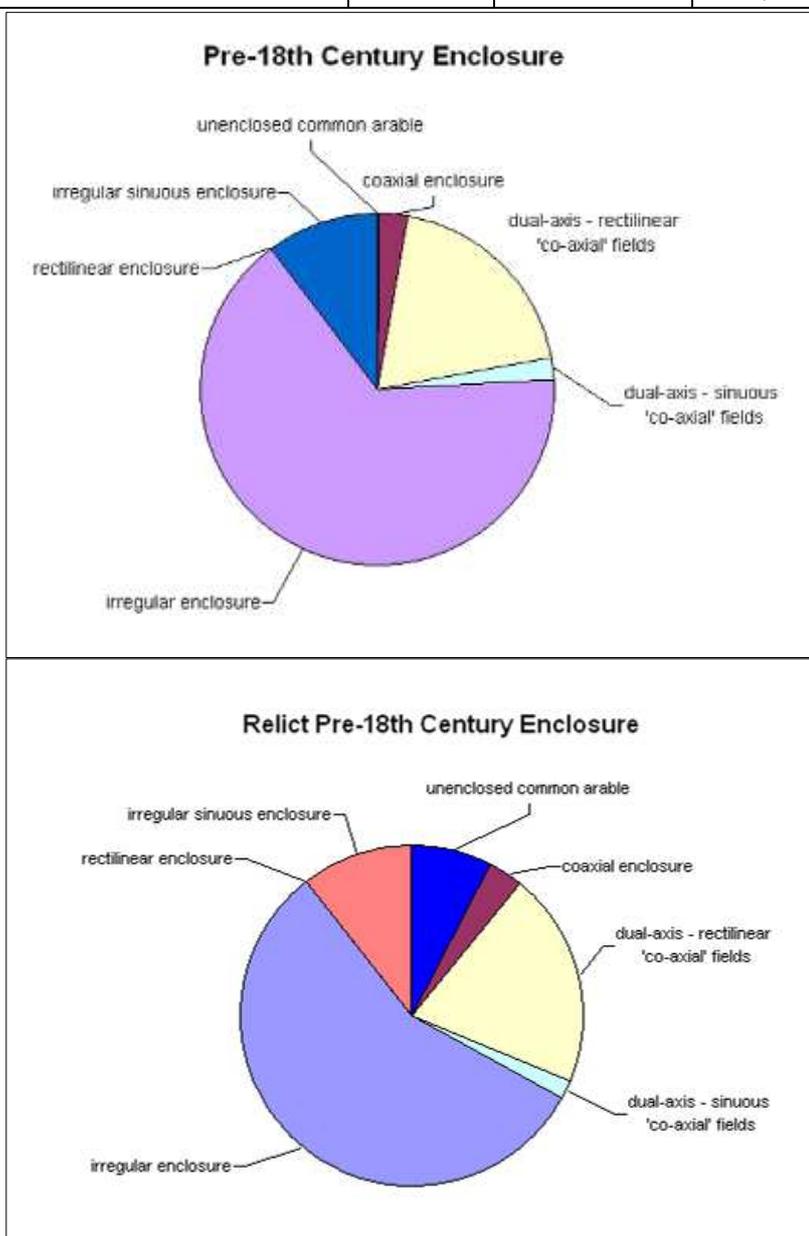
tightly enclosed landscape of that 18th century period, through agricultural intensification from the Second World War onwards, into the landscape of today where there are many uninterrupted arable stretches. Despite this, Essex retains the varied and distinctive character of each HLC type. Fields with up to three boundaries lost from the 1870's have been judged to retain a relict character of the original HLC type and so are counted as current, rather than as 20th century agriculture.

Pre-18th Century Enclosure accounts for c. 37% of enclosed land in Essex, 18th-19th Century Enclosure for c.16%, 20th Century Agriculture for c.45%, and Meadows for 2%. Most 20th Century Agriculture types are an alteration of a previously enclosed landscape, with 15% of the hectareage for these types being newly enclosed since the 19th century. It should be noted that the HLC process did not evaluate the continuing presence of smaller landscape features, such as barns and trees, or the nature of boundary type, boundary size, hedgerows and routeways. Nor did it assess the intrusive features of modern life, such as pylons, new roads, street lighting or other elements leading to the suburbanisation of the countryside. These may have a significant impact upon the appearance and condition of the landscape and all play an important part in shaping the landscape visible from the ground. It is likely that there will be areas which will have a different 'feel' today to that of a couple of centuries ago, although the basic pattern of enclosure has remained the same.

## 5.2.2 PRE-18TH CENTURY ENCLOSURE

Pre-18th Century enclosure types occur across 27% of the landscape of Essex. They are the result of enclosure of communal fields and enclosure of land by individual farmers for their own use. A breakdown of the types can be seen in the table below and in the pie chart.

<b>HLC Type</b>	<b>Area</b>	<b>% area</b>	<b>Relict 1 Area</b>	<b>% Relict 1 area</b>
unenclosed common arable	289.61	0.29	5894.02	7.84
coaxial enclosure	2575.03	2.59	2477.06	3.29
dual-axis - rectilinear 'co-axial' fields	19294.7	19.42	15206.9	20.22
dual-axis - sinuous 'co-axial' fields	1710.66	1.72	1242.16	1.65
irregular enclosure	65338	65.78	42435.2	0.04
rectilinear enclosure	20.04	0.02	30.35	58.3
irregular sinuous enclosure	10105.2	10.17	7906.54	10.52
	44093.9		130,432	



The HLC illustrates the general distribution of these types:

In the north-west corner on the chalk ridge bordering Cambridgeshire and northern Hertfordshire are Essex's only examples of the classic midland three-field system of common arable.

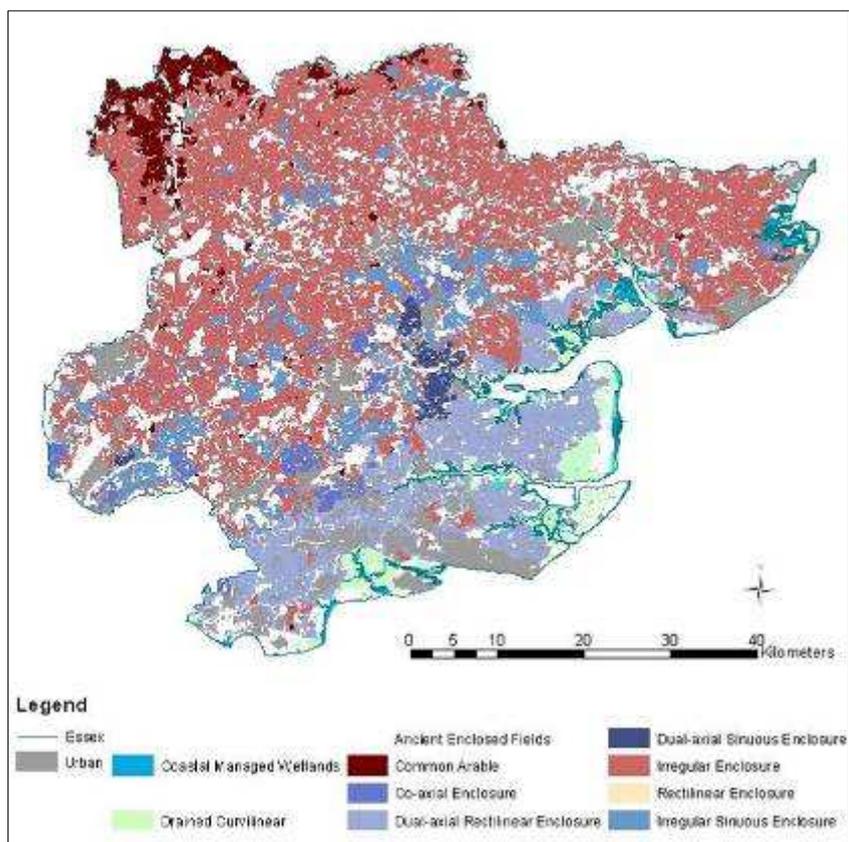
To the south of this is a swathe of irregular fields, which approximates to the extent of the Boulder Clays. The southern side of this also has extensive areas of former common field, much of which was enclosed piecemeal by agreement in the later medieval period (Hunter 1999). On the Tendring plateau the proportion of these common fields in relation to the irregular fields rises to about 50:50.

The area around Colchester was encircled by vast heaths or commons, which are visible on the HLC to the north of the town, but those to the south are not so easily distinguishable, possibly partly because they have been swallowed up by the modern urban area of Colchester and partly because their enclosure had largely been completed before the 1st edition OS map.

Diagonally from south-west to north-east across the centre of the county runs a band of mixed irregular fields, co-axial fields and former common fields (the latter were mostly enclosed in the later medieval period). This band approximates to the interface between the Boulder Clay plateau to the north-west and the sands and gravel layers that overlay the London Clay to the south-east.

To the south-east there are extensive areas of co-axial fields, varying between 'sinuous

rectilinear', 'sinuous irregular' and 'rectilinear' in type, but these differences appear to be largely the result of local responses to the immediate topography. These co-axial fields merge with the already old system of 'Dengie-form' co-axial fields, which were still in use by the first maps of the 19th century, in most of the south-east of Essex. The 'Dengie-form' co-axial fields which covered much of the south-east Essex are not a single entity, as some may be Roman in origin and some even older. However, it has been argued that the particular concentrations in the Southend and Dengie peninsulas may have their origin in the middle to late Saxon period (Rippon 1991).



## Enclosed land – Pre-18th century enclosure

### Pre-18<sup>th</sup> Century Unenclosed Common Arable (AEF-ca)

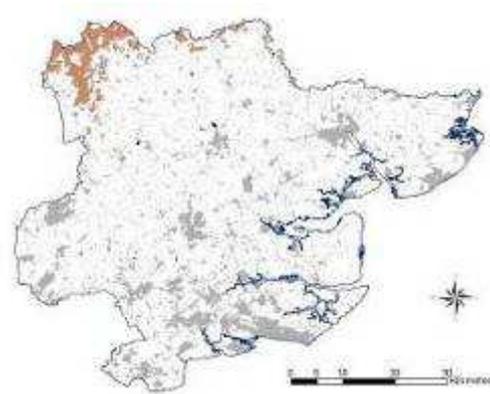
GIS Legend



<b>Total Area:</b>	289.61 ha	0.08%	<b>Relict Area:</b>	11650.71 ha	<b>Av. Polygon:</b>	11.58 ha
<b>Polygons:</b>	25	0.06%	<b>Relict Polygons:</b>	461	<b>Occurrence:</b>	<b>Very rare</b>



*Google Earth image of former Unenclosed Common Arable near Little Easton*



*Distribution of current and relict Unenclosed Common Arable*



#### **Description:**

These are former areas of arable which were held in common, traditionally farmed in strips with multi-ownership or tenancy, on a rotational system. They are usually associated with nucleated settlement, i.e. the classic Midland Open Field System. These fields are probably early medieval in origin, and remained in use until the 19th century. They are sometimes marked on the OS 1st Edition with pecked strips, or annotated on earlier maps as Common Fields, or named. They were mostly enclosed in the 19th century, producing a distinctive regular landscape within the surrounding irregular fields. (See Types LEF-le, pe and ps)

#### **Time-Depth:**

All examples pre-date the earliest map sources and are likely to be early medieval in origin. Within Essex, this is mostly a relict type. Where the original infrastructure survives without having been formally enclosed but now subject to modern farming, the type has been regarded as 'Current'.

#### **Degree of change:**

**97% loss.** Major change, almost lost. The unique character of open fields survives in only a few places nationally. In Essex it is possible to still trace the former boundaries of some of these large open fields in the landscape, but they have been sub-divided into smaller, rectangular fields.

#### **Factors influencing change:**

Changes to field boundaries as a result of modern agriculture, transport infrastructure, and built development.

#### **Capacity to absorb change:**

**Low.** Major development would damage the integrity of this type. There is limited capacity to absorb transport infrastructure.

#### **Management:**

Maintain the form and shape of field boundaries which delineate the outer edges of the original open fields. These fields were linked to and can help define the character of the associated settlement.

## Enclosed land – Pre-18th century enclosure

### Pre-18<sup>th</sup> Century ‘Co-axial’ Enclosure (AEF-cf)

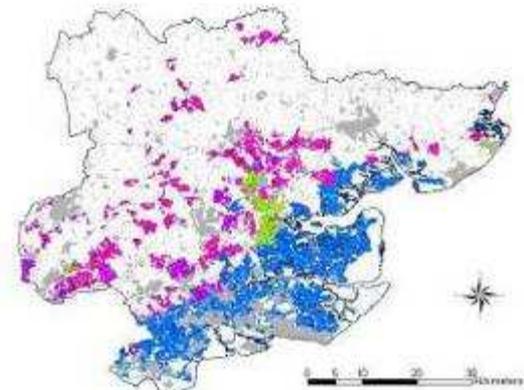
GIS Legend



<b>Total Area:</b>	2575.03 ha	0.7%	<b>Relict Area:</b>	6072.77 ha	<b>Av. Polygon:</b>	7.78 ha
<b>Polygons:</b>	331	0.78%	<b>Relict Polygons:</b>	260	<b>Occurrence:</b>	<b>Very rare</b>



*Google Earth image of co-axial enclosures at South Hanningfield*



#### **Description:**

These form a distinctive boundary pattern of fields with roughly parallel boundaries, sinuous in form with irregular subdivisions, forming an irregular brick-like sequence, often incorporating ancient lanes. These cover large areas, and are not necessarily dependent on or reflective of topography. Woodlands may be a significant feature within the field pattern. It is thought these fields were predominantly grazing areas, hence their greater survival than arable fields. This is one variety of ‘co-axial’ types. See AEF-df and AEF-ds for the other ‘co-axial’ types, either below or in Appendix B.

#### **Time-Depth:**

All examples predate the earliest map sources. Recent studies suggest that these fields date from the Anglo-Saxon or early medieval periods.

#### **Degree of change:**

**70% loss.** Major change, mostly through the loss of multiple field boundaries within the overall parallel boundaried pattern.

#### **Factors influencing change:**

Changes to field boundaries as a result of modern agriculture, transport infrastructure, mineral extraction and built development.

#### **Capacity to absorb change:**

**Medium/Low.** This type would be adversely affected by major developments but can accommodate small-scale change within the grain of the landscape where the overall pattern of enclosure is not affected.

#### **Management:**

Maintain the form and shape of field boundaries. Opportunities for reinstatement of replacement hedgerows should be explored and take account of local species mix.

## Enclosed land – Pre-18th century enclosure

### Dual-Axis Rectilinear ‘Co-axial’ Fields (AEF-df)

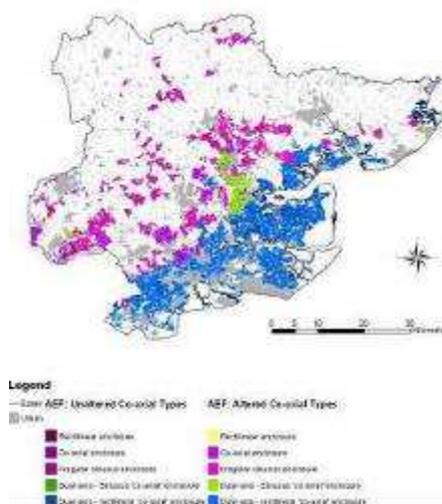
GIS Legend



<b>Total Area:</b>	19294.69 ha	5.22%	<b>Relict Area:</b>	24392.77 ha	<b>Av. Polygon:</b>	8.2 ha
<b>Polygons:</b>	2352	5.54%	<b>Relict Polygons:</b>	1337	<b>Occurrence:</b>	<b>Occasional</b>



Google Earth image of rectilinear co-axial fields near Latchingdon



### **Description:**

Dual-axis or ‘Dengie-form’ fields are similar to co-axial fields but exhibit dual axes, meaning their field boundaries run in two directions, roughly at right angles to each other. The fields are small & irregular in form, with corners being slightly offset, sinuous rather than geometrically regular. They usually run parallel with or across the contours of the land, despite the land being relatively flat. This type of field merges into co-axial or sinuous fields at the margins. This is one variety of ‘co-axial’ types. See AEF-cf and AEF-ds for the other ‘co-axial’ types, either below or in Appendix B.

### **Time-Depth:**

This type is recognised as being old, but they are not of a single period. Some may be Roman or older in date, however, Rippon (1991) has argued that the particular concentrations in the Southend and Dengie peninsulas may have their origin in the middle to late Saxon period.

### **Degree of change:**

**55% loss.** Moderate change, mostly through the loss of field boundaries within the overall pattern. Often this has created individual or groups of larger fields within an otherwise stable landscape pattern.

### **Factors influencing change:**

Changes to field boundaries as a result of modern agriculture, transport infrastructure, mineral extraction and built development.

### **Capacity to absorb change:**

**Medium/Low.** This type would be adversely affected by major developments but can accommodate small-scale change within the grain of the landscape where the overall pattern of enclosure is not affected.

### **Management:**

Maintain the form and shape of field boundaries. Opportunities for reinstatement of replacement hedgerows should be explored and take account of local species mix.

## Enclosed land – Pre-18th century enclosure

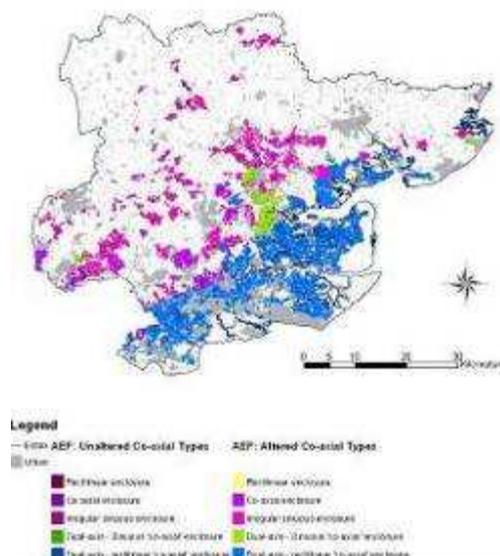
### Dual-Axis Sinuous ‘Co-axial’ Fields (AEF-ds)

GIS Legend

<b>Total Area:</b>	1710.66 ha	0.46%	<b>Relict Area:</b>	2459.37 ha	<b>Av. Polygon:</b>	8.47 ha
<b>Polygons:</b>	202	0.48%	<b>Relict Polygons:</b>	156	<b>Occurrence:</b>	<b>Very rare</b>



*Google Earth image of  
Relict dual-axis sinuous co-axial fields  
near Hazeleigh*



### **Description:**

These fields are similar to co-axial fields but exhibit dual axes, meaning their field boundaries run in two directions, roughly at right angles to each other. The fields are small & irregular in form, with corners being slightly offset, sinuous in form in both directions. They usually run parallel with or across the contours of the land, despite the land being relatively flat. They are not as uniform in shape as dual-axis rectilinear (AEF-df) or co-axial (AEF-cf) types.

### **Time-Depth:**

This type is recognised as being old, but the fields are not of a single period. Some may be Roman or older in date, however, some may have their origin in the middle to late Saxon period (Rippon 1991).

### **Degree of change:**

**59% loss.** Moderate change, through the loss of field boundaries to create larger fields.

### **Factors influencing change:**

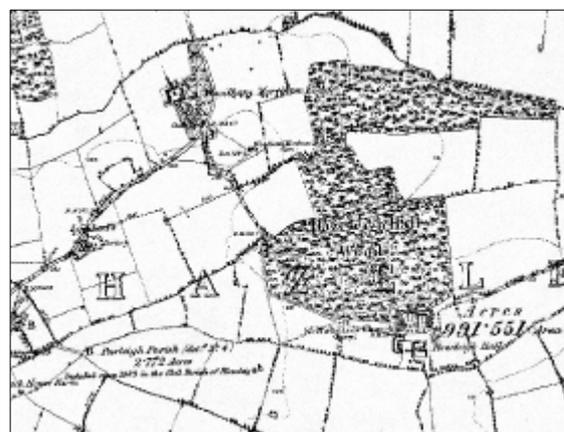
Changes to field boundaries as a result of modern agriculture, transport infrastructure, mineral extraction and built development.

### **Capacity to absorb change:**

**Low.** This type would be adversely affected by major developments. The rarity of this type means that even small-scale change may be difficult to accommodate within the grain of the landscape.

### **Management:**

Maintain the form and shape of field boundaries. Opportunities for reinstatement of replacement hedgerows should be explored and take account of local species mix.



*Extract from 1st edition OS mapping*

## Enclosed land – Pre-18th century enclosure

### Pre-18th Century 'Irregular' Enclosure (AEF-if)

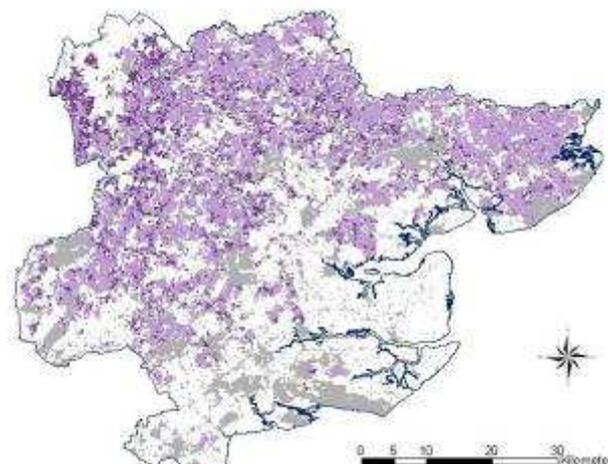
GIS Legend



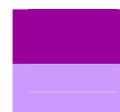
<b>Total Area:</b>	65337.99 ha	17.69%	<b>Relict Area:</b>	73626.09 ha	<b>Av. Polygon:</b>	7.63 ha
<b>Polygons:</b>	8558	20.17%	<b>Relict Polygons:</b>	5286	<b>Occurrence:</b>	<b>Common</b>



*Google Earth image of irregular enclosures north-east of Halstead*



*Distribution of  
current  
and relict  
Irregular Enclosures*



#### **Description:**

Irregular enclosures vary considerably in size and shape, forming both arable and pasture, and are widespread, though more common to the north and west of the county. They are probably the result of piecemeal enclosure. Morphologically they tend to have sinuous edges and offset corners.

#### **Time-Depth:**

These fields may originate from the medieval period or earlier.

#### **Degree of change:**

**53% loss.** Moderate change, mostly through the loss of field boundaries to create larger fields, but also through the construction of new roads and development. Generally, although many fields are now larger to a greater or lesser degree, they still sit within the overall pattern of irregular enclosures.

#### **Factors influencing change:**

Changes to field boundaries as a result of modern agriculture, transport infrastructure, mineral extraction and leisure and built development.

#### **Capacity to absorb change:**

**Medium/Low.** This type would be adversely affected by major developments but can accommodate small-scale change within the grain of the landscape where the overall pattern of enclosure is not affected.

#### **Management:**

Maintain the form and shape of field boundaries. Opportunities for reinstatement of replacement hedgerows should be explored and take account of local species mix. Coherent areas of irregular enclosures have been locally designated as Ancient Landscapes.

## Enclosed land – Pre-18th century enclosure

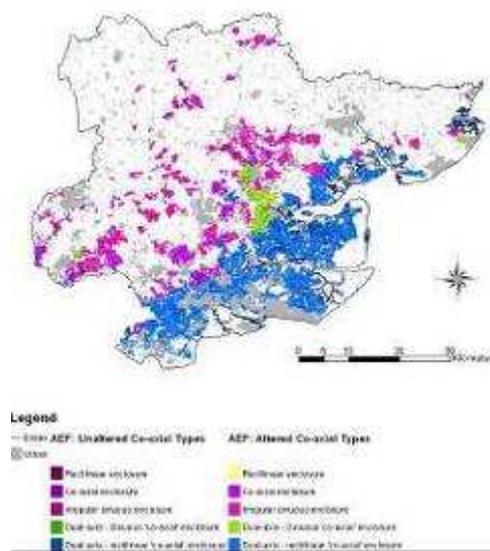
### Pre-18th Century 'Irregular Sinuous' Enclosure (AEF-sf)

GIS Legend

<b>Total Area:</b>	10105.19 ha	2.74%	<b>Relict Area:</b>	7906.54 ha	<b>Av. Polygon:</b>	8.73 ha
<b>Polygons:</b>	1158	2.73%	<b>Relict Polygons:</b>	500	<b>Occurrence:</b>	<b>Rare</b>



*Google Earth image of relict irregular sinuous enclosure near Black Notley*



#### **Description:**

These fields have parallel edges which are sinuous, being in a similar orientation, but moving towards and away from each other, with short boundaries cutting across. They appear similar to co-axial fields, but without the parallel sides. Some are thought to be a variant form of co-axial field system, but may bear more relation to topography. Others may relate to former furlongs or common arable fields which also have a sinuous character.

#### **Time-Depth:**

All examples predate the earliest map sources. They probably originate in the medieval period.

#### **Degree of change:**

**58% loss.** Moderate change, through the loss of field boundaries to create larger fields. Often the longer sinuous boundaries are still visible, though the fields between are larger.

#### **Factors influencing change:**

Changes to field boundaries as a result of modern agriculture, transport infrastructure, mineral extraction and leisure and built development.

#### **Capacity to absorb change:**

**Low.** This type would be adversely affected by major developments but can accommodate small-scale change within the grain of the landscape where the overall pattern of enclosure is not affected.

#### **Management:**

Maintain the form and shape of field boundaries. Opportunities for reinstatement of replacement hedgerows should be explored and take account of local species mix.

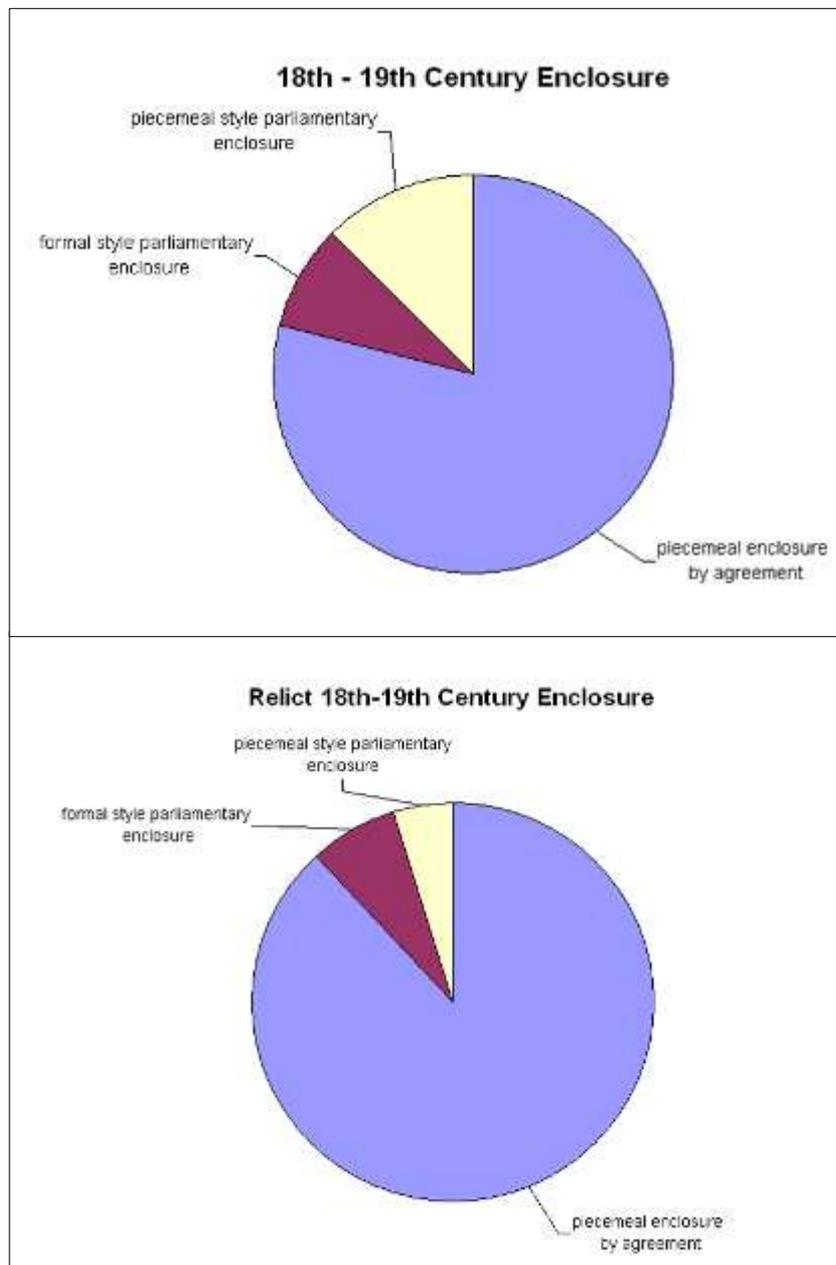


*Extract from 1st edition OS mapping*

### 5.2.3 18TH – 19TH CENTURY ENCLOSURE

18th to 19th Century enclosure types occur across just over 11% of the landscape of Essex. They are the result of the expansion of arable agriculture and represent parliamentary enclosure of communal fields and enclosure of land by informal agreement. A breakdown of the types can be seen in the table below. The pie charts show the relative proportion by area of the different HLC types currently and as it was prior to the post-war changes in agricultural practice.

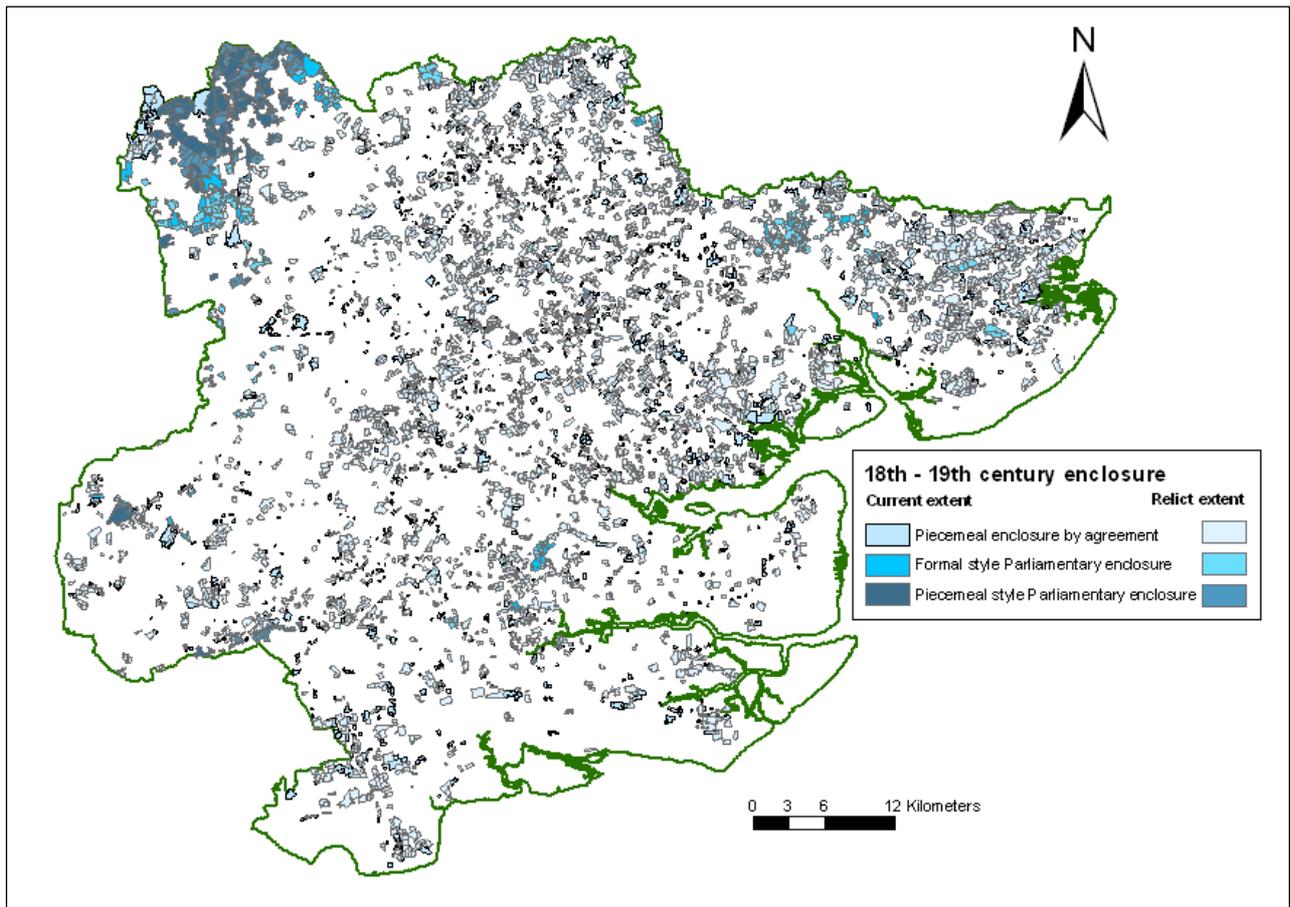
<b>HLC Type</b>	<b>Area</b>	<b>% area</b>	<b>Relict 1 Area</b>	<b>% Relict 1 area</b>
piecemeal enclosure by agreement	33151.8	78.92	24473.5	88.03
formal style parliamentary enclosure	3616.4	8.61	1960.36	7.05
piecemeal style parliamentary enclosure	5237.13	12.47	1366.59	4.92
	42005.3		27800.4	



The HLC shows that although these types are distributed across the county, there is a concentration of these types in the north-west corner of the county.

During the 18th century Essex agriculture entered a new and increasingly prosperous phase, which peaked during the Napoleonic wars. Arable agriculture in particular expanded, because of London's increasing demand for wheat for bread and barley for brewing. It was a period of considerable experimentation in farming practice, including the innovation of hollow drainage and the mole-plough on the heavy clays as well as new animal management., as evidenced by the construction of 'model farms', many of which still survive. The management of animals for sport is also evident in this period with the planting of shaws and copses as pheasant and fox-cover. This is particularly noticeable in the area closest to London where the gentry purchased sporting estates.

The Enclosure Acts of the first half of the 19th century saw the remodelling of the remaining open fields. This is most noticeable in the north-west of Essex in the area to the north of Saffron Walden, although isolated examples also occurred elsewhere.



## Enclosed land – 18th-19th century enclosure

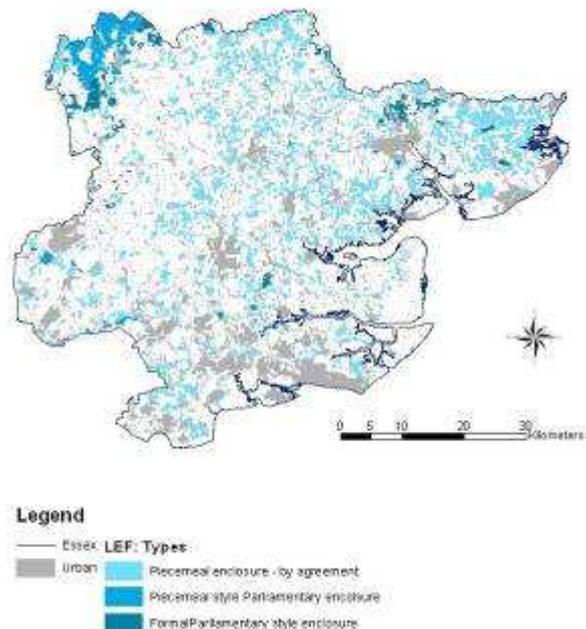
### Piecemeal enclosure by agreement (LEF-le)

GIS Legend

<b>Total Area:</b>	33151.8 ha	8.97%	<b>Relict Area:</b>	24473.47 ha	<b>Av. Polygon:</b>	8.25 ha
<b>Polygons:</b>	4018	9.47%	<b>Relict Polygons:</b>	1282	<b>Occurrence:</b>	<b>Occasional</b>



*Google Earth image of Piecemeal enclosure by agreement near Lawford*



#### **Description:**

These fields were created, by informal agreement, to subdivide a pre-existing earlier field system. They are characterised by straighter boundaries. This is a difficult form to consistently identify, as it may also comprise the enclosure of former waste, common, common arable or subdivision of various earlier enclosure patterns.

#### **Time-Depth:**

Dating of origin is difficult but they usually predate the introduction of the later formal Parliamentary Enclosure Acts, and thus may relate in certain parishes to the earlier acts of enclosure.

#### **Degree of change:**

**43% loss.** Moderate change, mostly through the loss of field boundaries to create larger fields.

#### **Factors influencing change:**

Changes to field boundaries as a result of modern agriculture, transport infrastructure, mineral extraction and leisure and built development.

#### **Capacity to absorb change:**

**Medium.** This type can absorb moderate change within the regular pattern of its structure, but the overall pattern should be retained where possible.

#### **Management:**

Maintain the form and shape of field boundaries. Opportunities for reinstatement of replacement hedgerows should be explored and take account of local species mix.

## Enclosed land – 18th-19th century enclosure

### Formal style Parliamentary Enclosure (LEF-pe)

<b>Total Area:</b>	3616.4 ha	0.98%	<b>Relict Area:</b>	2032.30 ha	<b>Av. Polygon:</b>	10.8 ha
<b>Polygons:</b>	335	0.79%	<b>Relict Polygons:</b>	116	<b>Occurrence:</b>	<b>Very rare</b>

GIS Legend

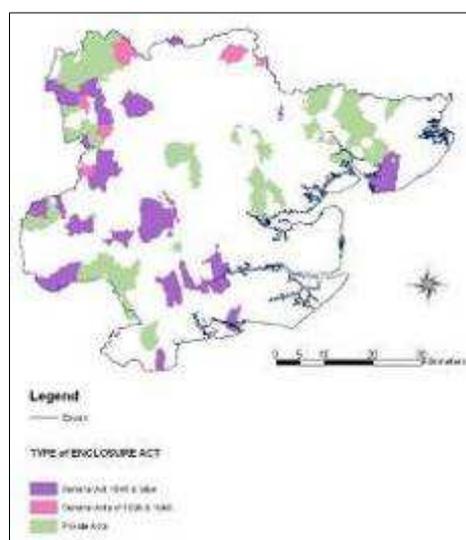
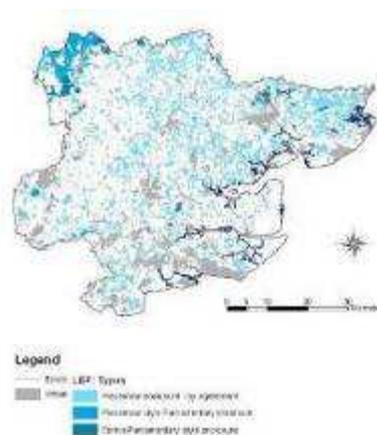
### Piecemeal style Parliamentary Enclosure (LEF-ps)

<b>Total Area:</b>	5237.13 ha	1.42%	<b>Relict Area:</b>	1652.28 ha	<b>Av. Polygon:</b>	30.81 ha
<b>Polygons:</b>	170	0.45%	<b>Relict Polygons:</b>	57	<b>Occurrence:</b>	<b>Rare</b>

GIS Legend



Google Earth image of Parliamentary enclosure at Ashdon



#### **Description:**

Formal style Parliamentary Enclosure is a rigorous rectilinear field system that has overwritten any prior landscape enclosure pattern, usually either prior common arable field, or former heathlands, or wastes, associated with the later Parliamentary Enclosure Acts. Piecemeal style can include further subdivision of existing Formal style, or earlier enclosure of former common land. These types are characterised by regular, rectangular fields, often with contemporary roads and trackways.

#### **Time-Depth:**

The majority of Parliamentary Enclosure Acts date from the early 19th century. Specific dates are provided by the relevant Enclosure Awards and maps.

#### **Degree of change:**

**36% loss (pe) 24% loss (ps).** Minor to Moderate change, mostly through the loss of field boundaries to create larger fields.

#### **Factors influencing change:**

Changes to field boundaries as a result of modern agriculture, transport infrastructure, mineral extraction and leisure and built development.

#### **Capacity to absorb change:**

**Low.** This type would be adversely affected by major developments. The rarity of this type means that even small-scale change may be difficult to accommodate within the grain of the landscape.

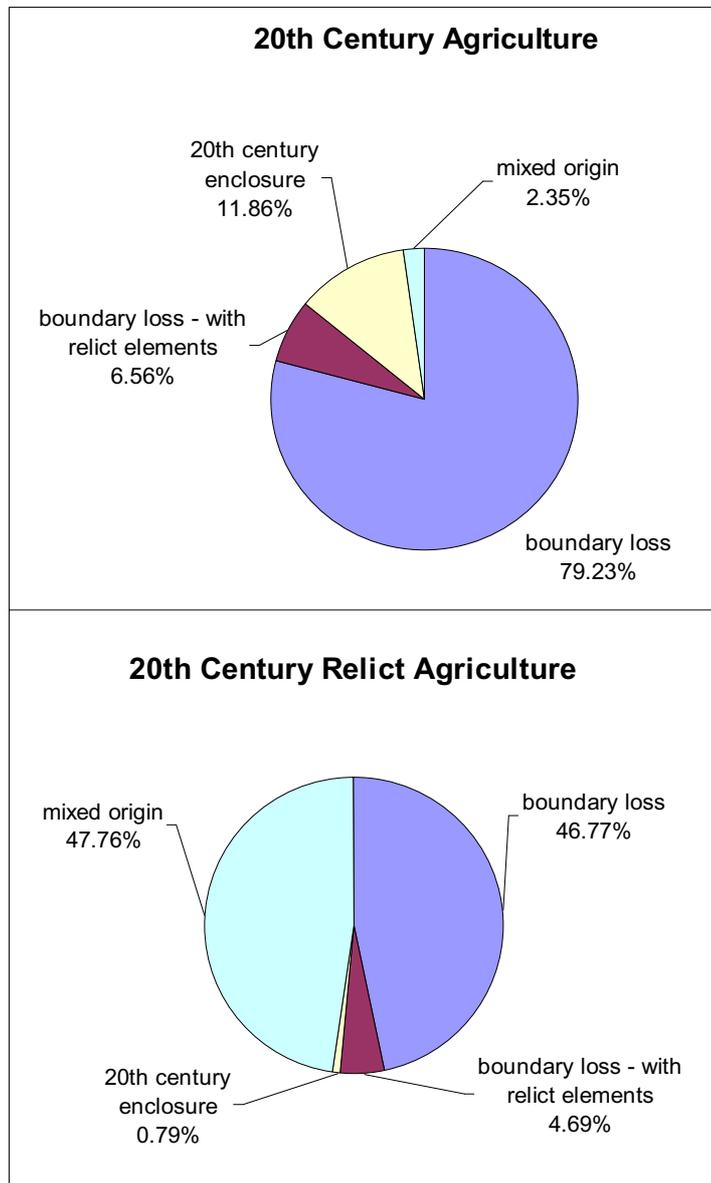
#### **Management:**

Maintain the form and shape of field boundaries with the associated roads and trackways. Opportunities for reinstatement of replacement hedgerows should be explored and take account of local species mix.

### 5.2.4 20TH CENTURY AGRICULTURE

20th Century enclosure types occur across 26% of the landscape of Essex. They are the result of the reorganisation of the landscape into large regular fields, or the subdivision of an older landscape into smaller plots for horses or personal ownership. A breakdown of the types can be seen in the table below and in the pie charts. The pie charts show the relative proportion by area of the different HLC types currently and as it was prior to the post-war changes in agricultural practice.

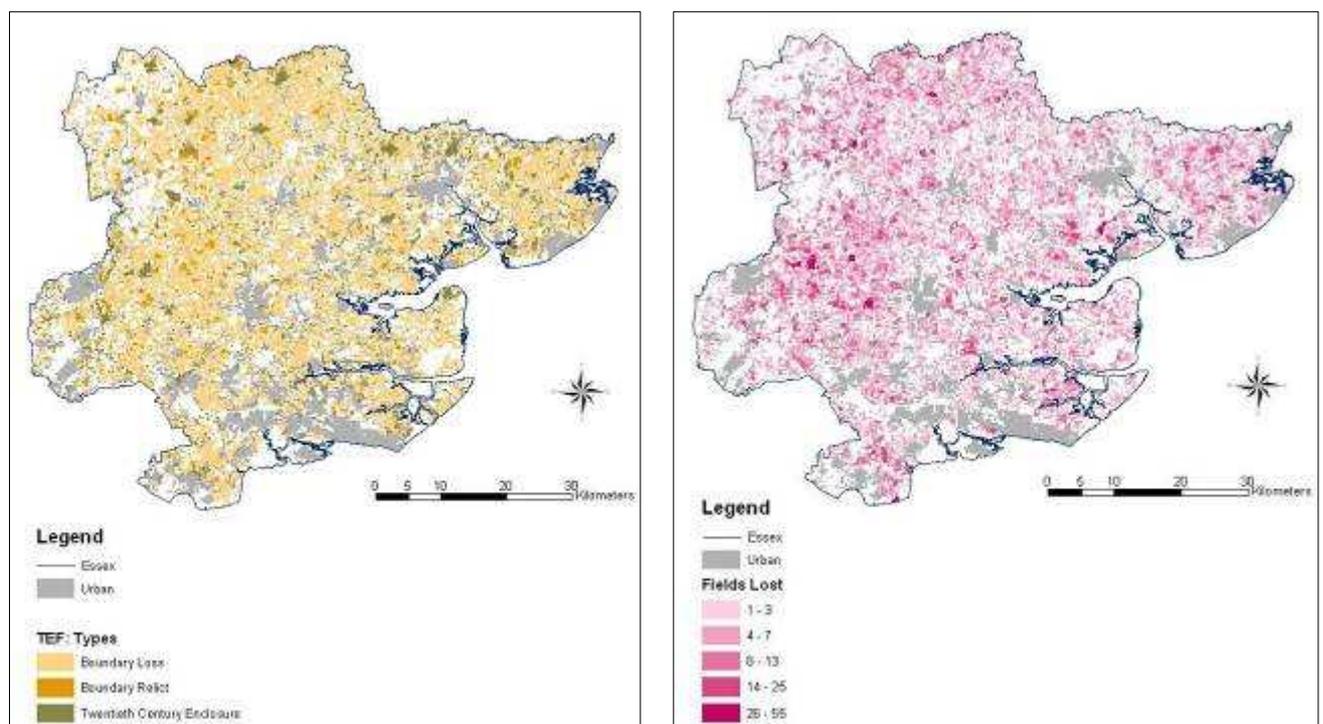
<b>HLC Type</b>	<b>Area</b>	<b>% area</b>	<b>Relict 1 Area</b>	<b>% Relict 1 area</b>
boundary loss	95905.8	79.23	3536.14	46.77
boundary loss - with relict elements	7942.33	6.56	354.52	4.69
20th century enclosure	14354.9	11.86	59.48	0.79
mixed origin	2839.05	2.35	3610.9	47.76
	121042		7561.04	



The landscape in Essex changed very little from the mid 18th century up to the Second World War. After the Napoleonic Wars in the early 19th century, there was a period of deep depression in farming with cheap imports of produce. From the late 19th century onwards there was a massive expansion of urban areas and industrialisation at the urban fringe and along the Thames Estuary.

The need to reduce the dependency on imported food during the Second World War revived the agricultural industry. Horses gave way to tractors and other machinery. Fields were enlarged by the removal of boundaries to accommodate the machinery. Post-war agricultural policy and a reduction in the labour available to work on farms led to further boundary loss. There are few areas in Essex that remain untouched, however the degree of boundary removal varies from the comparatively minor to farms where up to 19 or 20 or more fields have been coalesced to form a single unit. No overall pattern can be readily distinguished and it appears that the degree of boundary removal depended only partially on how inconvenient the original the fields were from the point of view of modern machines and more strongly on the actions of the individual land-owner.

Recent European Union Common Agricultural Policy reform has led to the introduction of Agri-environmental schemes. These give money for management of the farm landscape and include options for reinstating species-rich field boundaries and converting arable back to grassland.



*The extent of fields affected by 20th century boundary loss and ranked by number of fields lost*

## Enclosed land – 20th century agriculture

### Boundary loss (TEF-bl)

<b>Total Area:</b>	79251.68 ha	21.45%	<b>Relict Area:</b>	356.14 ha	<b>Av. Polygon:</b>	23.19 ha
<b>Polygons:</b>	3418	8.06%	<b>Relict Polygons:</b>	224	<b>Occurrence:</b>	<b>Common</b>

GIS Legend



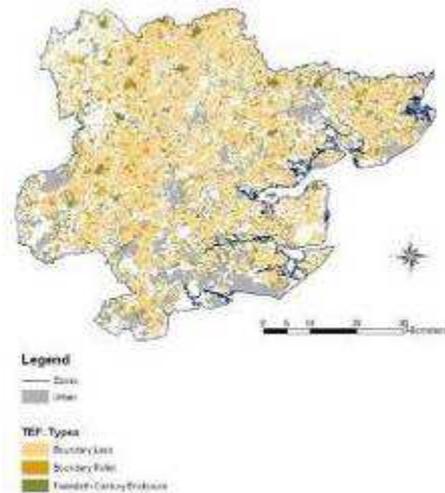
### Boundary loss – with relict elements (TEF-br)

<b>Total Area:</b>	7664.11 ha	2.07%	<b>Relict Area:</b>	354.52 ha	<b>Av. Polygon:</b>	27.67 ha
<b>Polygons:</b>	277	0.65%	<b>Relict Polygons:</b>	21	<b>Occurrence:</b>	<b>Rare</b>

GIS Legend



Google Earth image of Boundary loss types near Moreton



### **Description:**

These represent field boundary loss since the 1950's due to mechanisation and changes in agricultural practices. This may range from the loss of a single boundary merging two fields into one, or many field boundaries being removed to form a single field (over 36 fields merged into one have been recorded). The resultant field is a hybrid and palimpsest, with edges that may have several periods of origin. Boundary loss with relict elements has elements of former boundaries within the field e.g. a field edge that does not connect to form a fully enclosed field enclosure. The surviving edges of these fields are of historic importance.

### **Time-Depth:**

Each field may date to post 1950's, but individual field boundaries may have survived from an older field type.

### **Degree of change:**

**4% loss.** These types are stable. Where minimal boundary loss is now happening, this can be through neglect as well as active removal.

### **Factors influencing change:**

Changes to field boundaries as a result of modern agriculture, transport infrastructure, mineral extraction and leisure and built development.

### **Capacity to absorb change:**

**Medium/High.** Capacity will depend on the degree to which earlier features and landscapes survive within the modern enclosure pattern.

### **Management:**

It will be important to define the various dates of the field margins. Opportunities for reinstatement of replacement hedgerows should be explored and take account of local species mix.

## Enclosed land – 20th century agriculture

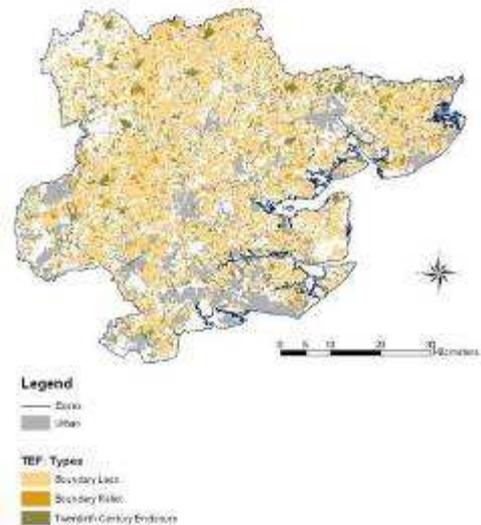
### 20th century enclosure (TEF-te)

GIS Legend

<b>Total Area:</b>	10157.45 ha	2.75%	<b>Relict Area:</b>	59.48 ha	<b>Av. Polygon:</b>	3.22 ha
<b>Polygons:</b>	3151	7.43%	<b>Relict Polygons:</b>	10	<b>Occurrence:</b>	<b>Rare</b>



*Google Earth image of  
20th century enclosure of the  
Second World War airfield at Boxted*



#### **Description:**

Modern, small, field enclosures, which can be either nested within a pre-existing field system or be a totally new field system that has over-written the prior landscape. These occur either at random across the landscape, or may be focused around the fringes of urban settlement, being part of the peri-urban fringe: or along new infrastructure such as motorways. They are usually identified as having straight edges or are rectilinear fields where corners meet, and occur only on the more recent maps.

#### **Time-Depth:**

These fields date from the mid 20th century on.

#### **Degree of change:**

**0.5% loss.** This type is stable.

#### **Factors influencing change:**

Changes to field boundaries as a result of modern agriculture, transport infrastructure, mineral extraction and leisure and built development.

#### **Capacity to absorb change:**

**Medium/High.** Capacity will depend on the degree to which earlier features and landscapes survive within the modern enclosure pattern.

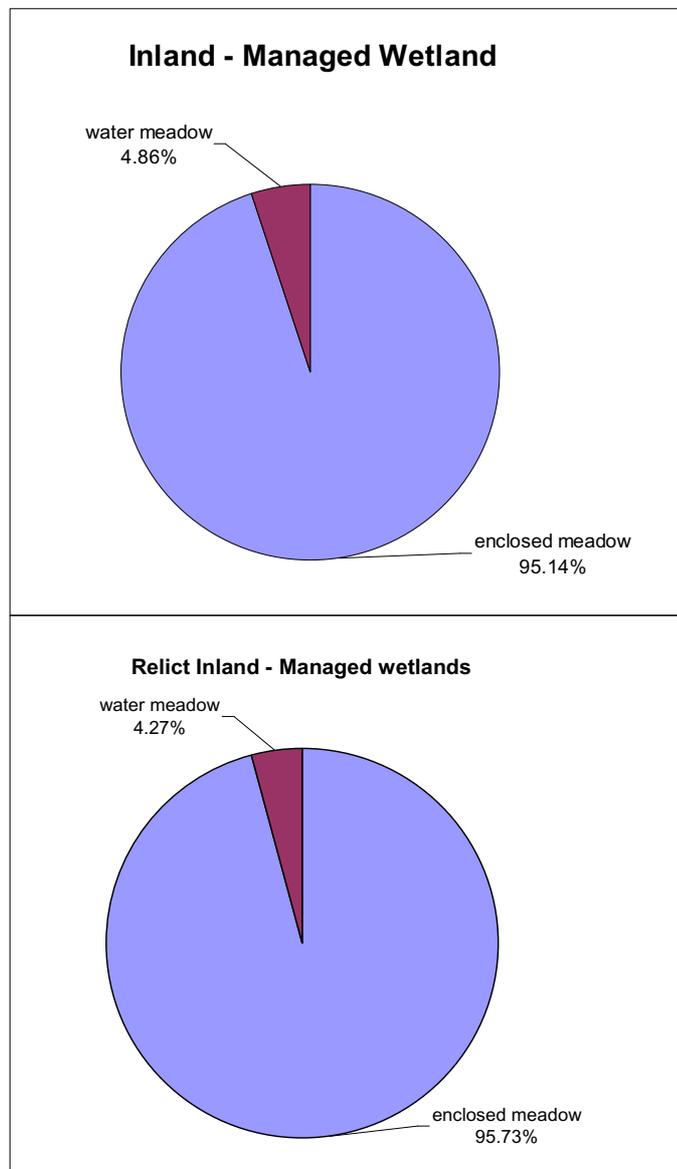
#### **Management:**

Where parts of earlier enclosures survive, these should be maintained. Replacement of older hedgerows with modern materials should be avoided.

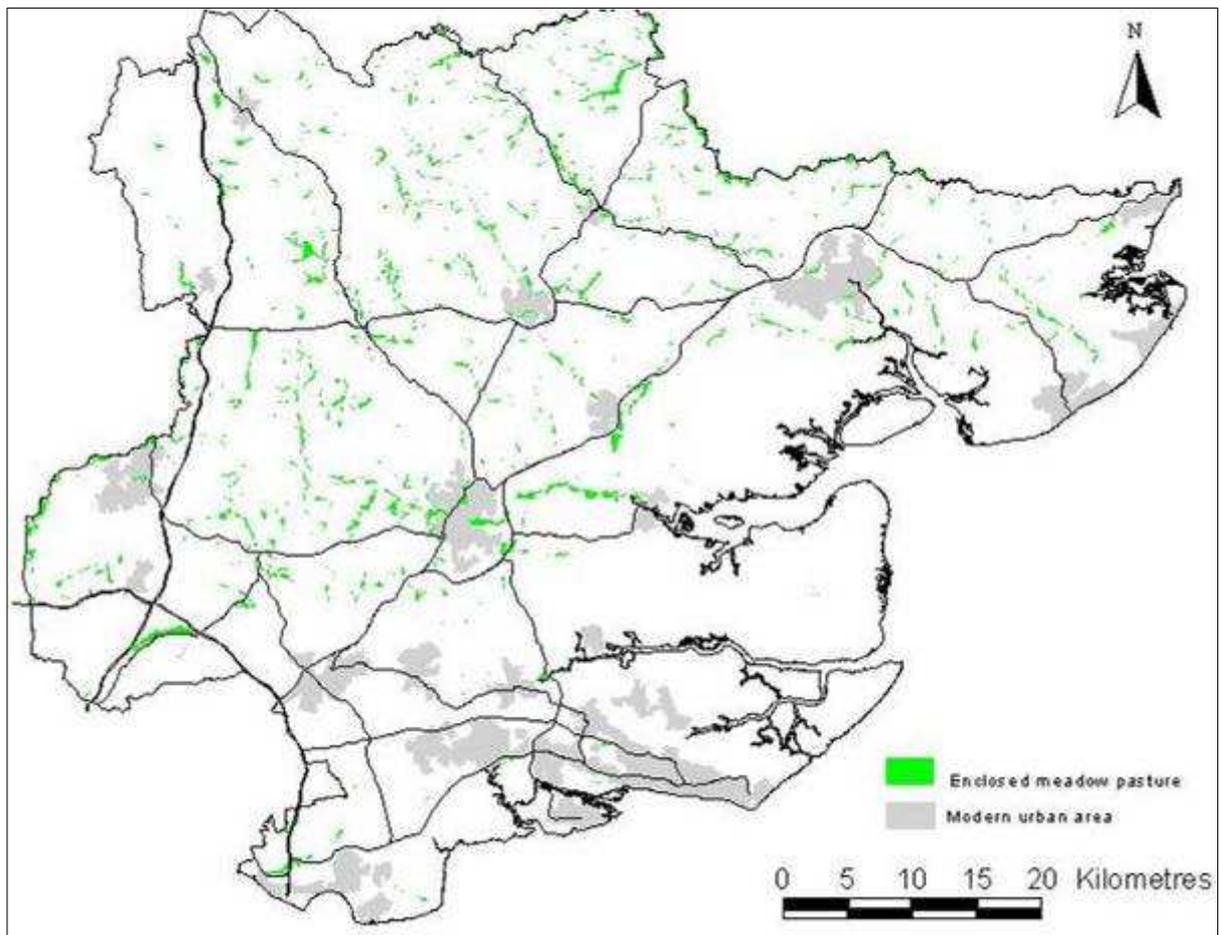
### 5.2.5 INLAND MANAGED WETLANDS

Inland managed wetlands types occur across 2% of the landscape of Essex. They are the result of enclosure of valley bottom land, taking advantage of damper ground conditions and seasonal flooding for the production of hay and for animal grazing. A breakdown of the types can be seen in the table below and in the pie charts. The pie charts show the relative proportion by area of the different HLC types currently and as it was prior to the post-war changes in agricultural practice.

<b>HLC Type</b>	<b>Area</b>	<b>% area</b>	<b>Relict 1 Area</b>	<b>% Relict 1 area</b>
enclosed meadow	6228.57	95.14	3610.9	95.73
water meadow	318.31	4.86	160.87	4.27
□	6546.88		3771.77	



Meadows are mentioned in the Domesday Book. They would have been carefully managed as tenurial strips producing a hay crop. After mowing in June the meadows were opened up to communal grazing. From the 17th century onwards a variant from naturally flooded meadows developed as water meadows, which were artificially flooded to increase the fertility. Meadows were a familiar feature of the landscape until the 1950's. Post-war agricultural expansion meant that dairy herds disappeared and meadows were taken into arable production or planted as willow plantations.



*The extent of meadows in Essex*

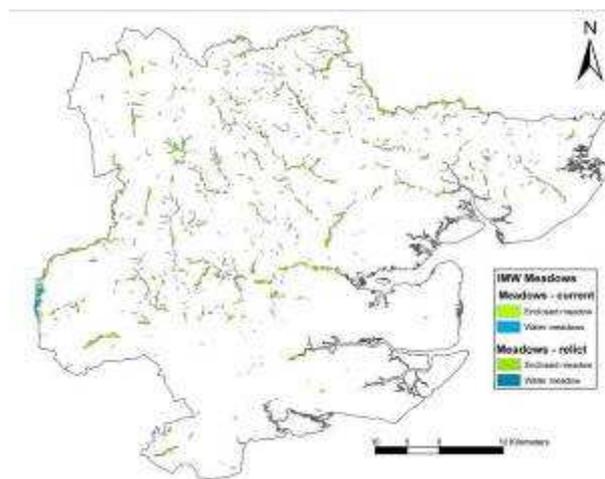
## Enclosure – Inland managed wetlands

### Enclosed Meadow (IMW-mp)

GIS Legend



<b>Total Area:</b> 6228.57 ha	1.69%	<b>Relict Area:</b> 3610.9 ha	<b>Av. Polygon:</b> 3.89 ha
<b>Polygons:</b> 1603	3.78%	<b>Relict Polygons:</b> 320	<b>Occurrence:</b> <b>Rare</b>



*Gogle Earth image of enclosed meadows beside the River Ter between Terling and Little Leighs*

### **Description:**

These are sinuous fields that border rivers, often forming part of the flood plain/regime of the river, where the river floods naturally. They may be marked as areas of rough pasture. The traditional use from medieval times up to the 1950's was to produce a hay crop for winter fodder and for grazing. Some have been subsequently wooded or alternate with wooded areas along the river's course. See Water Meadows (IMW-wm) for managed flooding of meadows.

### **Time-Depth:**

Documentary sources indicate that meadows were well established by medieval times, continuing in traditional use up to the 1950's.

### **Degree of change:**

**37% loss.** Moderate change, mostly through loss of field boundaries and woodland plantation.

### **Factors influencing change:**

Changes to field boundaries as a result of modern agriculture, mineral extraction and tree planting.

### **Capacity to absorb change:**

**Low.** The rarity of this type, and its fragile nature, mean that it could be easily lost through any change in management or development.

### **Management:**

Maintain water levels and hedgerows. Opportunities for reinstatement of traditional hay production, grazing and replacement hedgerows should be explored.

## Enclosure – Inland managed wetlands

### Water Meadow (IMW-wm)

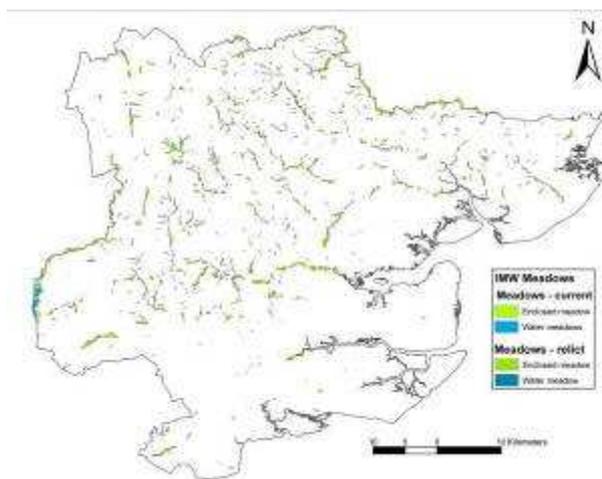
GIS Legend



<b>Total Area:</b>	318.31ha	0.09%	<b>Relict Area:</b>	160.87ha	<b>Av. Polygon:</b>	16.75ha
<b>Polygons:</b>	19	0.04%	<b>Relict Polygons:</b>	12	<b>Occurrence:</b>	<b>Very Rare</b>



*Google Earth image of Water Meadows at Little Hallingbury*



#### **Description:**

This is an area of grassland next to a river which is managed by artificially flooding the meadow at certain times of the year, utilising a distinctive, regular network of ridges and water channels to enable extended pasturage for livestock and a later hay crop. They came into use during the 17th and 18th centuries, but fell out of use in the 19th centuries as labour costs made them uneconomical to maintain. Some have survived as earthworks.

#### **Time-Depth:**

This type came into use from the 17th century, declining in use during the 19th century.

#### **Degree of change:**

**34% loss.** Moderate change, mostly through loss of field boundaries and the silting up and loss of the internal channels.

#### **Factors influencing change:**

Changes to field boundaries as a result of modern agriculture, mineral extraction and tree planting.

#### **Capacity to absorb change:**

**Low.** The rarity of this type, and its fragile nature, mean that it could be easily lost through any change in management or development.

#### **Management:**

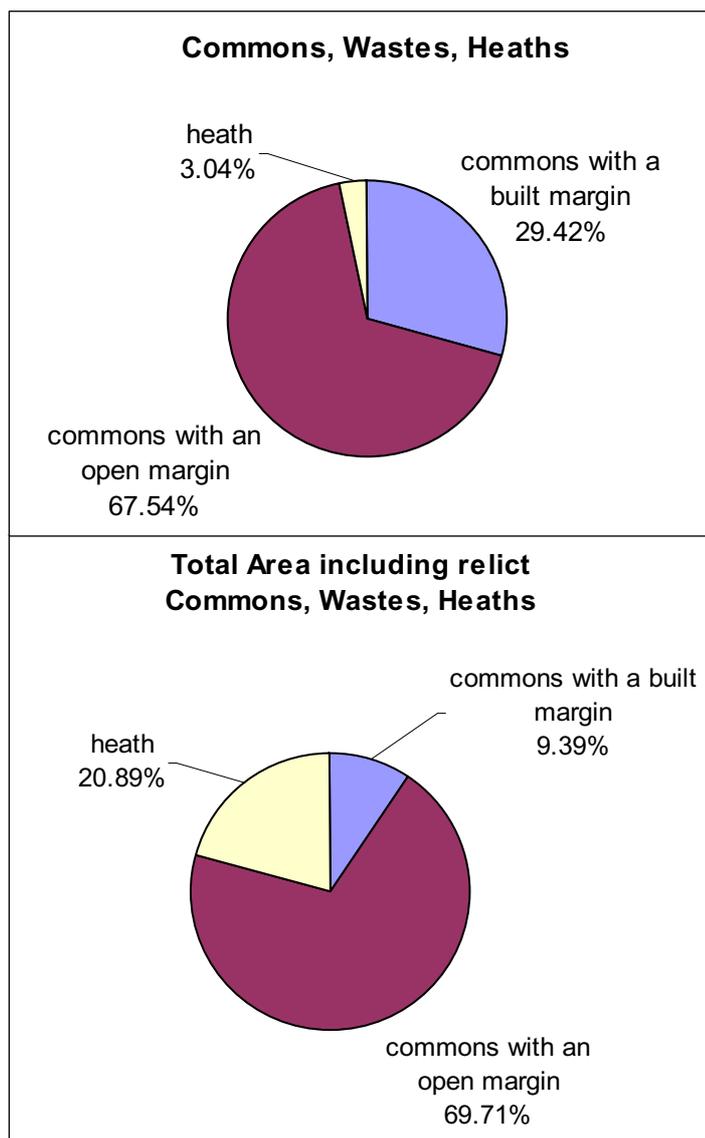
Maintain water levels, drainage channels and earthworks.

## 5.3 OPEN LAND IN THE ESSEX HLC

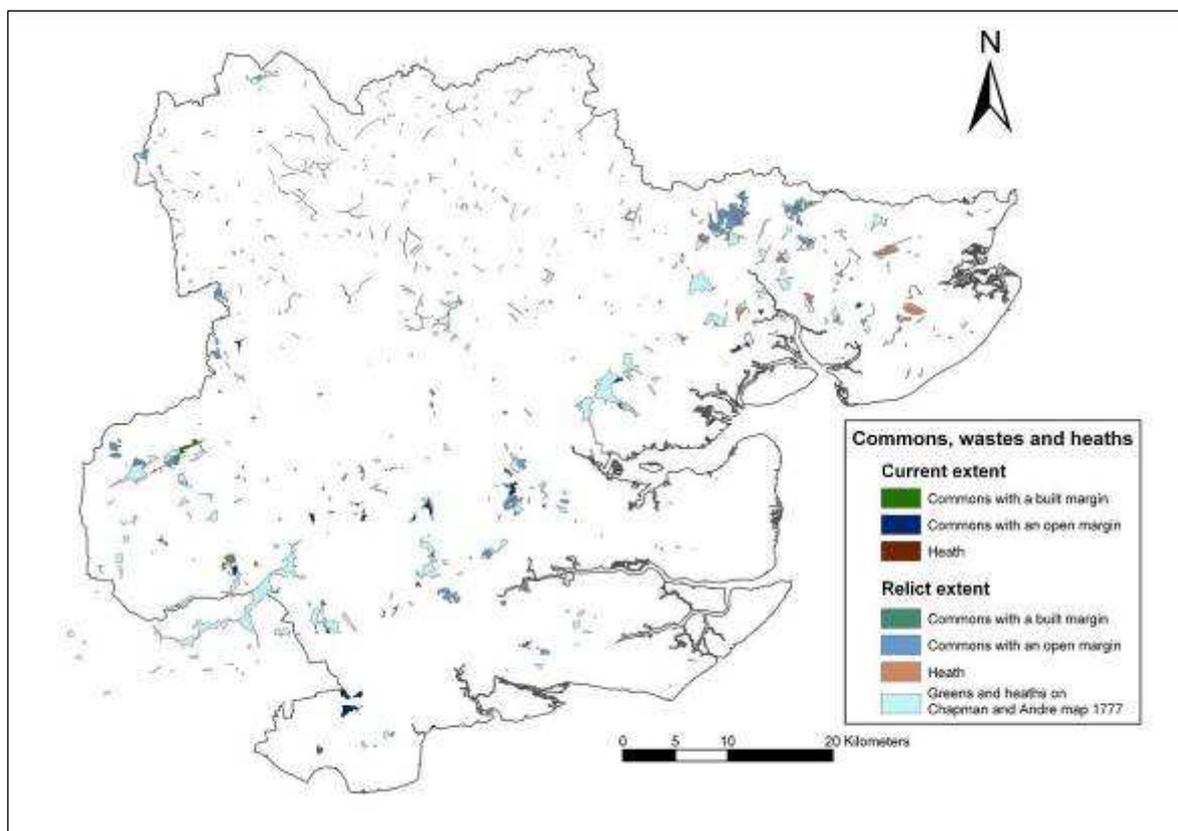
### 5.3.1 INTRODUCTION

Open Land HLC types occur across 0.25% of the landscape of Essex. They are the remnants of land which was traditionally used for rough grazing, collecting fuel, and other activities such as local quarrying of clay and brickearth for brick and pottery production. It is estimated that at the time of the Domesday Survey of 1086, rough pasture and heathland ('waste' land) comprised one third of the landuse of Essex. A breakdown of the types by area (ha) can be seen in the table below and in the pie charts.

<b>HLC Type</b>	<b>Area</b>	<b>% area</b>	<b>Relict Area</b>	<b>% Relict area</b>
commons with a built margin	276.5	29.42	236.03	5.22
commons with an open margin	634.73	67.54	3168.72	70.17
heath	28.57	3.04	1111.22	24.61
	939.8		4515.97	



The increasing population of the 11th to 13th centuries led to the ploughing up of 'waste' land, and the colonisation of areas of rough pasture and woodland which had formerly been extensive but were now becoming increasingly scarce. Eventually, the essential minimum of land required for pasture came to be defined and preserved as a second generation of greens, bordered around by the tofts of peasant families, who would also cultivate strips in the adjoining arable fields. Many of these scattered green-side settlements developed into hamlets. The greens could be either 'focal', that is a compact area of grassland, as at Matching Green, or 'linear', that is wide verges along a roadside. The HLC has identified many greens or commons of the 'compact' variety, although by no means all; the many small examples that characterised the medieval landscape of Uttlesford District in particular are unrepresented. Likewise the 'linear' greens are barely represented on the HLC, possibly because many were enclosed in the 17th century as licensed 'purprestures' (private enclosures along the verge of a public highway). As discussed above, the large 'wastes' or heaths that were held in commonage around Colchester, including Tiptree Heath are also under-represented, particularly to the south and west of the town.



*The extent of commons, wastes and heaths shown against those plotted from the 1777 Chapman and André map of Essex*

## Open Land

### Commons with a built margin (CWH-cb)

GIS Legend



<b>Total Area:</b> 276.5 ha	0.07%	<b>Relict Area:</b> 226 ha	<b>Av. Polygon:</b> 4.46 ha
<b>Polygons:</b> 62	0.15%	<b>Relict Polygons:</b> 42	<b>Occurrence:</b> <b>Very Rare</b>

### Commons with an open margin (CWH-cm)

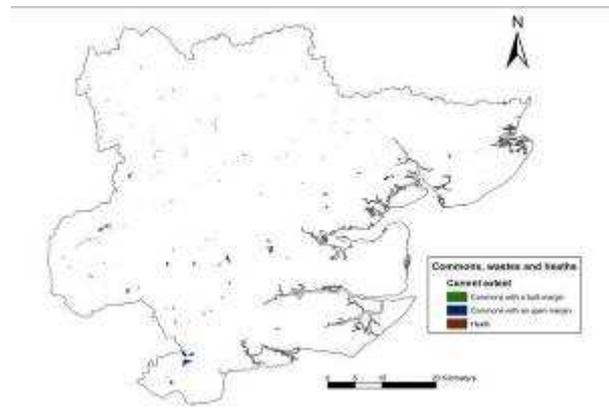
GIS Legend



<b>Total Area:</b> 634.73 ha	0.17%	<b>Relict Area:</b> 3168.72 ha	<b>Av. Polygon:</b> 10.41 ha
<b>Polygons:</b> 61	0.14%	<b>Relict Polygons:</b> 334	<b>Occurrence:</b> <b>Very Rare</b>



Google Earth image of Danbury Common



### **Description:**

These are open areas, marked on the First Edition as 'common' or 'green'. They were traditionally used for pasturage of livestock. Commons with an open margin may have a few houses or farms sited at road or track entrances. Commons with a built margin have a fringe of settlement around the margin, with clusters of houses and farms at road or track entrances. Some commons and greens have survived as amenity areas within or beside villages. Others have been developed for housing or formal recreational use. Most have been enclosed as part of agricultural improvement. These grazing commons are generally regarded as being early in origin.

### **Time-Depth:**

Commons and greens were probably most extensive in late Saxon times. They are mentioned in documentary sources from the medieval period, and continued in traditional use up to the 18th century.

### **Degree of change:**

**79% loss.** Major change, principally through piecemeal enclosure to create fields and housing developments.

### **Factors influencing change:**

Secondary woodland regeneration, built development, transport infrastructure, and mineral extraction.

### **Capacity to absorb change:**

**Medium/Low.** Commons and greens would be adversely affected by major developments but can accommodate minimal small-scale developments which do not affect the character and integrity of this type.

### **Management:**

Grassland management through grazing or cutting grass, shrub clearance and removing selected secondary regeneration of trees. Opportunities for restoration of former commons and greens should be explored.

## Open Land

### Heath (CWH-ht)

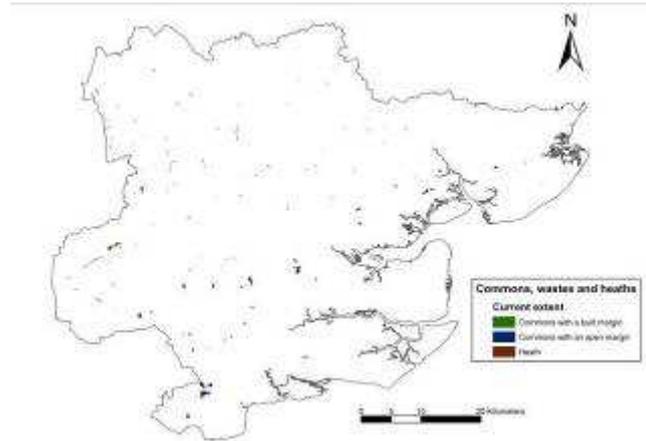
GIS Legend



<b>Total Area:</b> 28.57 ha	0.01%	<b>Relict Area:</b> 1111.22 ha	<b>Av. Polygon:</b> 4.76 ha
<b>Polygons:</b> 6	0.01%	<b>Relict Polygons:</b> 107	<b>Occurrence:</b> <b>Very Rare</b>



*Google Earth image of relict heathland at Berechurch, Colchester*



### **Description:**

These are open areas, marked on the First Edition as 'heath'. Originally termed 'waste' in medieval times, they comprise areas of natural or semi-natural vegetation (particularly grass and heather) on dry, acidic soils. Historically these were too dry and impoverished for arable cultivation and were managed mainly as areas for pasturage of livestock, with management for woodland products. Some areas of heathland have experienced intermittent arable cultivation or small scale quarrying. This can leave earthworks of archaeological interest. Lack of grazing in the 20th century has resulted in the growth of scrub and bracken on many heaths.

### **Time-Depth:**

Heathland was probably most extensive in late Saxon times. They are mentioned in documentary sources from the medieval period, and continued in traditional use up to the 18th century.

### **Degree of change:**

**97.5% loss.** Major change, with only a small fraction of heathland surviving. They have been lost to enclosure and agricultural improvement, secondary woodland growth or commercial woodland planting.

### **Factors influencing change:**

Secondary woodland regeneration, built development, transport infrastructure, and mineral extraction.

### **Capacity to absorb change:**

**Low.** The rarity and fragility of heathland means that it would be adversely affected by developments. It may be possible to absorb low impact recreational use that does not damage the integrity of this type.

### **Management:**

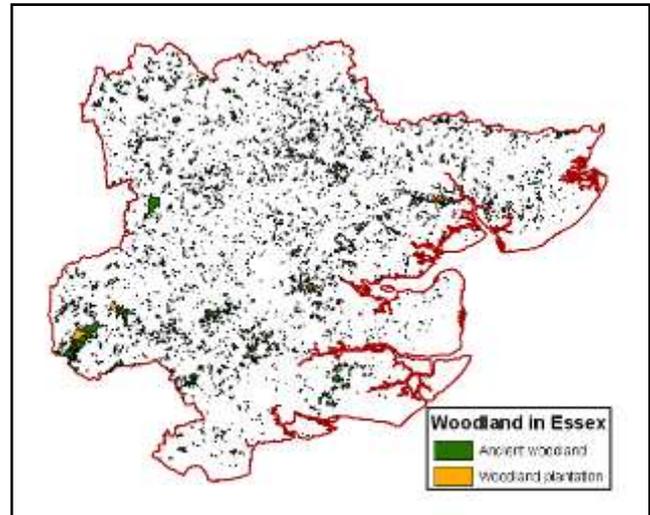
Traditional management by grazing, or control of invasive scrub and bracken and felling of selected trees. Opportunities for restoration of former heaths should be explored.

## 6.4 WOODLAND IN THE ESSEX HLC

### 6.4.1 INTRODUCTION

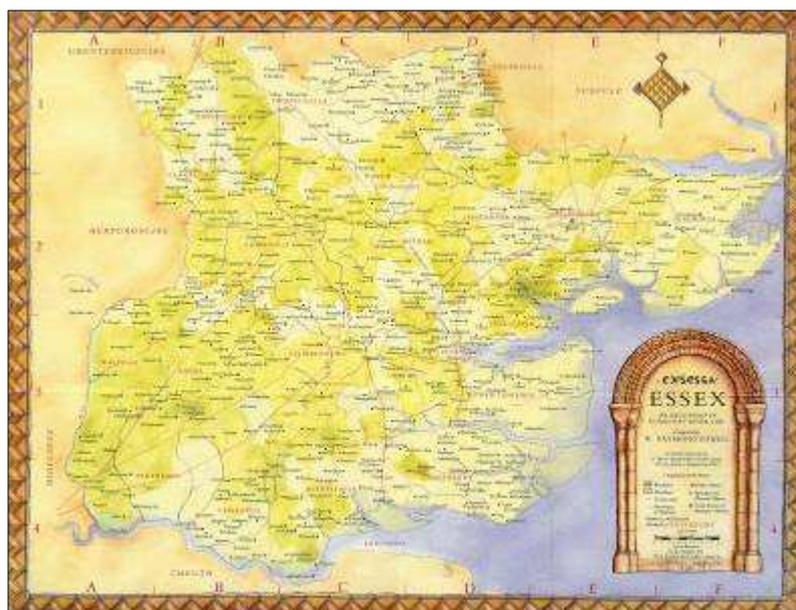
Woodland in Essex amounts to 4.20% of the land cover, comprising 15,531 hectares, which is divided between the two HLC types of Ancient Woodland (2.54% - 9,401 ha) and Woodland Plantation (1.66% - 6,130 ha).

Essex had extensive areas of woodland, estimated by Rackham (in Hunter 1999) to amount to 20% of the land cover in Saxon times. Much of this was managed wood-pasture, that is, areas of grass for grazing with free-growing trees. Some of these trees would have been pollarded to supply wood sufficient for local needs. An example of this type of woodland survives at Bush End, Hatfield Forest.



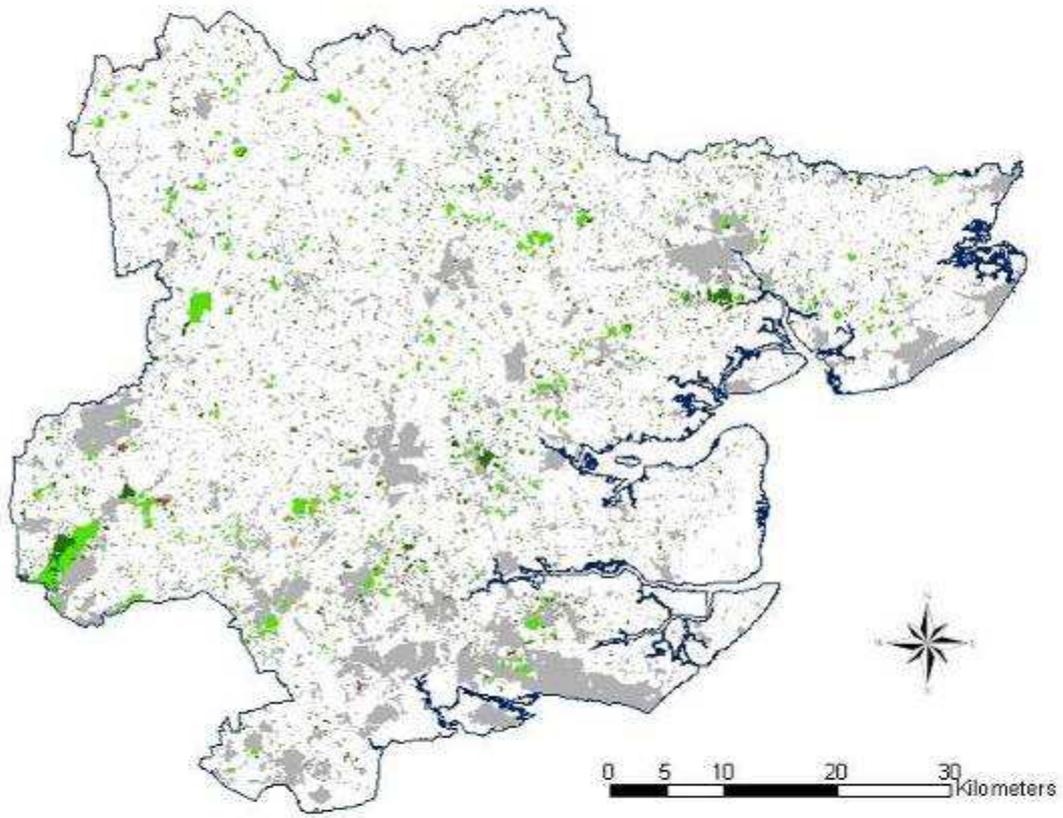
As can be seen on the illustration below, information from Domesday Book indicates greater concentrations of woodland in the western half of the county.

Large and remarkable examples of medieval woodland survive at Epping, Writtle and particularly Hatfield Forest. Woodlands were protected with banks and hedges. Wood-pasture and some woodland might be retained as parkland, enclosed by a tall fence erected on a bank with a ditch on the park side. Some woods, as at Epping Forest were held as commonage, with the commoners having rights to grazing, pannage and timber. The HLC shows that both the ancient woodland and the medieval parkland are largely absent in the south-east corner of the county, with the exception of the wooded Rayleigh Hills.



*An attempt to map the possible extent of woodland at the time of the Domesday Survey of 1086 by W. Raymond Powell (Powell, W.R. 1990, copyright Essex Record Office)*

# WDS: Woodlands



## Legend

— Essex

Urban

### Current Woodlands Relict Woodlands

WDS-aw

WDS-aw

WDS-wp

WDS-wp

*Distribution of Woodland HLC and relict types*

## Woodland

### Ancient Woodland (WDS-aw)

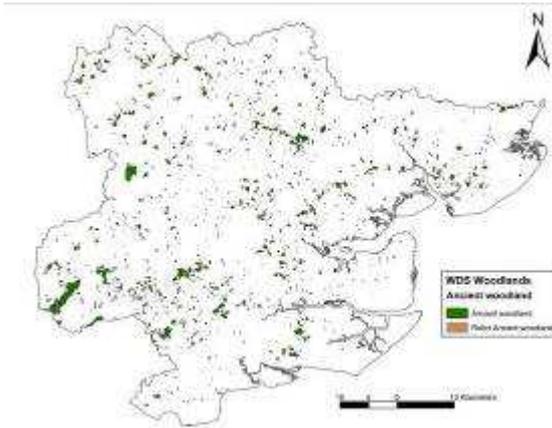
GIS Legend



<b>Total Area:</b>	9401 ha	2.54%	<b>Relict Area:</b>	626.67 ha	<b>Av. Polygon:</b>	6.89 ha
<b>Polygons:</b>	1365	3.22%	<b>Relict Polygons:</b>	240	<b>Occurrence:</b>	<b>Rare</b>



*Hatfield Forest*



*Distribution of ancient woodland*

#### **Description:**

Ancient woodland is defined by Natural England as 'land that has had a continuous woodland cover since at least 1600 AD and may be ancient semi-natural woodland, which retains a native tree and shrub cover that has not been planted, although it may have been managed by coppicing or felling and allowed to regenerate naturally...' (<http://www.naturalengland.org.uk>). The predominant species are deciduous, broad-leaf trees and shrubs. In the Essex HLC, this category also includes traditional wood-pasture, such as seen at Hatfield Forest, where single or small groups of pollarded trees occur in pasture alongside small coppice-with-standards managed woodlands.

Ancient woodland can preserve features which are natural such as an uneven land surface, or which predate the woodland such as prehistoric earthworks or medieval cultivation ridges where woodland has regenerated, or which relate to the woodland itself such as coppiced trees and wood banks.

#### **Time-Depth:**

Ancient woodland by definition survives from the medieval period.

#### **Degree of change:**

**6.25% loss.** Moderate change, mostly through replanting with coniferous trees or grubbing out.

#### **Factors influencing change:**

Woodland tends to be stable in the landscape, though can be at risk from replanting with commercial coniferous tree species. Although this has been a major threat in the past, this factor has declined.

#### **Capacity to absorb change:**

Woodland can absorb minor change, such as recreational use.

#### **Management:**

A proportion of these woods are in the ownership of the National Trust, Forestry Commission or Essex Wildlife Trust. Management may be to provide public or recreation access, maintain biodiversity, or timber production. It may be possible to restore ancient woodland where coniferous replanting has not completely destroyed the original trees.

# Woodland

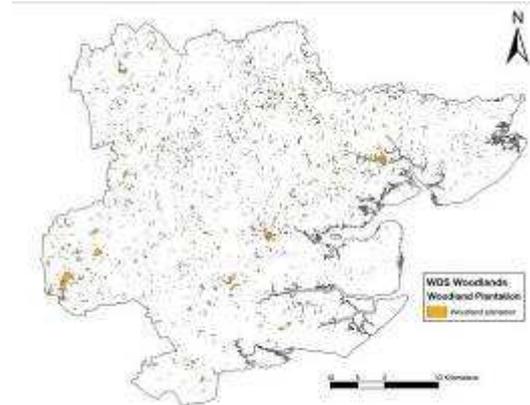
## 18th - 20th century Woodland Plantation (WDS-wp)

GIS Legend

<b>Total Area:</b>	6130.1 ha	1.66%	<b>Relict Area:</b>	574.16 ha	<b>Av. Polygon:</b>	2.35 ha
<b>Polygons:</b>	2609	6.15%	<b>Relict Polygons:</b>	118	<b>Occurrence:</b>	<b>Rare</b>



Google Earth image of Plantation woodland at Great Maplestead



Distribution of Woodland Plantation

### **Description:**

This includes all managed and planted woodland which post-date Ancient Woodland. These may be planted as commercial concerns or as ornamental woodland in association with informal parkland. These woodlands can be replanting of cleared woodland, inter-planting within existing woodland, or new planting within former fields. Some plantations may have been planted and felled between the OS 1st Edition mapping and modern mapping. Many plantations are comprised of a single or couple of species of deciduous or coniferous tree, though some may have been designed with a mixed composition to imitate traditional woodland, such as plantations encouraged as part of Thames Chase or under Agri-environmental schemes.

### **Time-Depth:**

Planted woodland is rare before the 17th century. During the 17th century small woodlands were planted as part of landscaped park design. Also, small coppice-woodlands may have continued to be planted though the 18th century, though this was also a period of woodland destruction. The later 19th century saw the development of modern forestry practice with its commitment to coniferous plantations

### **Degree of change:**

**91% gain.** Plantation woodland has increased in extent massively.

### **Factors influencing change:**

Commercial woodland management and changes in agricultural practice could lead to felling.

### **Capacity to absorb change:**

Woodland can absorb minor change, such as recreational use.

### **Management:**

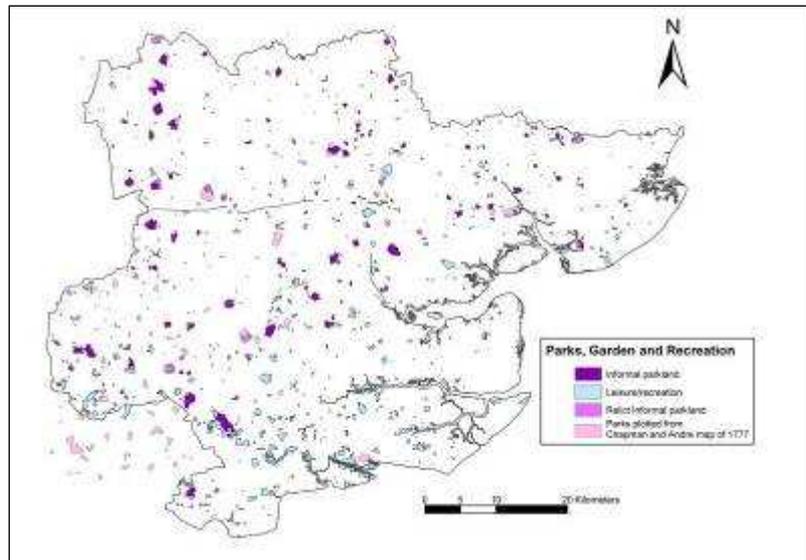
Most of these woods are in private ownership and some may be managed under Agri-environmental schemes.

## 5.5 PARKS AND GARDENS IN THE ESSEX HLC

### 5.5.1 INTRODUCTION

Parks, Gardens and Recreation HLC types in Essex amounts to 3.62% of the land cover, comprising 13,388 hectares, which is divided between the two HLC types of Informal Parkland (1.53% - 5,650 ha) and Leisure/recreation (2.09% - 7,738 ha). These types include the landscaped gardens and parks of the 18th and 19th centuries, and modern recreational parks and areas, such as country parks and golf courses.

Parks have existed in the landscape since late Saxon times. Their use then was for hunting and woodland management. Most have been subsumed into the agricultural landscape by piecemeal enclosure, but the positions of some of these can be traced from the surviving external boundaries. A few survived where they were suitable for the development of a post medieval landscaped park.



*Extent of Parks, Gardens and Recreation HLC types*

The early post medieval period was a time of increasing affluence which was reflected in purchases of country estates by the upwardly mobile new men of the age, taking advantage of the spoils of the dissolution of the monasteries. In the 18th to 19th centuries, new grand houses were built within the setting of a landscaped park, designed to look 'natural' with lakes, stands of trees, vistas, and architectural features such as ha-has and follies. There would also be buildings associated with the running of the estate. A few parks are of medieval origin, but these were reworked in the 18th and 19th centuries to provide a landscaped park setting.

Increasing urbanisation and industrialisation during the 19th century led to the establishment of public parks, primarily within urban areas. Golf became a popular activity during the 19th century, gaining massively in popularity during the 20th century, with a corresponding rise in the number of golf courses. The 20th century has also seen an increase in the development of recreational and leisure facilities which are mainly situated in and around the major settlements. Some of the Country Parks are giving the earlier landscaped parks a new lease of life as leisure and recreational destinations.

## Parks and Gardens

### Informal parkland (PGR-ip)

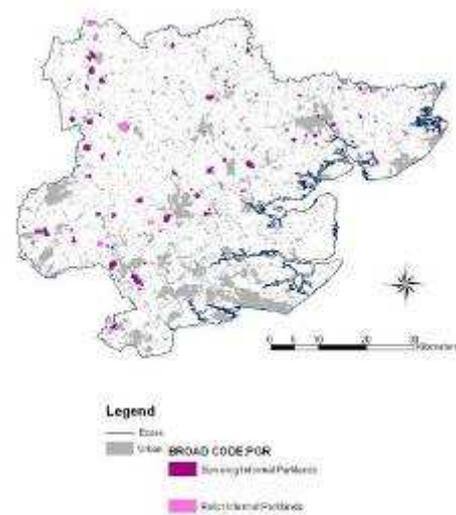
GIS Legend



<b>Total Area:</b>	5650.1 ha	1.53%	<b>Relict Area:</b>	2280.11 ha	<b>Av. Polygon:</b>	32.85 ha
<b>Polygons:</b>	172	0.41%	<b>Relict Polygons:</b>	223	<b>Occurrence:</b>	<b>Rare</b>



*Audley End House and park*



### **Description:**

Designed ornamental landscapes laid out around the 'great' or 'grand' house in the post medieval period, many by designers of national repute, such as Lancelot 'Capability' Brown at Audley End, near Saffron Walden, and Thorndon, Brentwood; and Humphry Repton at Hylands Park, Chelmsford and Gosfield Place, Halstead. The parks may include a formal garden, lakes, woodland, avenues, rides, vistas, and architectural features such as a ha-ha, terrace, folly or grotto. There may be remains of greenhouses and ice-houses.

### **Time-Depth:**

A few parks have their origins in the medieval period, some in the 17th century, but the principal period of landscaping is the 18th to 19th century.

### **Degree of change:**

**29% loss.** Minor/moderate change through urban expansion and change of use.

### **Factors influencing change:**

Conversion to modern agriculture, recreational use as golf courses, mineral extraction, transport infrastructure and built development.

### **Capacity to absorb change:**

**Medium.** This type would be adversely affected by major developments but can accommodate small-scale change within the grain of the landscape where the overall character of the park is not affected.

### **Management:**

Preserve the parkland landscape through maintenance of the character of the planting and retaining vistas, avenues and rides. The more important examples are included on English Heritage's Register of Parks and Gardens.

## Parks and Gardens

### Leisure/recreation (PGR-tl)

GIS Legend



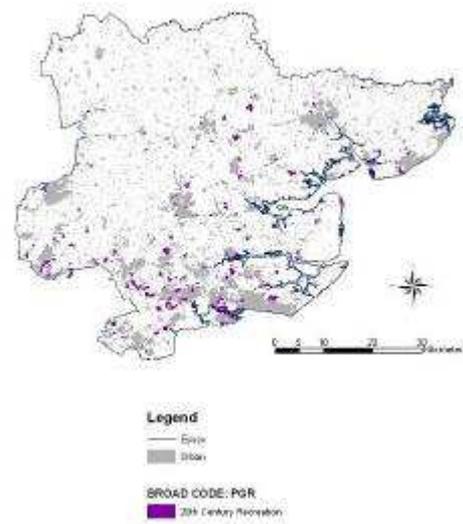
**Total Area:** 7737.66 ha 2.09%  
**Polygons:** 552 1.30%

**Relict Area:** 0 ha  
**Relict Polygons:** 0

**Av. Polygon:** 14.02 ha  
**Occurrence:** **Rare**



*Cressing Temple*



### **Description:**

This type includes country parks, golf courses, caravan parks, camping grounds, playing fields and other areas of land used for recreation and leisure. This type may have completely reworked and destroyed previous elements of the landscape, or may retain elements of its previous use, such as former parkland (see PGR-if), or of the surrounding character of the landscape, such as field boundaries, trees, and woodland.

### **Time-Depth:**

Golf initially became popular in the 19th century. The main development of this type is from the 20th century and is continuing.

### **Degree of change:**

**100% gain.** The rise in leisure time from the 19th century onwards has led to the creation of these leisure and recreational facilities. The larger facilities are stable, but there has been some loss of facilities to built development.

### **Factors influencing change:**

Mineral extraction, transport infrastructure and built development.

### **Capacity to absorb change:**

**Low/Medium/High.** This is entirely dependant on the degree to which facilities retain elements of previous landscape types or preserve them in their entirety

### **Management:**

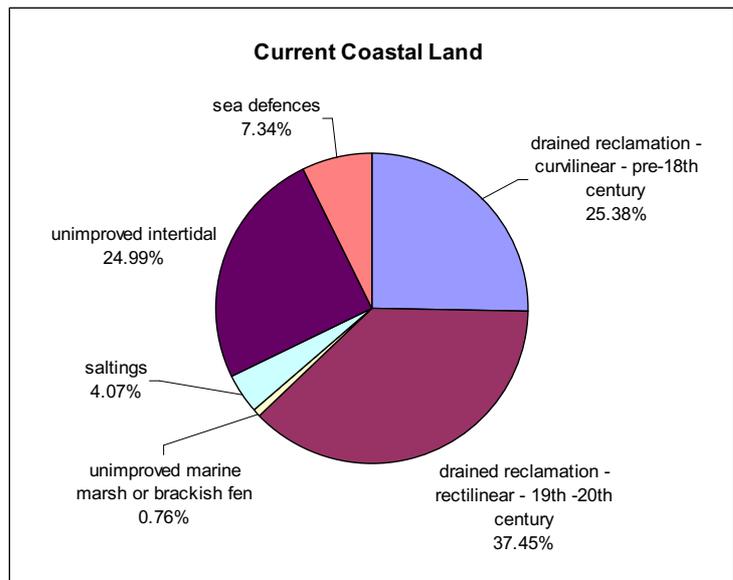
Where possible ensure the incorporation of former landscape features. Where based in former parkland, preserve the park landscapes, planting character, lakes, rides and vistas.

## 5.6 COASTAL LAND IN THE ESSEX HLC

### 5.6.1 INTRODUCTION

Coastal land comprises almost 5% of the land cover of Essex. With all its indentations of tidal creeks and estuaries the coastline extends for over 300 miles. Large stretches remain remote and undisturbed with a unique marshland habitat. Its main uses today are for agriculture, industry, leisure activities and nature conservation. Coastal Drained Enclosure accounts for c.60% of coastal land in Essex, and Coastal Managed Wetlands for c.40%.

The Essex coast had a long development, with changing sea levels as a result of glaciation during the Ice Ages and the shifting course of the Thames and Medway rivers. By the early Neolithic (from around 4,000 BC) the sea level had risen, so that the Essex coastline had reached something like its present appearance. High tide mark was approximately in the region of the present low-tide mark and consequently large areas of former land surface now lie within the present intertidal zone.



In the Late Iron Age and Roman times, an important coastal industry was salt making, through heating large clay pans containing sea water. The resulting waste material forms low mounds of red earth called Red Hills, which are still a feature of the coastal area.

In medieval times the eastern coastal areas were largely marshland. They supported extensive flocks of sheep as well as shell-fisheries. There is evidence for some sea-walls being constructed during this period. Particularly significant extents can be seen along the Chelmer, Blackwater, Colne and Stour rivers.



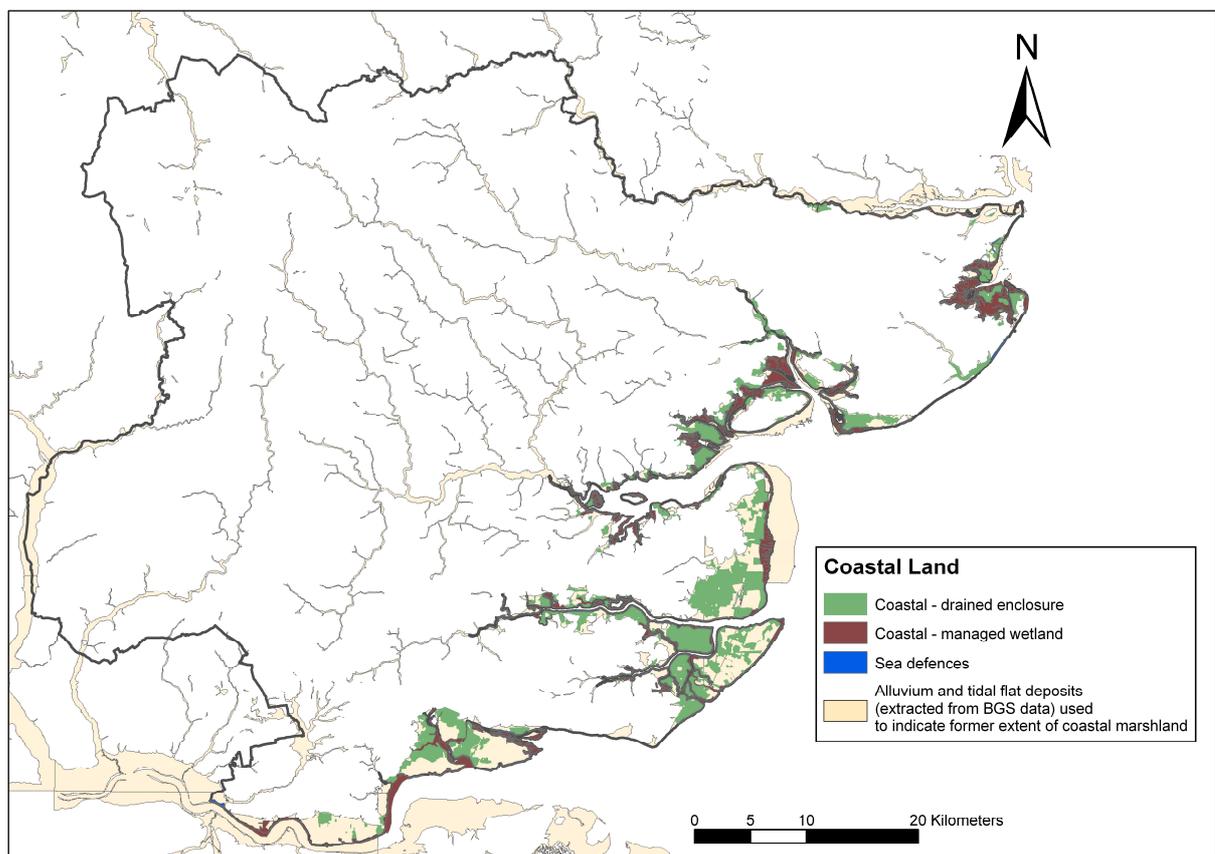
*Reconstruction of coastal salt production during the Iron Age and Roman period*

The gentle nature of the coastline with its numerous creeks and estuaries have been inviting for both trade and invasion throughout its history. Throughout the post-medieval period fortifications were concentrated along the Essex coastline, ranging from a small 16th century gun emplacement at East Mersea to elaborate 17th and 19th century forts at Harwich, and at Tilbury and Coalhouse guarding the Thames.

The 17th and early 18th centuries saw extensive drainage and embankment of the marshes, notably at Canvey Island where the island was created by Dutch engineering expertise. This phase of drainage and reclamation is categorised as 'curvilinear reclamation'. A second phase of reclamation took place in the 19th century, this time characterised by greater use of straight reclamation ditches.

The 18th, 19th and 20th centuries saw the development of the coastal resorts of Southend, Clacton, Walton and Frinton, and the development of an increasingly urban and industrial landscape along the Thames estuary east of London. This included the growth of commercial oyster farming within the inter-tidal area of the Essex coast (see Section 6.11 Landuse).

The 20th century has seen the increasing development of leisure facilities such as marinas along the coast. A recent trend has seen conservation bodies such as the RSPB and the Essex Wildlife Trust purchasing large areas of former marshland with the intention of managing it for wildlife and removing land drains or carrying out managed realignment of the sea walls to reinstate the marsh.

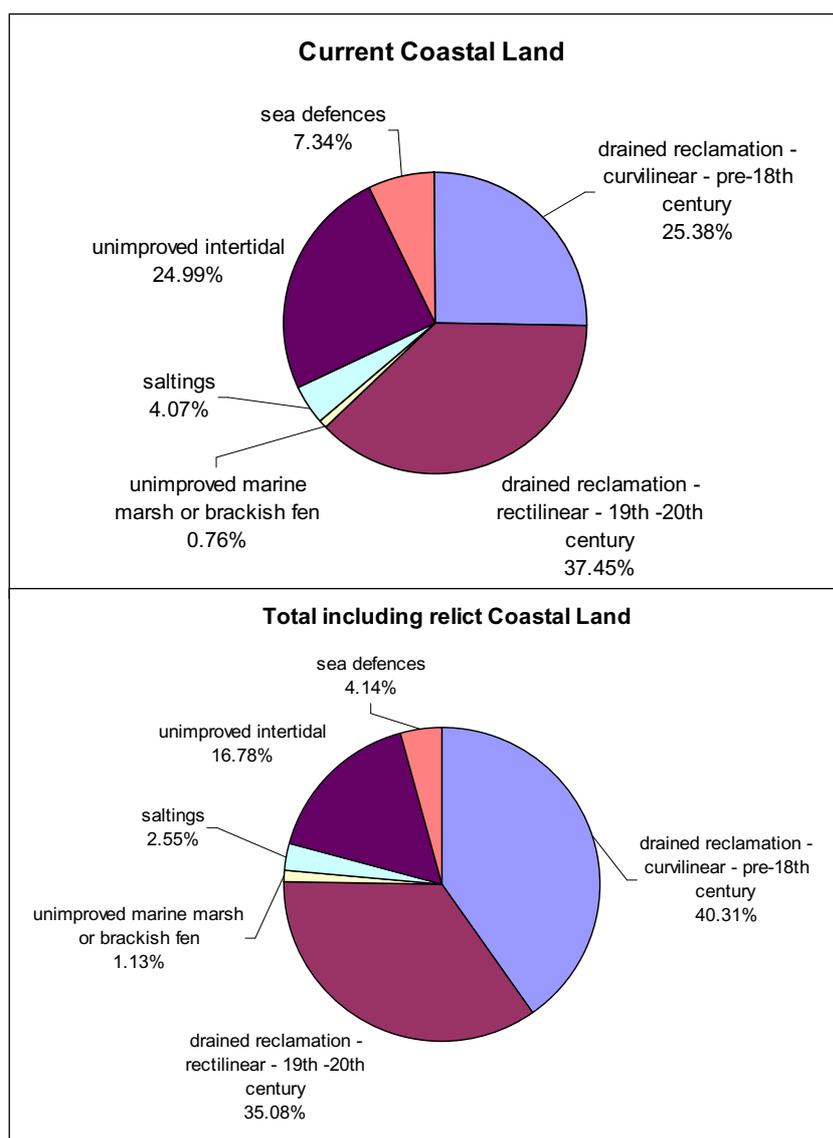


*Extent of Coastal HLC types plotted against a backdrop of the distribution of alluvium and tidal flat deposits which indicate the former extent of marshland (extracted from British Geological Survey data © and database rights NERC 2006, Licence 2003/113)*

## 5.6.2 COASTAL – DRAINED ENCLOSURE / COASTAL – MANAGED WETLANDS

Coastal drained enclosure types occur across 3% of the landscape of Essex. They are the result of draining and enclosing former areas of coastal marshland. Coastal managed wetland types occur across 1.8% of the landscape of Essex. They are the result of marine and estuarine processes. A breakdown of all the coastal land types can be seen in the table below and in the pie charts.

<b>HLC Type</b>	<b>Area</b>	<b>% area</b>	<b>Relict Area</b>	<b>% Relict area</b>
drained reclamation - curvilinear - pre-18th century	4458.35	25.38	8094.4	59.64
drained reclamation - rectilinear - 19th -20th century	6578.35	37.45	4343.85	32.01
unimproved marine marsh or brackish fen	134.02	0.76	218.02	1.61
saltings	715.06	4.07	80.41	0.59
unimproved intertidal	4390.29	24.99	835.54	6.16
sea defences	1290	7.34		0.00
	17566.1		13572.2	



## Coastal Land – drained enclosure

### Pre-18th century curvilinear drained reclamation (CDF-dc)

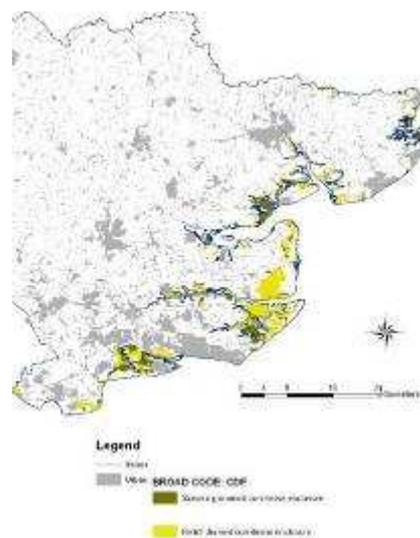
GIS Legend



<b>Total Area:</b>	4458.35 ha	1.21%	<b>Relict Area:</b>	8094.4 ha	<b>Av. Polygon:</b>	5.61 ha
<b>Polygons:</b>	795	1.87%	<b>Relict Polygons:</b>	725	<b>Occurrence:</b>	<b>Rare</b>



*Google Earth image of curvilinear drained enclosure on Rushey Island*



#### **Description:**

This type is a coastal land drainage pattern of a sinuous or serpentine form, draining low coastal lands to estuaries or the sea. The drains form the field boundaries which can be supplemented by later straighter boundaries to divide up the larger areas.

#### **Time-Depth:**

All examples pre-date the earliest map sources and may originate from the medieval or post medieval period.

#### **Degree of change:**

**64% loss.** Major change, through straightening of the drainage ditches and loss to mineral extraction, coastal development or industry.

#### **Factors influencing change:**

Changes to field drainage pattern, mineral extraction, coastal development, and managed retreat (breaching the sea wall to let tidal water through, allowing formation of salt marsh).

#### **Capacity to absorb change:**

**Low.** This type would be adversely affected by major developments. Some small-scale change can be accommodated within the grain of the landscape where the overall pattern of drains is not affected.

#### **Management:**

Maintain the historic pattern of drainage channels and the sea wall. Explore opportunities for traditional management for grazing and a hay crop.

## Coastal Land – drained enclosure

### 19th - 20th century rectilinear drained enclosure (CDF-dr)

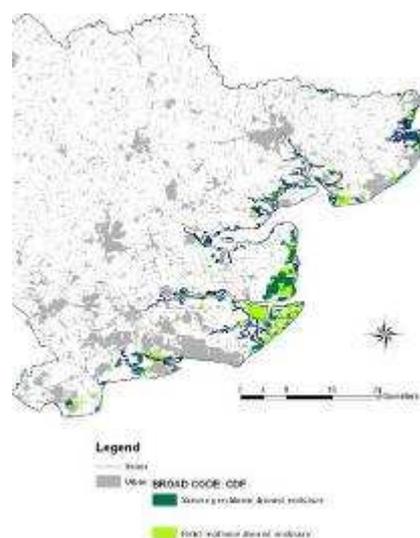
GIS Legend



<b>Total Area:</b>	6578.35 ha	1.78%	<b>Relict Area:</b>	4343.85 ha	<b>Av. Polygon:</b>	7.61 ha
<b>Polygons:</b>	865	2.04%	<b>Relict Polygons:</b>	337	<b>Occurrence:</b>	<b>Rare</b>



*Google Earth image of rectilinear drained enclosure on Dengie Marsh, Southminster*



#### **Description:**

This type is a rectilinear form of field drainage along the coast. These may be nested within an area of earlier sinuous drainage, or have overwritten the prior drainage patterns, or be a new area of drained reclaimed land.

#### **Time-Depth:**

Some rectilinear drained enclosures are seen on the 1st edition OS maps and it is assumed that this style of drainage ditch dates from just before the first maps through to the present day.

#### **Degree of change:**

**40% loss.** Moderate change, mostly through loss by mineral extraction and built development.

#### **Factors influencing change:**

Changes to field drainage pattern, mineral extraction, coastal development, and managed retreat (breaching the sea wall to let tidal water through, allowing formation of salt marsh).

#### **Capacity to absorb change:**

**Low.** This type would be adversely affected by major developments. Some small-scale change can be accommodated within the grain of the landscape where the overall pattern of drains is not affected.

#### **Management:**

Maintain the historic pattern of drainage channels and the sea wall. Explore opportunities for traditional management for grazing and a hay crop.

## Coastal Land – managed wetland

### Unimproved marine marsh or brackish fen (CMW-mm)

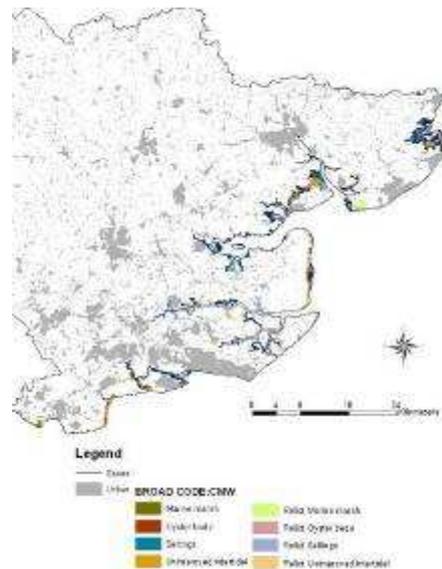
GIS Legend



<b>Total Area:</b>	134.02 ha	0.04%	<b>Relict Area:</b>	218.02 ha	<b>Av. Polygon:</b>	26.9 ha
<b>Polygons:</b>	5	0.01%	<b>Relict Polygons:</b>	10	<b>Occurrence:</b>	<b>Very rare</b>



*Google Earth image of unimproved marine marsh at Fingringhoe*



#### **Description:**

Unimproved marine marsh covers areas of coastal saltmarsh that exhibit no discernable forms of enclosure or improvement. This type of saltmarsh was dynamic, eroding as sea levels rose at estuary mouths with new areas of marsh forming behind as the estuary morphology 'rolled-over'. Their current distribution has been fixed by the presence of sea walls protecting the reclaimed land behind. Brackish fen consisted of areas of marsh where tidal water extended inland. These areas are poorly drained. Little remains as these marshes were mostly reclaimed and enclosed in the 18th century or later. These areas may preserve remains from prehistoric peoples at a time when sea levels were lower and these areas were inland.

#### **Time-Depth:**

These natural areas have retreated or advanced as sea levels have changed over time. These areas may have their origins at any period from prehistory to the current time.

#### **Degree of change:**

**62% loss.** Major change, through coastal erosion, as the presence of sea walls behind the marsh has prevented the formation of new marsh. Reclamation for agriculture or industry has also had an impact.

#### **Factors influencing change:**

Coastal erosion, drainage to reclaim the land for agriculture, coastal development, mineral extraction or industry.

#### **Capacity to absorb change:**

**Low.** The rarity and nature of this type means that it is unable to absorb any change.

#### **Management:**

This type is extremely rare and has important value for nature and wildlife. These areas may also preserve archaeological remains from the prehistoric period. Management should seek to minimise the effects of erosion, as has been done through 'managed retreat' where the sea wall has been breached and new saltmarsh allowed to develop.

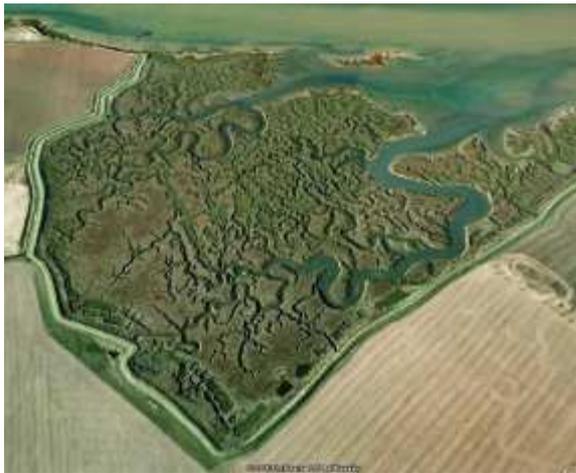
## Coastal Land – managed wetland

### Saltings (CMW-sa)

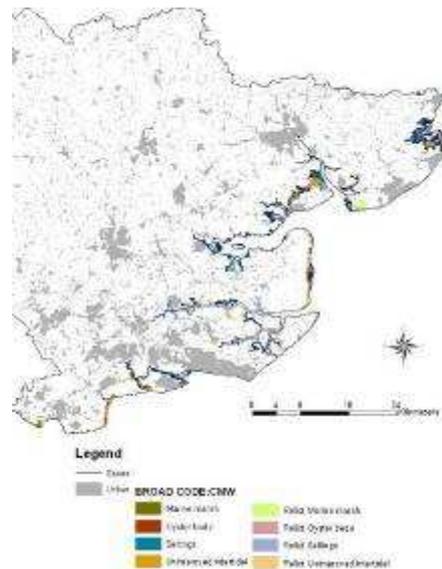
GIS Legend



<b>Total Area:</b>	715.06 ha	0.19%	<b>Relict Area:</b>	80.41 ha	<b>Av. Polygon:</b>	20.43 ha
<b>Polygons:</b>	35	0.08%	<b>Relict Polygons:</b>	8	<b>Occurrence:</b>	<b>Very rare</b>



*Google Earth image of saltings in the Blackwater estuary at Mundon*



### **Description:**

Saltings are an estuarine and coastal type of inter-tidal mudflat. These areas have been exploited since prehistory for salt production and oyster beds. Saltings were dynamic, eroding as sea levels rose at estuary mouths with new areas forming behind as the estuary morphology 'rolled-over'. Their current distribution has been fixed by the presence of sea walls protecting the reclaimed land behind.

### **Time-Depth:**

These natural areas have retreated or advanced as sea levels have changed over time. These areas may have their origins at any period from prehistory to the current time.

### **Degree of change:**

**10% loss.** Minor change since the late 19th century. The greatest period of loss was in the 18th to 19th century as land was reclaimed for agriculture.

### **Factors influencing change:**

Coastal erosion, drainage to reclaim the land for agriculture, coastal development, mineral extraction or industry

### **Capacity to absorb change:**

**Low.** The rarity and nature of this type means that it is unable to absorb any change.

### **Management:**

This type is extremely rare and has important value for nature and wildlife. These areas may also preserve archaeological remains from the prehistoric period. Management should seek to minimise the effects of erosion.

## Coastal Land – managed wetland

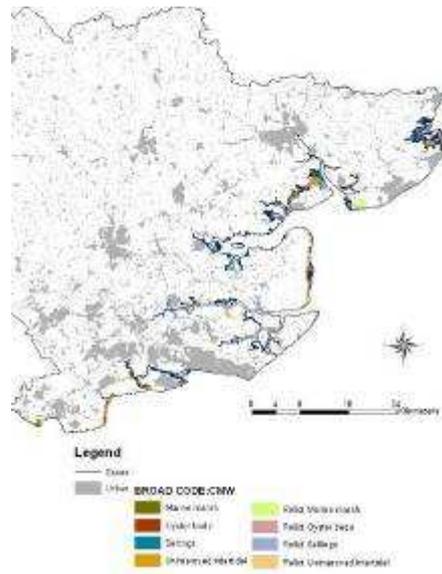
### Sea defences (CMW-sd)

GIS Legend

<b>Total Area:</b>	1290 ha	0.35%	<b>Relict Area:</b>	0 ha	<b>Av. Polygon:</b>	9.28 ha
<b>Polygons:</b>	139	0.33%	<b>Relict Polygons:</b>	0	<b>Occurrence:</b>	<b>Very rare</b>



*Google Earth image of the sea defences at the head of the cut at Beaumont Quay*



### **Description:**

Sea defences consist of solid walls and/or earthworks which were constructed to prevent marine inundation of low lying land. The majority of documented sea defences were constructed from post-medieval times onwards, however at least one line of medieval sea-wall has been excavated on Foulness Island. On Canvey Island, Dutch engineers were brought in during the 17th century to construct sea defences. In some places around the coast, several lines of sea defence can be traced, reflecting successive phases of construction as more of the marshland was reclaimed for agriculture.

### **Time-Depth:**

Documented construction of sea defences dates from the 17th century onwards.

### **Degree of change:**

**0% loss.** This is difficult to quantify, as originally sea walls would have been made of earth and these have been strengthened over time, most recently being rebuilt in concrete, or they were abandoned as further marsh was reclaimed.

### **Factors influencing change:**

Demolition as part of managed retreat with rising sea levels, coastal development, industry and mineral extraction. Abandoned sea defences are vulnerable to agriculture.

### **Capacity to absorb change:**

**Low.** Only essential maintenance and strengthening of the defences, or breaking the sea defence line to enable managed retreat.

### **Management:**

All management of active sea defences is the responsibility of the Environment Agency.

## Coastal Land – managed wetland

### Unimproved intertidal (CMW-ui)

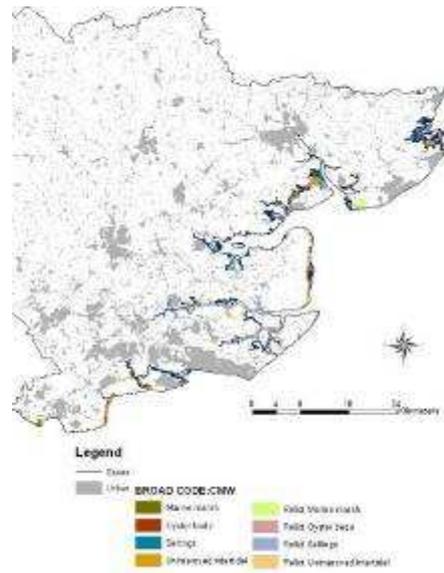
GIS Legend



<b>Total Area:</b>	4390.29 ha	1.19%	<b>Relict Area:</b>	835.54 ha	<b>Av. Polygon:</b>	10.23 ha
<b>Polygons:</b>	429	1.01%	<b>Relict Polygons:</b>	52	<b>Occurrence:</b>	<b>Rare</b>



*Google Earth image of unimproved intertidal to the south of Hamford Water, Thorpe-le-Soken*



#### **Description:**

This type comprises the inter-tidal zone of the Essex coast, excluding any areas of marsh or saltings. This consists of inter-tidal mud, which in places has been shown to overlie prehistoric peat deposits which have preserved the Mesolithic land surface. Their current distribution has been fixed by the presence of sea walls protecting the reclaimed land behind.

#### **Time-Depth:**

These natural areas have retreated or advanced as sea levels have changed over time. These areas may have their origins at any period from prehistory to the current time.

#### **Degree of change:**

**16% loss.** Minor change since the late 19th century.

#### **Factors influencing change:**

Coastal erosion, drainage to reclaim the land for agriculture, coastal development, mineral extraction or industry

#### **Capacity to absorb change:**

**Low.** The rarity and nature of this type means that it is unable to absorb any change.

#### **Management:**

This type is extremely rare and has important value for nature and wildlife. These areas may also preserve archaeological remains from the prehistoric period. Management should seek to minimise the effects of erosion.

## 5.7 SETTLEMENT IN THE ESSEX HLC

### 5.7.1 INTRODUCTION

Settlement HLC types in Essex amount to 14.93% of the land cover, comprising 55,142 hectares. This grouping covers all settlement from farmsteads through hamlets and villages to towns and large urban areas. These are broadly divided into Built-up Areas – Historic and Built-up Areas – modern types. A breakdown of types can be seen in the table below. Religious Institutions and Plotlands are described in detail at the end of this section. For the other types please see the Glossary (Appendix B).

<b>HLC Type</b>	<b>Area</b>	<b>% area</b>	<b>Relict Area</b>	<b>% Relict area</b>
religious institutions	76.31	0.14	3.18	0.01
built-up areas - historic		0.00	39524.9	99.68
built-up areas - urban development	54616.7	99.05		0.00
hospital, school, university	208.13	0.38		0.00
plotlands	240.8	0.44	123.36	0.31
	55141.9		39651.2	

The character of the settlement of Essex is an integral part of the landscape, and has a rich history, reflecting the overall historic character of the landscape. It should be noted that at the time that these HLC types were decided on, settlement was not part of the HLC other than as areas where no other HLC type could be ascribed. Built-up areas – urban development was applied to all settlements from farmsteads up to large urban areas regardless of actual age of origin. Built-up areas – historic was given to many of these same areas as the relict HLC type, and does not reflect an actual loss of that HLC type, or the actual extent of the historic towns. It is the intention, when resources allow, to apply the settlement HLC types developed later for Norfolk within the East of England Regional HLC project, or extend them to relate more specifically to Essex. This will allow different types of rural settlement, such as farmsteads, green-side, or nucleated hamlets and villages, perhaps graded by size such as less than 5 households, to be characterised.

### 5.7.2 FARMSTEADS, HAMLETS AND VILLAGES

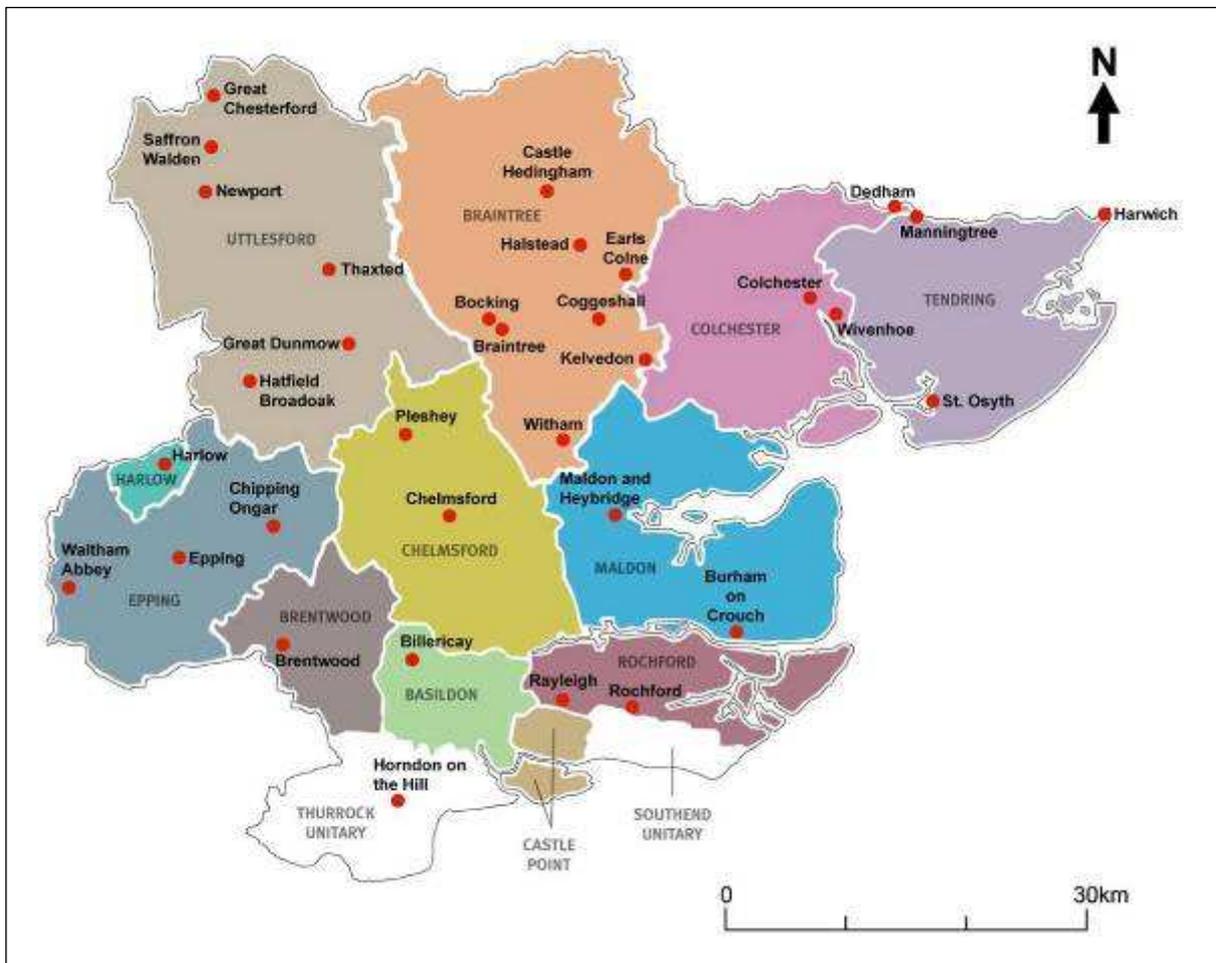
The rural settlement of Essex was integral to and mostly dispersed within the enclosed, agricultural landscape. Rippon (forthcoming) concludes that the dispersed nature of that settlement, rather than the settlements themselves, is part of a tradition which is seen in the archaeological record going back to the Roman and Early Saxon periods. This evidence suggests that settlements shifted location every so often right through to the late medieval period. An example is at Little Oakley where Middle Saxon pottery has been found half way between a Romano-British site and the Domesday Manor of Founton Hall. This contrasts with nucleated villages set within an open-field system of the Midlands type, with farmsteads included in the villages. This form of settlement only occurs in the

northwest corner of Essex, and its origins are thought to lie in a Middle Saxon reorganisation of the landscape and the nucleation of settlements.

Dispersed medieval settlements comprised church/hall complexes, isolated farms, moated sites and small hamlets, the latter often strung out along linear greens. Over time, with a growing population, infilling around and on greens and commons, and between and outwards from properties has led to the formation of hamlets (often with the appellation of End or Green) and villages. Farmsteads are still located within the fields, though a number have been lost as individual farm sizes increased with industrialisation.

### 5.7.3 TOWNS

The towns of Essex have various origins. The Survey of Essex Historic Towns (Medlycott 1999) identified thirty-three historic towns within the county.



*Plan showing the Historic Towns in Essex*

Many of the towns are multi-period in date and some have been occupied more or less continuously since the Late Iron Age or Roman period. However they can be broken down into main period groupings.

Colchester was the pre-eminent Roman town in the area, and the first capital of



the new Roman province of Britannia, before being superseded by London. Other towns were associated with forts as at Great Chesterford and Chelmsford, which had their own defences. At least two towns appear to have had a primarily religious focus (Elms Farm, Heybridge and Harlow). Other towns with Roman predecessors are Billericay, Braintree, Kelvedon, and Great Dunmow.

*Reconstruction of Roman Great Chesterford (©P.Froste)*

They are nearly all at important points on the communications network, and, except for Colchester and Great Chesterford, often take the form of ribbon development along a routeway with little planned internal layout. In most of these there is no evidence for direct continuity from Roman to medieval.

The Saxon towns fall into two groups, those that were founded as *burhs* by Edward the Elder at the beginning of the tenth century as at Maldon, Witham and Colchester; and those that were monastic foundations as at Waltham Abbey and St Osyth. All were on royal estates. Two other towns have Saxon origins; Horndon-on-the-Hill which had a mint in the 11th century, and Newport, which is mentioned by name in the Domesday Book. The Domesday Book shows that many of the medieval towns were thriving villages by the end of the Saxon period, although not necessarily urban in character.

The medieval towns of Essex are mainly small market towns, but within that group there are variations on this theme. There are castle towns such as Castle Hedingham, Colchester, Rayleigh and Pleshey, with the castles built in the years following the Conquest; towns associated with large monastic institutions as at St Osyth and Hatfield Broad Oak, towns which were founded as a commercial venture (usually by the ecclesiastical authorities), including Chelmsford and Braintree which



*Pleshey*

were founded by the Bishop of London, as well as Epping and Brentwood, and several port towns which include the international port of Harwich, Maldon, and the smaller fishing-ports like Burnham-on-Crouch, Manningtree and Wivenhoe. A number of the medieval towns failed to develop in the later medieval and early post-medieval period, and are now no more than villages, whilst others prospered and grew.

Essex is fortunate in the quality of its historic towns, particularly in regard to the built environment. Many still retain a definite 'historic' identity and show clearly the stages of their development through the centuries. There are a number of key themes in the development of urbanism in Essex, much of which is applicable to towns elsewhere in England, including the transition period from Late Iron Age settlement to Roman towns, the deliberate founding of towns as commercial ventures in both the Saxon and medieval periods, the mechanics and physical manifestation of patronage, the relationship with the rural hinterland, the processes of economic decline, and the role of the agricultural and fishing based industries (including the cloth trade, malting, saffron-growing and boat-building), and the post-medieval and industrial heritage development within the towns, the latter ranging from the traditional industries such as malting, to the electronic and defence industries dominant in Chelmsford.

In the mid-19th century the construction of the railway lines facilitated an influx of tourism from London and the development of the coastal resorts of Southend, Clacton, Walton and Frinton. This was part of the development of an increasingly urban and industrial landscape along the Thames estuary east of London, which continued through the 20th century.



*Southend-on-Sea*

A feature of the early 20th century was the establishment of Plotlands. These were plots of land set out along an area of access roads, on which a house could be built. Not all the plots were taken up, and some areas were then used as a basis for new towns, including Basildon and South Woodham Ferrers. The plotlands, although once extensive throughout south Essex, do not feature particularly highly on the HLC, partly because they post-date the 1st edition OS map and partly because the majority have been subsumed into modern urban areas.



*Reconstruction of the Basildon plotlands (©P.Froste)*

## Settlement

### Religious Institution (BUH-ri)

GIS Legend



<b>Total Area:</b>	76.31 ha	0.02%	<b>Relict Area:</b>	3.18 ha	<b>Av. Polygon:</b>	5.09 ha
<b>Polygons:</b>	15	0.04%	<b>Relict Polygons:</b>	2	<b>Occurrence:</b>	<b>Very Rare</b>



*Waltham Abbey*



*Distribution of Religious Houses  
(Sourced from EHER)*

#### **Description:**

This type was intended to show areas of land such as monasteries and retreats, which could date from medieval through to modern. Only two such (Thremhall and Latton Priors) have been recorded on the HLC. Others have not been recognised (such as Leigh Priory) or were considered too small during the mapping process. The figures for relict polygons therefore should not be seen as accurate, and the degree of change can not be calculated. This HLC type has also been used for some cemeteries and graveyards around churches as shown on the 1st edition OS maps, though not consistently.

#### **Time-Depth:**

All examples pre-date the 1st edition OS maps.

#### **Degree of change:**

See note above in the Description.

#### **Factors influencing change:**

Changes as a result of new development or change of use.

#### **Capacity to absorb change:**

**Low.** Religious Institutions may have fragmentary or sub-surface remains. Others exist within farm complexes. Any development could destroy or alter the setting of these remains. Cemeteries and graveyards are particularly sensitive.

#### **Management:**

Any remains of religious houses should be preserved and opportunities explored for interpretation of the historical significance. Many are already protected through Scheduled Monument or Listing designation. Cemeteries and graveyards which are no longer in use should be preserved where possible.

## Settlement

### Plotland (BUM-pl)

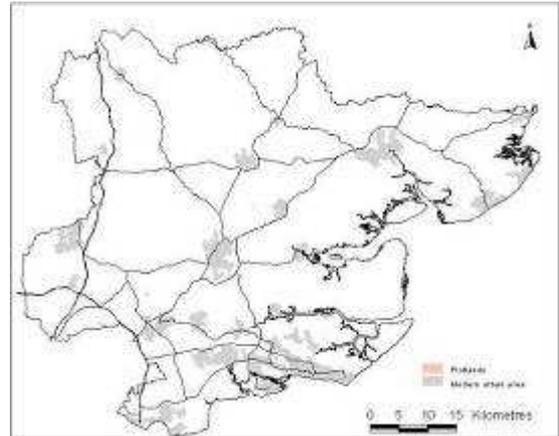
GIS Legend



<b>Total Area:</b> 240.8 ha	0.07%	<b>Relict Area:</b> 120.25 ha	<b>Av. Polygon:</b> 7.77 ha
<b>Polygons:</b> 31	0.07%	<b>Relict Polygons:</b> 15	<b>Occurrence:</b> <b>Very Rare</b>



*Former Plotlands at Dunton,  
now a nature reserve*



#### **Description:**

A distinctive form of settlement pattern of a dwelling within an allotment of land, the settlement being set out in regular rectilinear patterns. Often the dwellings are arranged along the road with long land strips, set off from the road, forming the allotment. These started in the late 19th century, peaking in the 1920 to 1930's and reflect the social and economic climate of the inter-war years. Some of the plots had been set out but were not taken up and built upon so they have remained undeveloped. Others have been absorbed into new development. Because of these factors, they do not show up within the HLC.

#### **Time-Depth:**

Plotlands specifically date to the 1920 to 1930's.

#### **Degree of change:**

**33% loss.** Moderate change,

#### **Factors influencing change:**

Redevelopment and incorporation into urban areas.

#### **Capacity to absorb change:**

**Low.** This is a unique land type which can accommodate some rebuilding of properties.

#### **Management:**

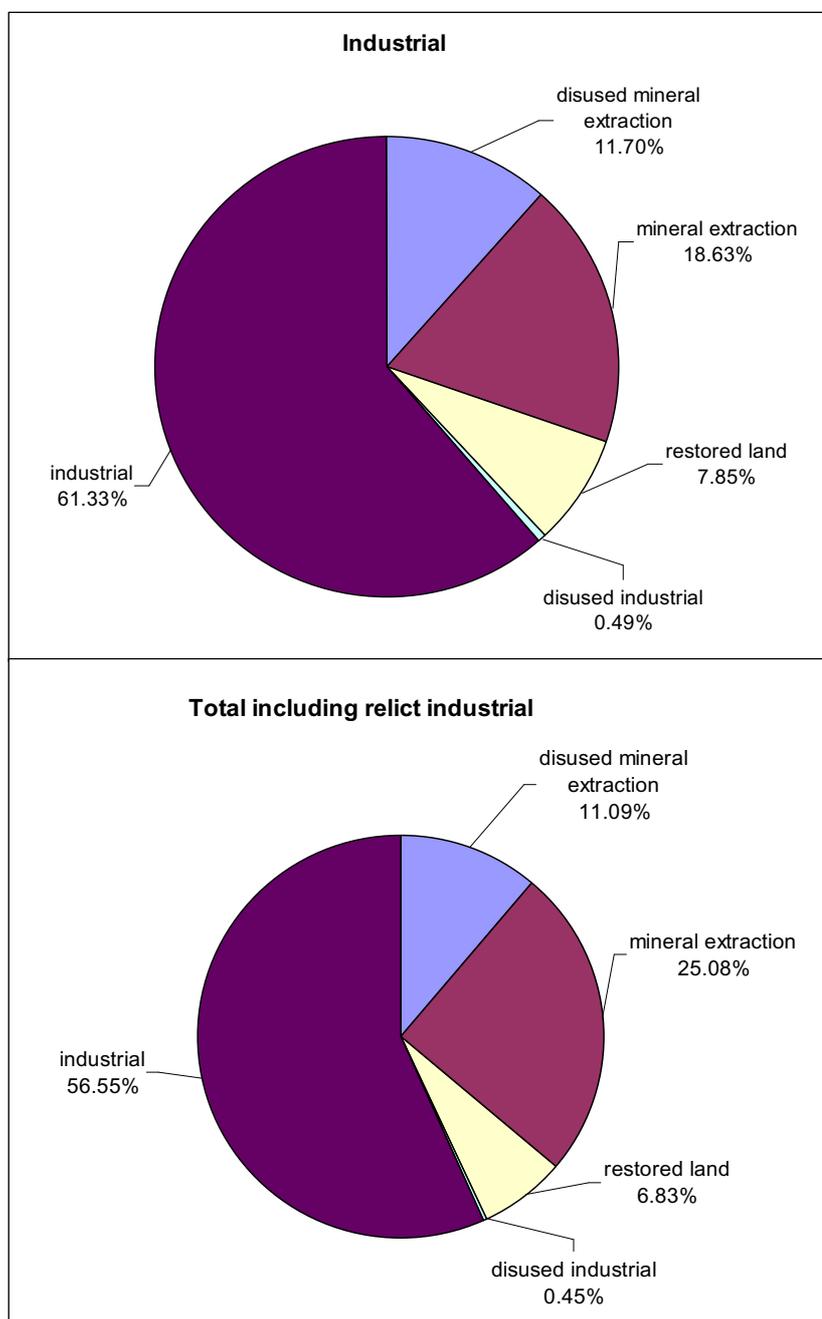
Road lines and property boundaries define this type and should be preserved. Opportunities should be explored for interpretation.

## 5.8 INDUSTRY IN THE ESSEX HLC

### 5.8.1 INTRODUCTION

Industrial HLC types in Essex amount to 2.22% of the land cover, comprising 8195.45 hectares. This grouping covers both industrial types (62%) and mineral extraction types (38%). These are broken down in the table and pie-charts below:

<b>HLC Type</b>	<b>Area</b>	<b>% area</b>	<b>Relict Area</b>	<b>% Relict area</b>
disused mineral extraction	959.09	11.70	86.43	7.03
mineral extraction	1526.74	18.63	836.8	68.07
restored land	643.5	7.85		0.00
disused industrial	40.14	0.49	2.47	0.20
industrial	5025.98	61.33	303.69	24.70
	8195.45		1229.39	



Although Essex lacks the heavy industries of Midland and Northern England it still played an important role, supplying agricultural goods to local centres of population and London throughout the 18th and 19th century. A whole host of industries were developed to serve the needs of farming including milling, malting and brewing. A number of rural foundries were also established to provide agricultural tools and equipment. Fast and efficient communications were essential for the transportation of perishable goods and this led to the improvement of navigable rivers, the creation of turnpike trusts and in the mid-19th century, the introduction of the railways.



*Hartford End Mill, Felsted*

Chalk quarrying and brick earth extraction were also important industries. The manufacture of lime in kilns for building purposes and as a fertiliser was common throughout the county both inland, and beside the many creeks and estuaries. Fishing, oyster farming and boat building also employed large numbers around the coastal zone.

Explosive manufacture and military testing were of great importance in the county from the 16th century onwards. The Royal Gunpowder Mills at Waltham Abbey have been described by English Heritage as being the most important site for the manufacture of explosives in Europe.



*Royal Gunpowder Mills  
Waltham Abbey*



In

The 20th century witnessed massive industrial development along the southern boundary of the county beside the Thames based upon cement manufacture, power generation and oil refining.

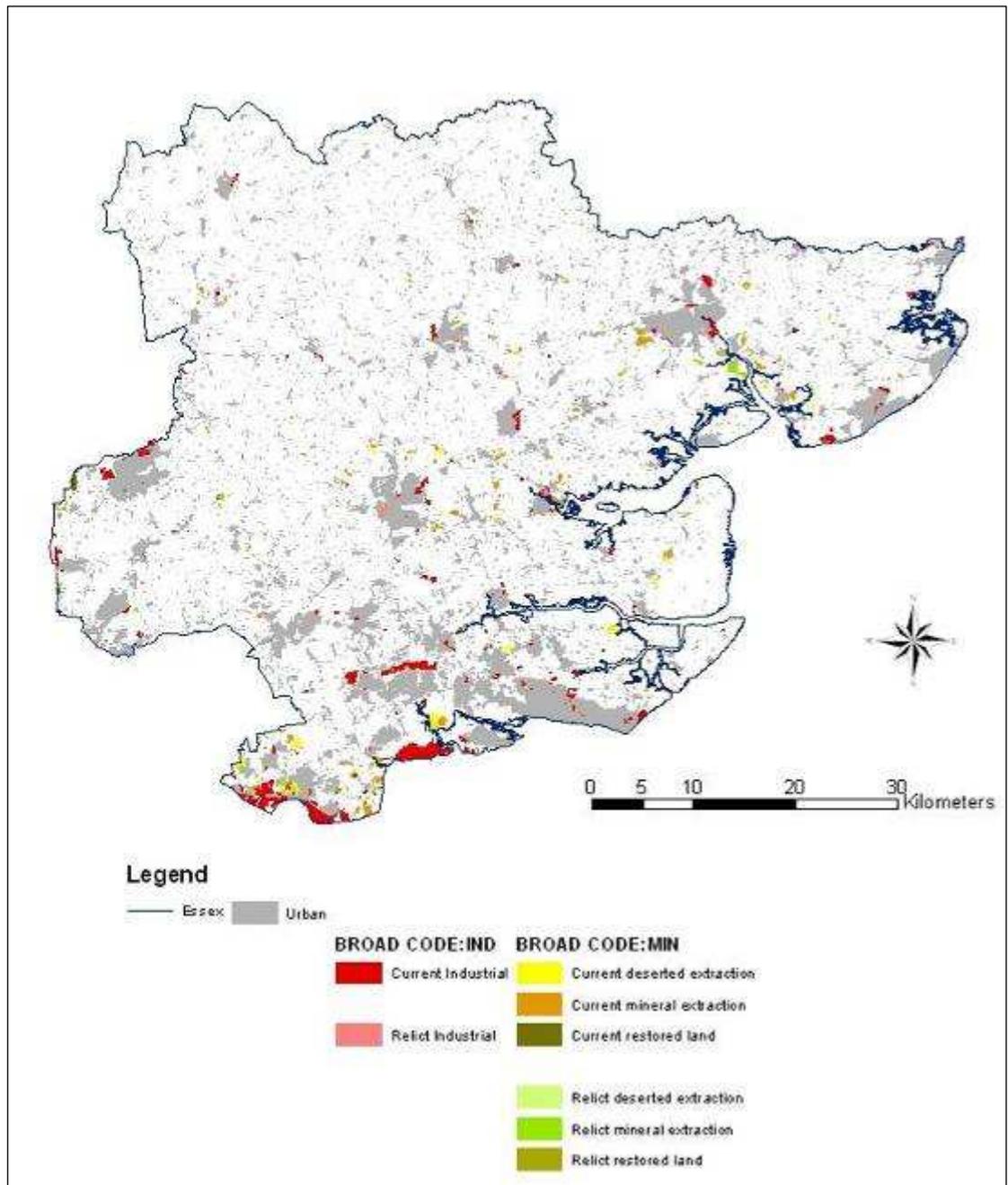
recent years, Chelmsford and Colchester have emerged as nationally important centres for electrical and mechanical engineering, although many of these industries are now in decline and several have ceased altogether.

*Shell Haven oil refinery, Thurrock*

These industrial complexes often formed part of a much broader social landscape which included houses, schools, hospitals and leisure facilities. Several purpose-built settlements were planned around large factories, the classic example being Silver End.



*Silver End model village and  
Crittall's factory*



*Plan showing distribution of Industrial and Mineral HLC types*

## Industrial - Minerals

### Mineral extraction (MIN-me)

GIS Legend



<b>Total Area:</b> 1526.74 ha	0.41%	<b>Relict Area:</b> 836.8 ha	<b>Av. Polygon:</b> 13.88 ha
<b>Polygons:</b> 110	0.26%	<b>Relict Polygons:</b> 95	<b>Occurrence:</b> <b>Very Rare</b>

### Disused Mineral extraction (MIN-de)

GIS Legend



<b>Total Area:</b> 959.09 ha	0.26%	<b>Relict Area:</b> 86.43 ha	<b>Av. Polygon:</b> 12.14 ha
<b>Polygons:</b> 79	0.19%	<b>Relict Polygons:</b> 12	<b>Occurrence:</b> <b>Very Rare</b>

### Restored land (MIN-rl)

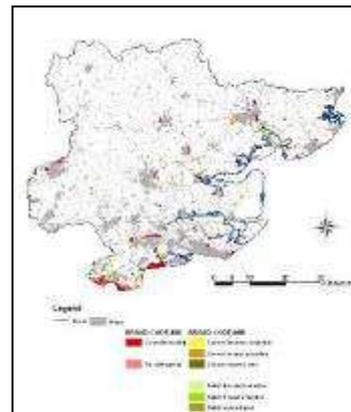
GIS Legend



<b>Total Area:</b> 643.5 ha	0.17%	<b>Relict Area:</b> 0 ha	<b>Av. Polygon:</b> 13.99 ha
<b>Polygons:</b> 46	0.11%	<b>Relict Polygons:</b> 0	<b>Occurrence:</b> <b>Very Rare</b>



*Mineral extraction near Chelmsford*



### **Description:**

These HLC types cover chalk, sand and gravel (aggregate), and brickearth extraction. These are transient types, moving from extraction to use as landfill and then full restoration. New extraction sites continue to be identified and brought into use as old ones are worked out. The distribution reflects the occurrence of the geological deposits.

### **Time-Depth:**

Mapped examples are from the 19th and 20th centuries.

### **Degree of change:**

Major change during the life of each site.

### **Factors influencing change:**

Growing demand for additional housing and new roads creates an increased demand for aggregates. Once worked out, there is a demand for landfill sites or new reservoirs.

### **Capacity to absorb change:**

**Low/High.** Whilst in operation, no change is possible. Once worked out there are a variety of major changes which can be absorbed.

### **Management:**

Where there is no requirement for restoration of the land surface following extraction, opportunities to manage old extraction sites for nature conservation or leisure can be explored.

## Industrial - Industry

### Disused Industrial (IND-di)

GIS Legend 

<b>Total Area:</b> 40.14 ha	0.01%	<b>Relict Area:</b> 2.47 ha	<b>Av. Polygon:</b> 6.69 ha
<b>Polygons:</b> 6	0.01%	<b>Relict Polygons:</b> 4	<b>Occurrence:</b> <b>Very Rare</b>

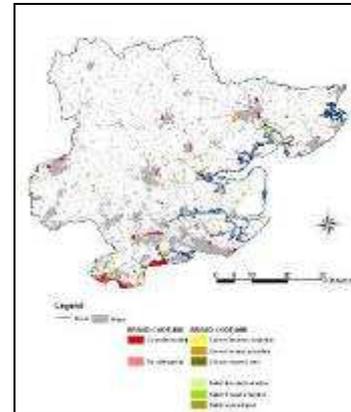
### Industrial (IND-in)

GIS Legend 

<b>Total Area:</b> 5025.98 ha	1.36%	<b>Relict Area:</b> 303.69 ha	<b>Av. Polygon:</b> 10.72 ha
<b>Polygons:</b> 469	1.11%	<b>Relict Polygons:</b> 45	<b>Occurrence:</b> <b>Rare</b>



*Royal Gunpowder Mills, Waltham Abbey*



#### **Description:**

These HLC types cover a variety of current and disused industrial sites, ranging from small industries such as mills and brick works, to the large petro-chemical industries found along the Thames estuary.

#### **Time-Depth:**

The mapped examples date from the 19th and 20th centuries.

#### **Degree of change:**

Minor change is indicated by the HLC mapping, but it is apparent that major changes and loss of certain older industries has been balanced by the growth of out-of-town industrial estates and the expansion of the petro-chemical industries along the Thames estuary.

#### **Factors influencing change:**

Disused and older industrial sites are at risk of redevelopment which may involve conversion and/or demolition.

#### **Capacity to absorb change:**

**Low/High.** Historic industrial sites preserved for public access can absorb only minor change. Most other industrial areas have the potential to absorb major change.

#### **Management:**

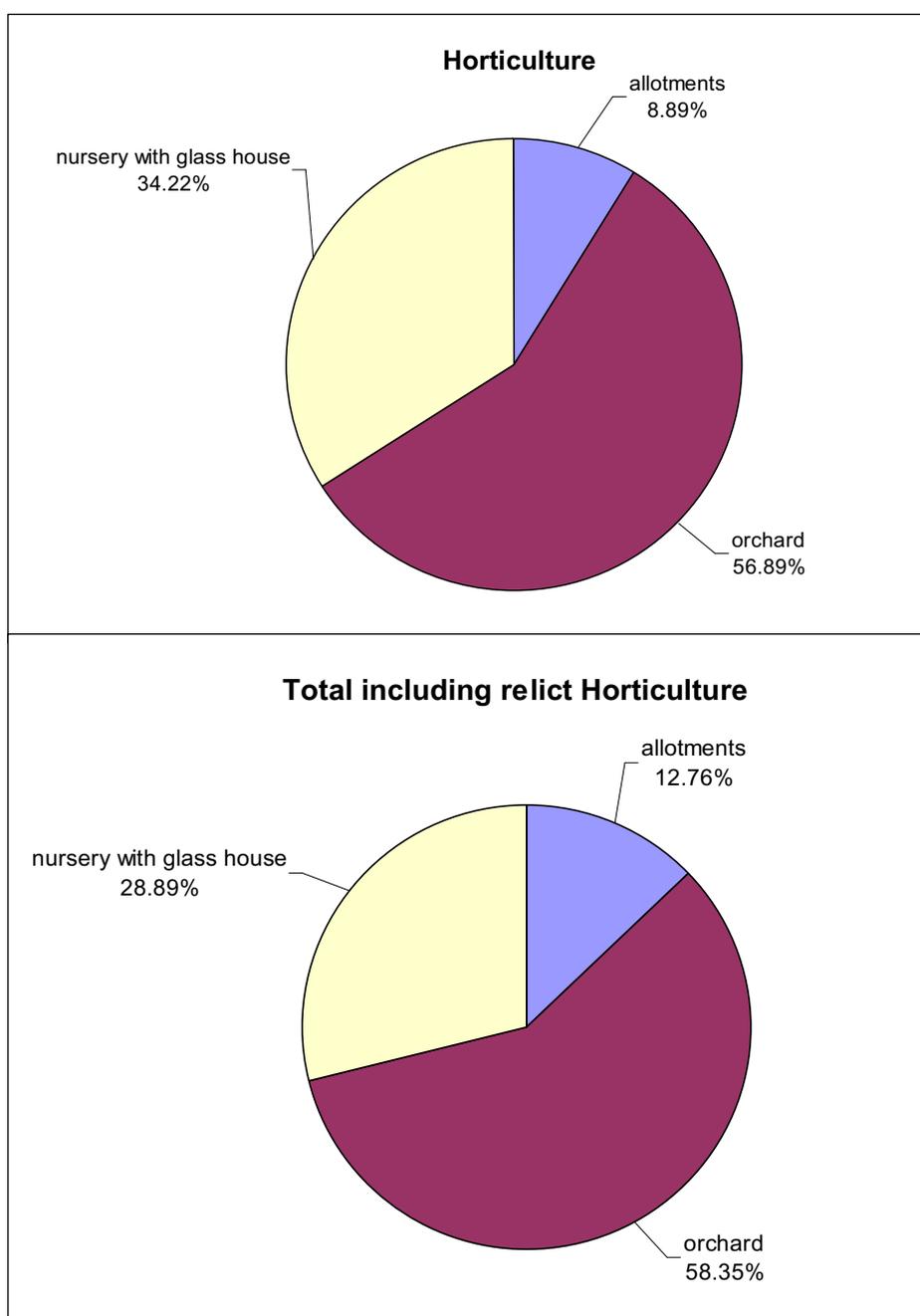
Older industries are disappearing and need to be recorded before they are completely lost. Essex County Council is carrying out thematic surveys of the different industries. Some older industrial sites have been preserved and opened to the public.

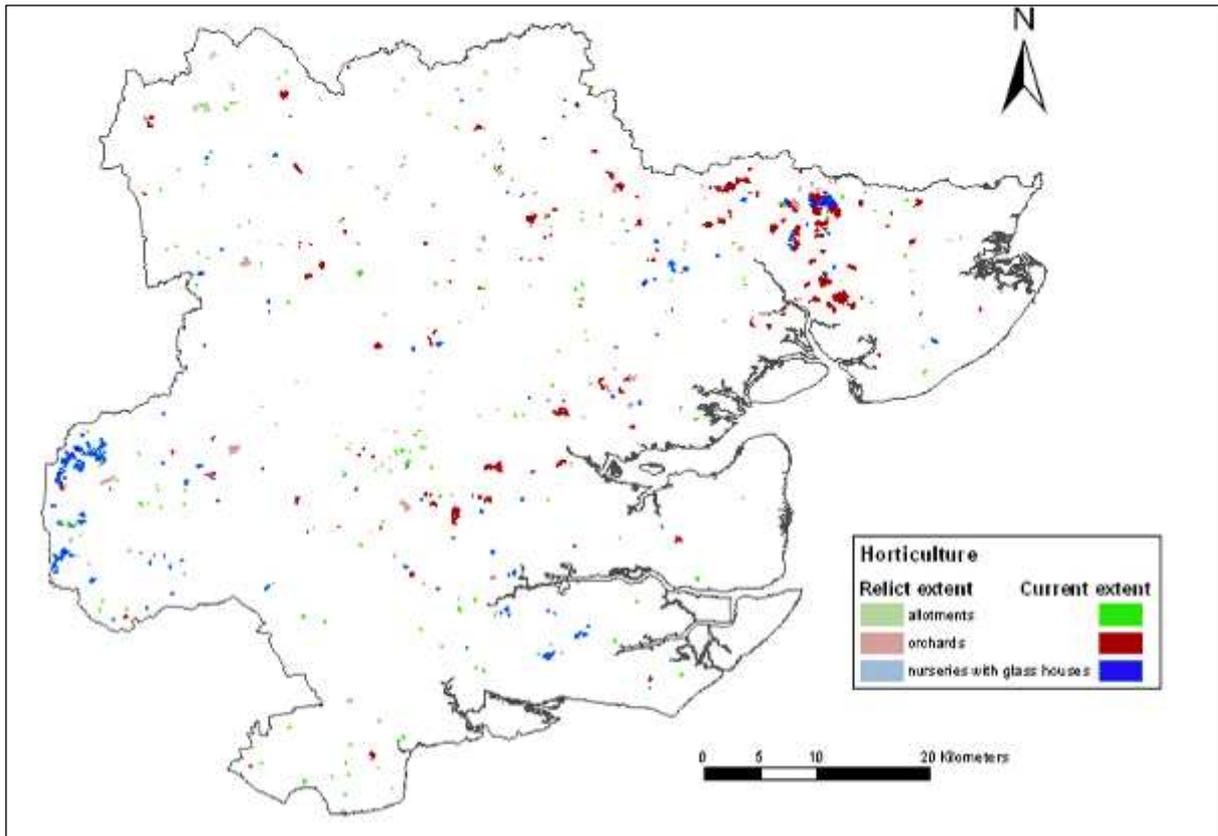
## 5.9 HORTICULTURE IN THE ESSEX HLC

### 5.9.1 INTRODUCTION

Horticulture HLC types in Essex amount to 0.66% of the land cover, comprising 2447.1 hectares. This grouping covers market gardening, fruit growing and local authority provided allotments land uses. These are broken down in the table and pie-charts below:

<b>HLC Type</b>	<b>Area</b>	<b>% area</b>	<b>Relict Area</b>	<b>% Relict area</b>
allotments	217.53	8.89	156.61	32.32
orchard	1392.19	56.89	318.44	65.71
nursery with glass house	837.38	34.22	9.58	1.98
	2447.1		484.63	





*The extent of Horticulture types in Essex*

### 5.9.2 ALLOTMENTS

The earliest allotments in Essex were in Loughton, Great Chesterford, Brighlingsea, Springfield and Littlebury, and were provided between 1813 and 1829 for the relief of the industrious poor. These were parish based and administered by the church or the manor. More allotments followed during the mid 19th century.



*GoogleEarth image of allotments at Saffron Walden*

The beginning of allotments as we know them today lies in the General Enclosure Act of 1845. This provided for land to be set aside for allotment use, and aimed to give protection for small proprietors and the public. The landless poor were to be provided with “field gardens”, no more than a quarter of an acre in size. The Allotment Act 1887 obliged local authorities to provide allotments where there was a demand. The Small Holdings and Allotments Act 1907 and 1908 imposed responsibility on parish, urban district and borough councils to provide allotments, and consolidated previous acts.

Food shortages in the First World War increased the demand for allotments. This led to the use of railway-owned land as allotments, often allocated to railway workers. After the War the demand for allotments went down, so the number decreased, many allotments going for building land. The Second World War

brought more food shortages, rationing and the 'Dig for Victory' campaign. All sorts of land was brought into food production. The demand for allotments continued to rise after the War, but so did the demand for building land. This led to the re-establishment of the Allotments Advisory Board which recommended providing 4 acres of allotments per 1,000 head of population. The Allotment Act 1950 followed this.

Allotments numbers then declined sharply, slowing down in the 1970's before an increase in the rate of decline as local authorities sold off allotment land for housing development at high prices. The current interest in food safety and where food comes from has increased the demand for allotments again.

### 5.9.3 ORCHARDS



*GoogleEarth image of commercial orchards at Tiptree*

Orchards have a long history. At one time every farmstead would have had a small orchard growing apples, pears, cherries and bush-type soft fruit such as gooseberries and currants, providing enough for family needs. Commercial fruit growing became established from the late 19th century onwards as farmers, such as Arthur Charles Wilkin of Tiptree, Sir Walter Gilbey of Elsenham, and others, moved away from unprofitable farming to fruit production.

Returning soldiers from the First World War were invited to apply for smallholdings where they grew fruit, but they lacked the technical knowledge and there was no centralised facilities so many dropped out. Another land settlement exercise started in the 1930's with the option of fruit growing, which included collection of produce and packaging. The industry gradually expanded reaching its peak in the mid 1950's, but has declined since. Many orchards have been grubbed up, helped by grants, to make space for development or other land use.

### 5.9.4 NURSERIES

Market gardening to supply London started in the early 18th century along the fertile soils beside the Thames. As London expanded, market gardening was pushed further out. The establishment of the railways led to the expansion of market gardening to new areas around Chelmsford, Tiptree and Colchester, and in the Lea Valley. By 1900, there were glass houses in the Lea Valley in both Hertfordshire and Essex. The continuing expansion of London over areas on the Hertfordshire side of the border meant the Essex side continued to grow. The demand for fresh produce increased during the two World Wars. The area of land covered with glass houses reached their peak in the 1950's with 1200 acres under glass. Since then, the area devoted to glass houses has declined considerably.



*GoogleEarth image of nurseries at Roydon*

## Horticulture

### Allotments (HOR-ag)

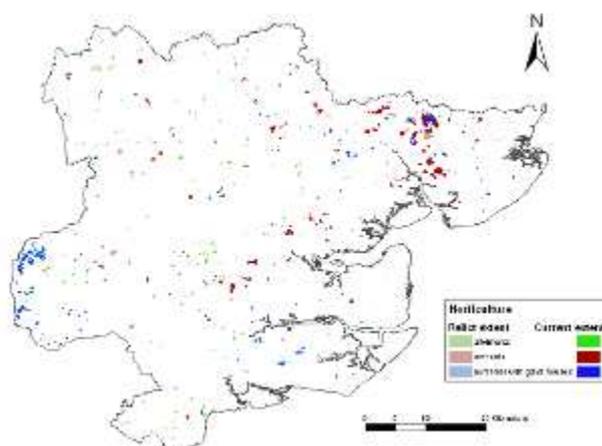
GIS Legend



<b>Total Area:</b> 217.53 ha	0.06%	<b>Relict Area:</b> 156.61 ha	<b>Av. Polygon:</b> 1.58 ha
<b>Polygons:</b> 138	0.33%	<b>Relict Polygons:</b> 63	<b>Occurrence:</b> <b>Very Rare</b>



*GoogleEarth image of Broomfield Allotments*



### **Description:**

This HLC type covers parcels of land rented or leased to individuals to grow vegetable and soft fruit crops. This is a land use type, and may fill or be part of an earlier enclosure type. They are usually located within or around the fringes of built-up areas.

### **Time-Depth:**

Allotments originated in the early 19th century, peaked in the mid 20th century but then steadily declined. There is a current surge in interest and allotments continue in use today.

### **Degree of change:**

**42% loss.** Moderate change, mostly due to modern housing developments. This disguises the fact of growth followed by decline between the earliest and most recent map sources.

### **Factors influencing change:**

Housing or commercial development.

### **Capacity to absorb change:**

**Low.** This type is distinctive and has little capacity to absorb change without losing its character.

### **Management:**

This type is actively managed by local authorities and other private owners.

## Horticulture

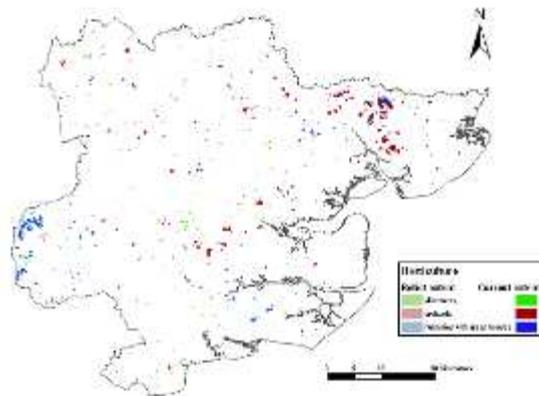
### Orchard (HOR-at)

GIS Legend

<b>Total Area:</b>	1392.19 ha	0.38%	<b>Relict Area:</b>	318.44 ha	<b>Av. Polygon:</b>	7.73 ha
<b>Polygons:</b>	180	0.42%	<b>Relict Polygons:</b>	96	<b>Occurrence:</b>	<b>Very Rare</b>



*GoogleEarth image of orchards at Great Baddow*



### **Description:**

This HLC type covers orchards, either large commercial concerns, or small orchards attached to larger homes or estates. Private orchards may occupy a field where the edge remains consistent through time, but use within can vary between orchard or cleared as a paddock. The earlier commercial orchards are defined by the pre-existing field systems in which they are planted. Later commercial orchards often remove prior boundaries and redefine field edges with new boundaries.

### **Time-Depth:**

Commercial orchards date from the late 19th century onwards, but may be planted within earlier pre-existing field boundaries. Private orchards may predate the earliest map sources.

### **Degree of change:**

**19% loss.** Apparent minor change, but this figure disguises the rapid growth in the number of orchards from the late 19th century in to the 20th century, followed by a significant decline since the mid 20th century, occurring between the earliest and most recent map sources used.

### **Factors influencing change:**

Clearance for other agricultural crops, or built development.

### **Capacity to absorb change:**

**Low.** The specific use of orchards means that there is little capacity to absorb change without losing its character.

### **Management:**

Old fruit trees have a biodiversity interest as well as the historic interest, and management should seek to preserve this.

## Horticulture

### Nursery with glass house (HOR-ng)

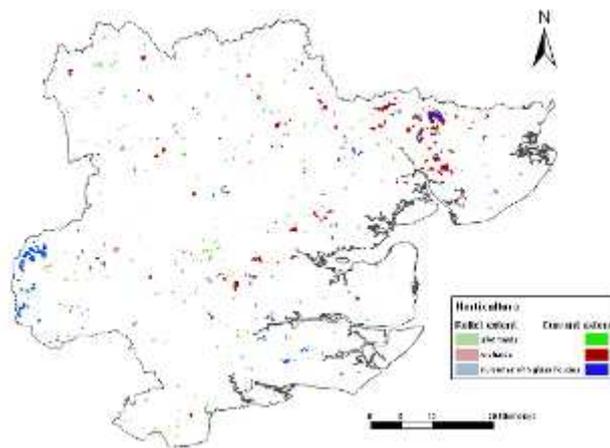
GIS Legend



<b>Total Area:</b>	837.38 ha	0.23%	<b>Relict Area:</b>	9.58 ha	<b>Av. Polygon:</b>	5.62 ha
<b>Polygons:</b>	149	0.35%	<b>Relict Polygons:</b>	2	<b>Occurrence:</b>	<b>Very Rare</b>



*GoogleEarth image of  
greenhouses and polytunnels at Nazing  
in the Lea Valley*



#### **Description:**

This HLC type covers nurseries and greenhouses for market gardening. The main distribution of this type is in the Lea Valley in the west of the county. Greenhouses used to be constructed of glass but have mostly been replaced with other materials or polytunnels. They may sit within an earlier field boundary pattern, or may have replaced it.

#### **Time-Depth:**

These date from the late 19th/early 20th centuries.

#### **Degree of change:**

**1% loss.** This type is currently stable, but from small beginnings expanded to a peak in the mid 20th century before declining again, all within the period between the earliest and most recent map sources used.

#### **Factors influencing change:**

Loss to modern development.

#### **Capacity to absorb change:**

**Low.** The distinctive nature of this type means that there is little capacity to absorb change without losing its character.

#### **Management:**

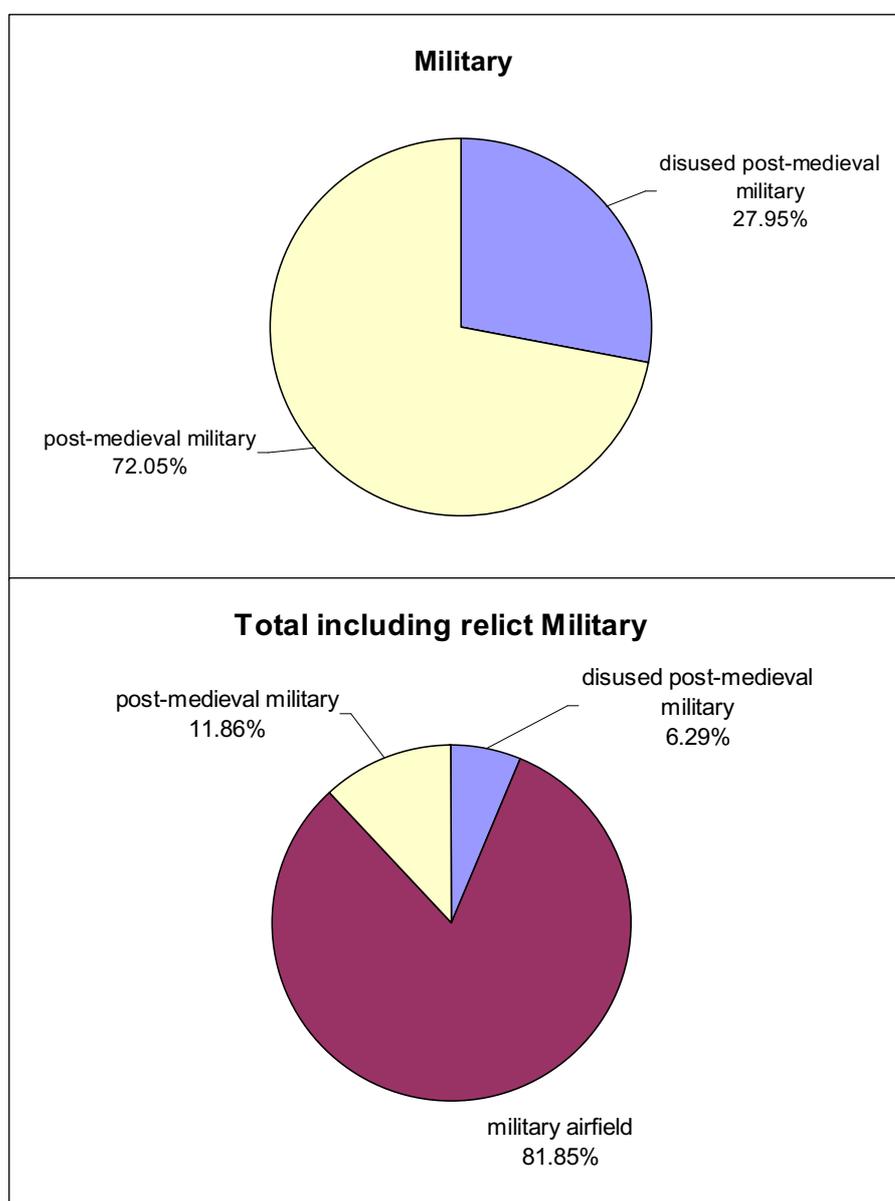
This is in the hands of the growers, whose management is tailored to the demands for produce.

## 5.10 MILITARY IN THE ESSEX HLC

### 5.10.1 INTRODUCTION

Military HLC types in Essex amount to 0.17% of the land cover, comprising 637.66 hectares. This grouping covers military airfields and other features that are recognised in the landscape. These types are broken down in the table and pie-charts below:

<i>HLC Type</i>	<i>Area</i>	<i>% area</i>	<i>Relict Area</i>	<i>% Relict area</i>
disused post-medieval military	178.25	27.95	65.23	2.02
military airfield		0.00	3169.71	97.98
post-medieval military	459.41	72.05		0.00
	637.66		3234.94	





*Tilbury Fort*

Military remains in Essex are diverse, reflecting the long history of defence in Britain. Defences in medieval times consisted of castles and town defences, which are not recorded as part of the HLC. The focus of defence changed in the mid-16th century, when Henry VIII was threatened with invasion from the continent. He responded by ordering the construction of a chain of coastal forts and blockhouses, which included blockhouses at West and East Tilbury, St Osyth, Brightlingsea, East

Mersea and Harwich. Only the one at

East Mersea survives. With each subsequent threat, these defences were enlarged and re-armed. Civil War defences were erected around Colchester in the 1640's, and construction of Tilbury Fort started in 1670 around the old blockhouse.

The Napoleonic threat led to the construction of small forts, called Martello Towers along the coast between 1808 and 1812. Of 11 originally built, six survive. At this time a Redoubt was built at Harwich and three batteries were constructed around the town. A battery was built at Coalhouse Point. Fortifications were also built at Chelmsford to support the coastal defences and protect the route to London.

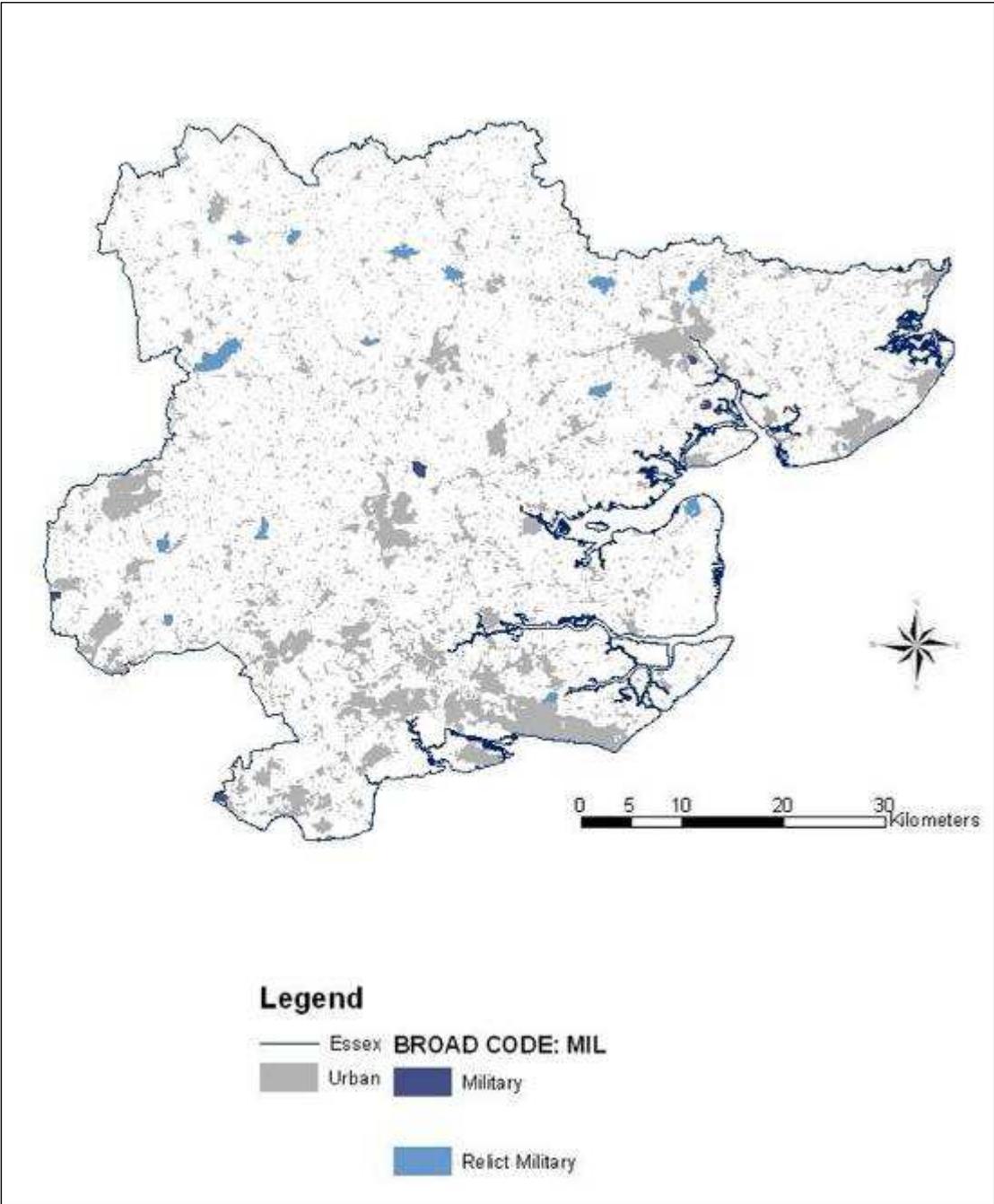
The 19th century saw further defence construction, with Coalhouse Battery being replaced with a massive new fort. It quickly became obsolete and a new battery was built at East Tilbury. Beacon Hill Fort at Harwich was also improved. At the end of the 19th century the focus switched from coastal defences to the defence of London. This led to the construction of the London Defence Positions, mostly to the south of London, but one Redoubt was built at North Weald.



*Coalhouse Fort*

World War One, from 1914 to 1918, affected the Essex landscape to a massive degree with a huge expansion in manufacturing and supply with factories, ordnance works, railways and roads being constructed. Army camps were planted in the fields; and airfields and anti-aircraft gun sites were constructed with fighter stations being set up in the path of the German Zeppelins and bombers on their way to drop their bombs on London. One survives at Stow Maries, south of Maldon, with many of its original buildings still intact. The Royal Gunpowder Factory at Waltham Abbey had been manufacturing explosives since the 17th century and was deemed one of the most important sites in the country. Every means of defending it had to be employed. By 1918 the site was ringed by gun emplacements on the surrounding hills, some of which still survive. At sea, Coastal Motor Boats (CMBs) were increasingly used. One CMB station was set up at Osea Island on the River Blackwater where many of the original features and buildings remain.

World War Two presented different problems, with the potential for German tanks being landed and able to travel across the flat lands of Essex, largely free of natural anti-tank obstacles, towards London or the industrial Midlands. During the summer of 1940, multiple lines of anti-tank defence were constructed, with strong points around towns and villages, including pillboxes, gun emplacements, road barriers and anti-aircraft gun sites. Three concentric lines were constructed in Essex running approximately north-south, plus a back line parallel to the coast, and the coast itself was another defence line. The defence lines used rivers as anti-tank defences but where these were absent, huge ditches were dug across the landscape. The main defences consisted of concrete pillboxes sited every 200/300 yards with interlocking fields of fire.



## Military

### Disused post-medieval military (MIL-dm)

GIS Legend



<b>Total Area:</b>	178.25 ha	0.56%	<b>Relict Area:</b>	65.23 ha	<b>Av. Polygon:</b>	178.25 ha
<b>Polygons:</b>	1	0.00%	<b>Relict Polygons:</b>	3	<b>Occurrence:</b>	<b>Very Rare</b>

### Post-medieval military (MIL-pm)

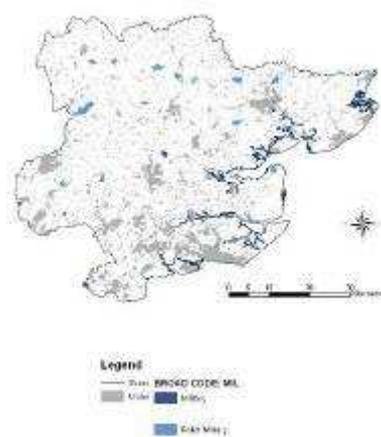
GIS Legend



<b>Total Area:</b>	459.41 ha	0.12%	<b>Relict Area:</b>	0 ha	<b>Av. Polygon:</b>	65.63 ha
<b>Polygons:</b>	7	0.02%	<b>Relict Polygons:</b>	0	<b>Occurrence:</b>	<b>Very Rare</b>



*East Tilbury Battery*



#### **Description:**

These HLC types cover defence sites, either still in use or disused, with the exception of airfields (see MIL-ma below). These generally consist of Napoleonic sites or sites of the First and Second World Wars, such as firing ranges, military camps, research establishments, and other military establishments. Some of these, including Colchester Garrison and Harwich Redoubt, occur within urban areas and are therefore not included within the HLC. Others, such as the Royal Gunpowder Works at Waltham Abbey are included in Industrial (see IND-in), and Tilbury and Coalhouse Forts are included in Historic earthworks (see EAR-he under Miscellaneous Landuse). Foulness was used as a research establishment but wasn't recognised during the digitisation.

#### **Time-Depth:**

17th to 20th centuries.

#### **Degree of change:**

**29% loss.** Minor change, many sites are preserved in the landscape as tourist attractions, or have been returned to agriculture, or been redeveloped.

#### **Factors influencing change:**

As MOD land is downsized or mothballed, former sites are seen as suitable for housing development.

#### **Capacity to absorb change:**

**Medium/High.** Most sites have the potential to absorb development.

#### **Management:**

Any opportunities for assessment and interpretation should be explored for remaining derelict and unmanaged sites.

## Military

### Military airfield (MIL-ma)

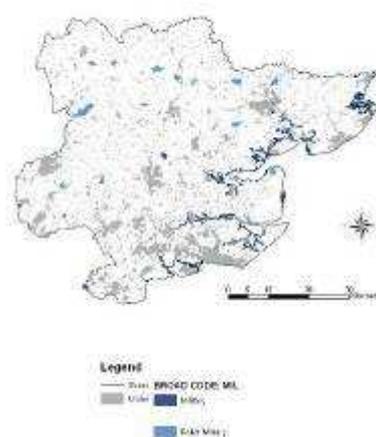
GIS Legend



<b>Total Area:</b>	252.57 ha	0.07%	<b>Relict Area:</b>	3169.71 ha	<b>Av. Polygon:</b>	121.91 ha
<b>Polygons:</b>	1	0.00%	<b>Relict Polygons:</b>	25	<b>Occurrence:</b>	<b>Very Rare</b>



*Buildings at Stow Maries WWI Aerodrome*



### **Description:**

This HLC type covers former military airfields. The first airfields were from the First World War, when there were 27 landing grounds in Essex. Most were grass fields which reverted to agriculture after the war and do not appear on the HLC. The buildings at Stow Maries have survived almost undisturbed to this day. North Weald Bassett continued in use through the Second World War and it has now been partly redeveloped, though it houses an airfield museum, and is used by private aircraft and glider clubs. Southend Airport also started life in the First World War, becoming RAF Rochford in the Second World War, then was handed back to Southend in 1946. Wormingford returned to agriculture, but became RAF Wormingford in the Second World War before being returned to agriculture again. There were 16 Second World War airfields in Essex, of which RAF Stansted became a civil (now international) airport, and RAF Wethersfield continued in use as a military airfield until 1996, when it transferred to the [Ministry of Defence Police and Guarding Agency](#).

### **Time-Depth:**

These all date from the 20th century.

### **Degree of change:**

Major change. Some still exist and are used as farm strips, or have become civil airports. Others have been incorporated back into agriculture, or opened up for redevelopment as 'brownfield' sites.

### **Factors influencing change:**

Classification as 'brownfield' sites allowing redevelopment, or reversion to agriculture.

### **Capacity to absorb change:**

**Medium.** There is potential for moderate change to be accommodated without loss of the essential character.

### **Management:**

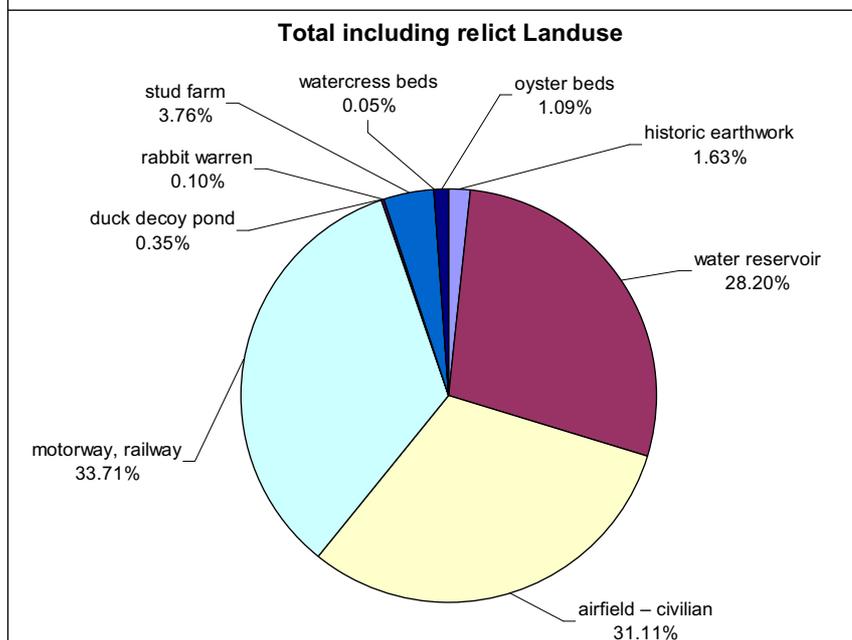
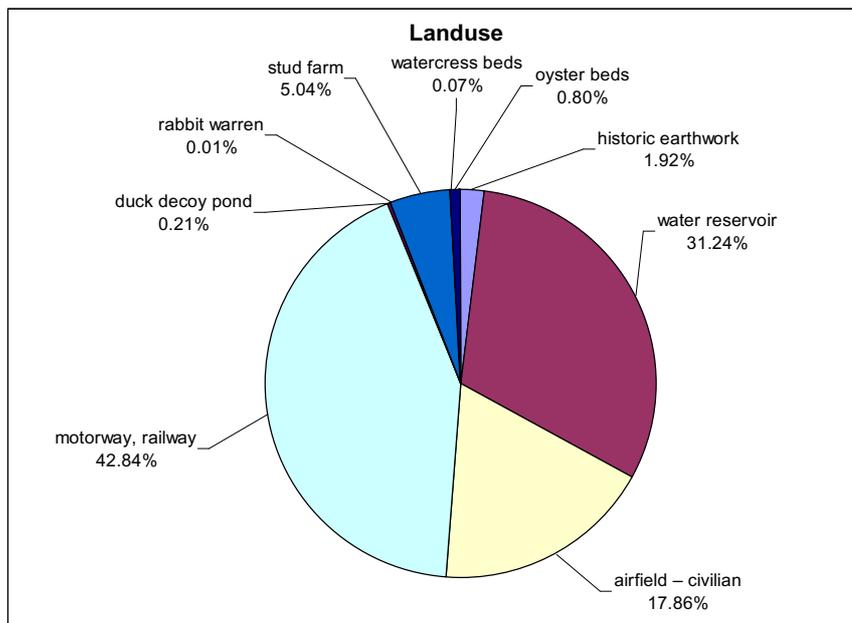
Any opportunities for assessment and interpretation should be explored for remaining derelict and unmanaged sites.

## 5.11 LAND USE IN THE ESSEX HLC

### 5.11.1 INTRODUCTION

Land Use HLC types in Essex amount to 2.09% of the land cover, comprising 7727.44 hectares. This grouping covers miscellaneous landuses of a small scale, which are loosely divided into communication types, water-based management types and land-based management types. These types are broken down in the table and pie-charts below:

<b>HLC Type</b>	<b>Area</b>	<b>% area</b>	<b>Relict Area</b>	<b>% Relict area</b>
airfield – civilian	1380.02	17.86	1847.34	69.82
motorway, railway	3310.76	42.84	186.29	7.04
historic earthwork	148.62	1.92	20.27	0.77
rabbit warren	1.08	0.01	8.9	0.34
stud farm	389.8	5.04		0.00
duck decoy pond	16.16	0.21	20.47	0.77
watercress beds	5.3	0.07		0.00
oyster beds	61.68	0.80	51.8	1.96
water reservoir	2414.02	31.24	510.91	19.31
	<b>7727.44</b>		<b>2645.98</b>	



### 5.11.2 Communications

Communications HLC types comprise major roads, railways and airfields. It should be noted that the mapping of these types is not consistent. Managed waterways should also have been an HLC type but weren't included, though they will be added at a future date. A description for this is included below for information.

#### ***Canals and Navigable rivers***

##### The Colne Navigation:

The Colne was tidal and navigable up to Colchester, which has Late Iron Age and Roman origins. The charter giving Colchester jurisdiction over the river down to St Osyth was given by Richard I. This was followed by Acts in 1623, to maintain the river, and in 1698 to cleanse the navigation from the Hythe to Wivenhoe. Further Acts for maintenance and improvements followed in 1719, 1740, 1781 and 1811. After 1719, a lock was put in, creating a basin at The Hythe. A proposal for the construction of a ship canal was deposited in 1842 but never came to fruition. Instead, the navigation was widened and deepened, and the single lock was removed, reverting the Colne to a tidal navigation.

##### Chelmer and Blackwater Navigation:

This river improvement scheme was proposed with the aim of making the Rivers Chelmer and Blackwater navigable between Maldon and Chelmsford, primarily for the purpose of transporting timber. An Act was passed in 1766 to enable this, but the proposals were opposed by Maldon and foundered through lack of funds. As Chelmsford expanded the demand for coal grew. A new scheme was proposed which bypassed Maldon and work started in 1793. By 1796 the navigation was in use between Heybridge and Little



*Cuton Lock, Springfield*

Baddow, and the stretch to Springfield Basin was opened in 1797. Commercial activity started to decline after the construction of the railways, but continued right up to 1972. Since then, leisure use has been encouraged. In 1991 the entire length of the navigation and its surrounding land was designated as a Conservation Area.

##### The Stort Navigation:

The aim of this river improvement scheme was to give Bishop's Stortford in Hertfordshire a navigable link to the River Lee. The Stort forms much of the county boundary between Essex and Hertfordshire, though some portions of the navigation are entirely within Herts. An Act was passed in 1759 to enable this but failed to gain funding. A second Act was passed in 1766. Work started later that year and the navigation opened in 1769. The navigation carried a considerable amount of traffic, but its use declined sharply after construction of the railway to Bishop's Stortford in 1842. The Stort is now managed by British Waterways and is well used by leisure craft.

### Mardyke Canal:

This was originally a stream with a navigable lower section, which served the Purfleet Powder Magazine from 1760. Various proposals were put forward over the next century to make the Mardyke navigable up to Childerditch, but none of them came to fruition. Despite this, in the 1870's, 'dumpy' barges navigated the Mardyke and drainage ditches between Purfleet and the farms in Orsett Fen, trading manure from the stables in London for corn and fodder for the London horses.

### Mundon or White House Farm Canal:

This was a private canal which was dug by the landowner in 1832. It linked White House Farm with Southey Creek in the Blackwater estuary. A basin was dug near the house. It was probably used to transport agricultural goods and remained in use until the 1880's, when the canal ceased to be navigable.

### The Stour Navigation:

The Stour forms the county boundary between Essex and Suffolk. The first proposals to improve the river came in 1634, but the first Act for improvements to make the Stour Navigable between Sudbury and Harwich came in 1705, and it had opened by 1709. A further Act followed in 1781. The prime goods carried were bricks, malt, grain, flour and coal. The bricks came from brickworks served by the Ballingdon Cut, dug in the 1830's and situated to the south of the river opposite Sudbury. Commercial use declined and came to an end in 1937. The navigation is now managed for leisure use.

## **Railways**

The railway network in Essex started with Acts of Parliament in 1836, authorising the construction of the London to Colchester and London to Cambridge lines, both being constructed in the late 1830's and early 1840's. This was followed by the Colchester to Ipswich section in 1846, the Witham to Braintree and Witham to Maldon lines in 1848, the Marks Tey to Sudbury line in 1849, the Harwich branch line and the Tilbury and Southend line in 1854, the Stratford to Loughton branch line in 1856, the Colne Valley and Halstead line in 1860-63, and the Tendring Hundred railway to Walton in 1863-67. The Loughton to Ongar line was opened in 1865, and the Bishops Stortford to Braintree line in 1869. The Clacton line opened in 1882. The 'New Essex' lines from Shenfield to Southend, Southminster and Maldon opened in 1888/9. The final lines to be constructed were the Kelvedon to Tollesbury line in 1904-07, and the Elsenham to Thaxted line in 1913



*The line of the former Witham to Maldon railway*

The 'Beeching' cuts in the 1960's led to the closure of many branch lines, but Essex remains well served by three lines operating from London Liverpool Street. These are: the main line to Norwich through Shenfield, Chelmsford and Colchester, including branch lines to Harwich, Clacton and Walton, Sudbury,

Braintree, Southend and Southminster; the line to Cambridge which travels up through the west of the county; and a link via Stratford to a separate line from London Fenchurch Street through south Essex to Southend and Shoeburyness via Grays or Basildon. The most recent rail line to open was a link from Stansted Airport to the Cambridge line in 1991. The Colne Valley Railway survives as a tourist attraction. The Bishops Stortford to Braintree line survives in part as a recreational route known as the Flich Way.

## **Roads**

Roads have a very long history, with evidence of prehistoric trackways from excavation and as cropmarks. The Romans first introduced a formal road network in Essex, to link their forts and settlements, and to give faster access inland. The old A120 from Colchester westwards through Braintree, Great Dunmow and Takely was on the line of Stane Street, a Roman Road constructed along the route of an Iron Age trackway. The old A12 from London up to Colchester through Chelmsford was on the line of another Roman Road, as was the A130 from Chelmsford to Braintree.

These roads were not maintained after the end of the Roman period and many Roman roads were lost within the landscape. In 1555 a statute laid down that roads should be maintained by labour from the parishes the road traversed, but this resulted in an inconsistent and generally poor condition of the roads. Turnpikes were established from 1695, and turnpike trusts were formed from 1706. Sections of road were enclosed by tollgates and a levy charged which went towards the road maintenance. Further Acts followed through the 18th century. Maintenance of non-turnpiked roads continued to be the responsibility of the parish until the General Highway Act of 1835 relieved them of this duty.

The Essex Turnpikes started with scattered stretches of road along the route from London to Colchester, and other stretches from Colchester to Langham, and at Bulmer. Additional stretches of roads were added with successive Acts, until the whole road from Shenfield to Harwich was covered, as well as Chelmsford to Sudbury, Margaretting to Maldon, Colchester to Langham, Shenfield to Billericay and Rayleigh, Lexden to Halstead and Sible Hedingham, Sible Hedingham to Haverhill, Halstead to Gosfield, High Garrett to Halstead and Bulmer Tye, Marks Tey to Braintree, Little Waltham to Great Dunmow and Great Hallingbury, Langham to Stratford, Maldon to Braintree, Epping to Chelmsford, Harlow Bush Common to Stump Cross in Great Chesterford. There were many turnpikes in the south of Essex, but these are more difficult to follow, partly because there were so many, and because they were taken over late in the turnpike process. The late 18th and early 19th centuries added Billericay to Tilbury, Hadleigh to Stifford Bridge, Tarpots to South Benfleet, Brentwood to Tilbury Fort, Billericay to Horndon-on-the-Hill, Stanford Bridge to Purfleet, and Rawreth to Battlesbridge and Chelmsford.



*GoogleEarth image of Boreham Interchange on the A12*

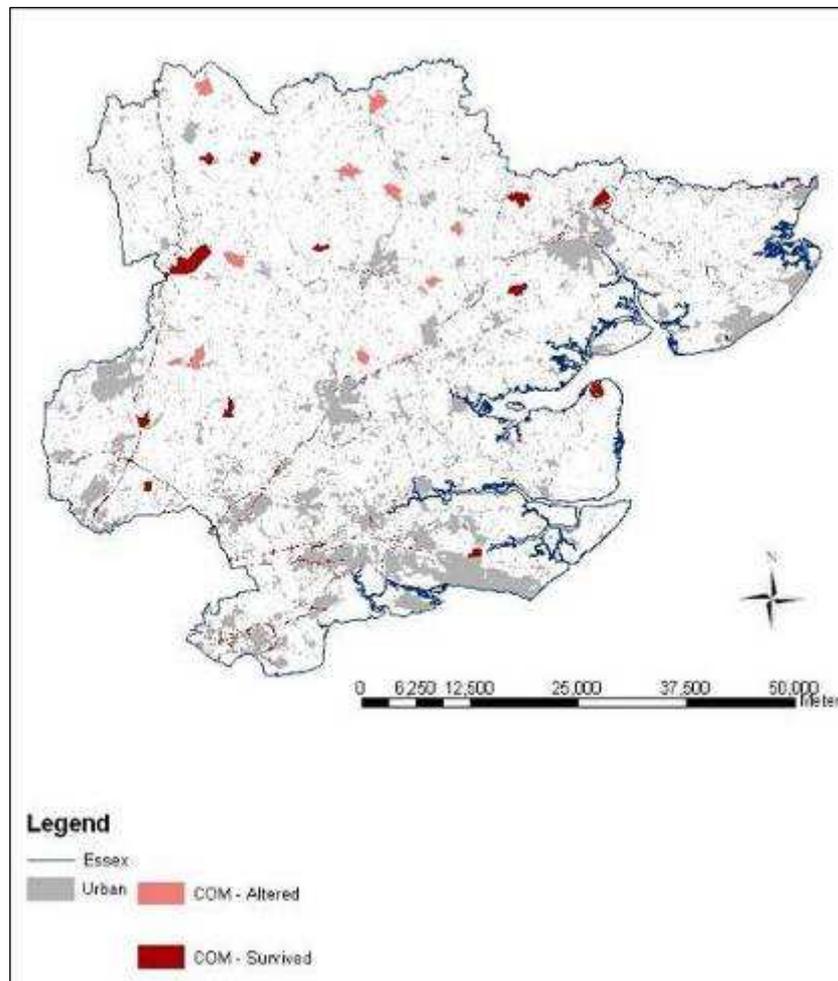
Over this period some roads went out of use whilst other roads were established. Road improvements have continued up to the present day, with bypasses, road straightening and widening, and the construction of motorways and dual carriageways. Two motorways touch on Essex: the M11 which goes up the west side of the county, and the M25 which cuts through part of the south-west corner of the county.

**Airfields**

Airfields range from large, commercial airports, through modern military airfields, disused military airfields now used by private plane and glider clubs, down to private farm grass strips. Southend Airport had its origins as a First World War landing ground. Stansted Airport, London’s third airport, was built in the Second World War, as was Stapleford Flight Centre, which is a private airport offering training for commercial and private pilots. The former World War Two airfields at Ridgewell and Wormingford are both used by gliding clubs. There are also numerous farm strips for light planes and microlights.



*GoogleEarth image of Stapleford Flight Centre*



## Land Use - Communications

### Airfield - civilian (COM-ap)

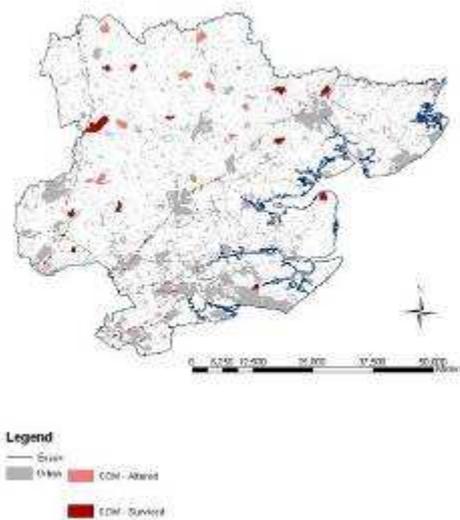
GIS Legend



<b>Total Area:</b>	1380.02 ha	0.37%	<b>Relict Area:</b>	1847.34 ha	<b>Av. Polygon:</b>	98.57 ha
<b>Polygons:</b>	14	0.03%	<b>Relict Polygons:</b>	27	<b>Occurrence:</b>	<b>Very Rare</b>



*GoogleEarth image of Stansted Airport*



#### **Description:**

This HLC type covers modern civilian airports and airfields, and includes farm grass landing strips where recognised. Formal airfields comprise runways and associated hangars & buildings, but can lack a distinct margin, as the runways and areas around were cleared from prior field systems or parkland. These airfields may have had military or civilian origins.

#### **Time-Depth:**

20th/21st centuries.

#### **Degree of change:**

**57% loss.** Mostly reflects loss of previous military airfields back to agriculture or other use.

#### **Factors influencing change:**

Often prior airfields are reused, the runways forming the basis for a new field system, or provide the form for a forest plantation, or other agricultural use. The hangars and buildings may be re-used as industrial or commercial buildings or areas.

#### **Capacity to absorb change:**

**High.** Disused airfields may be classified as 'brownfield' sites allowing mineral extraction, or redevelopment, or may revert to agriculture.

#### **Management:**

Modern airfields may retain elements of their military origins which may give opportunities for display and interpretation.

## Land Use - Communications

### Motorway and Railway (COM-mr)

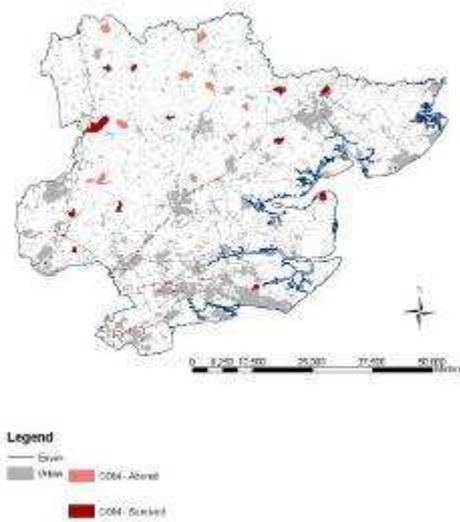
GIS Legend



<b>Total Area:</b>	3310.76 ha	0.90%	<b>Relict Area:</b>	186.29 ha	<b>Av. Polygon:</b>	11.74 ha
<b>Polygons:</b>	282	0.66%	<b>Relict Polygons:</b>	26	<b>Occurrence:</b>	<b>Very Rare</b>



*GoogleEarth image of the A12 and London to Colchester railway at Rivenhall*



#### **Description:**

This HLC type covers major roads and railways lines, road interchanges, and railway sidings, which have had a significant impact on the landscape. Although roads have a long history, this type is concerned with the modern infrastructure of the 20th/21st centuries. The railway network developed in 19th century but suffered cuts in the mid 20th century.

#### **Time-Depth:**

19th to 20th/21st centuries.

#### **Degree of change:**

**5% loss.** Minor change, mostly reflecting the loss of some of the railways.

#### **Factors influencing change:**

Road improvement schemes can completely realign or obliterate the former line of road.

#### **Capacity to absorb change:**

**High.** Stretches of bypassed major roads left from road improvement schemes may still be used for local traffic, or may be down-graded to a bridle way, or returned to agricultural use, or opened for development.

#### **Management:**

Abandoned railway lines can still be a major feature in the landscape. The Colne Valley line is managed as a heritage railway. Parts of the Braintree to Bishops Stortford line and Maldon to Witham line are now managed as public footpaths. Opportunities to open up and interpret other abandoned lines should be investigated.

## Land Use - Communications

### Waterways (COM-ww)

GIS Legend



**Total Area:** Not yet available

**Relict Area:** Not available

**Av. Polygon:**

**Polygons:** Not yet available

**Relict Polygons:** Not available

**Occurrence:**



No distribution map available yet

*Colne Navigation at Wivenhoe*

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#### **Description:**

This HLC type covers navigable waterways. As yet these haven't been defined within the Essex HLC, but they are described above.

#### **Time-Depth:**

Tidal navigations date back to Late Iron Age and Roman times. The main impetus to extend the navigable range of rivers in Essex was from the 18th century.

#### **Degree of change:**

N/A.

#### **Factors influencing change:**

Dredging, marina development

#### **Capacity to absorb change:**

**Low.**

#### **Management:**

Existing navigations are being managed for leisure use. Opportunities for interpretation of the commercial and industrial origins of these should be explored.

### 5.11.3 Land-based Land Use

Land-based Land Use HLC types comprise historic earthworks, rabbit warrens and stud farms. These are summarised below:

## Land Use – Land-based

### Historic Earthwork (EAR-he)

GIS Legend



<b>Total Area:</b>	148.62 ha	0.04%	<b>Relict Area:</b>	20.27 ha	<b>Av. Polygon:</b>	4.50 ha
<b>Polygons:</b>	33	0.08%	<b>Relict Polygons:</b>	2	<b>Occurrence:</b>	<b>Very Rare</b>

#### **Description:**

This type covers large scale historic monuments which are definable on a landscape scale. They date from any archaeological or historic period. They may be designated as Scheduled monuments, and managed to preserve them for the future.

#### **Factors influencing change:**

Major developments can affect setting; agricultural damage.

#### **Capacity to absorb change:**

**Low.** These sites are being preserved for public benefit into the future and even minor change could impact on the overall character.

### Rabbit Warren (MIS-rw)

GIS Legend



<b>Total Area:</b>	1.08 ha		<b>Relict Area:</b>	8.90 ha	<b>Av. Polygon:</b>	
<b>Polygons:</b>	1		<b>Relict Polygons:</b>	1	<b>Occurrence:</b>	<b>Very Rare</b>

#### **Description:**

Rabbit warrens are systems of man-made earthworks constructed to accommodate rabbits as a source of food. They were constructed in both medieval and post-medieval times, and some have survived as a relict feature to the present day.

#### **Factors influencing change:**

Modern agriculture, transport infrastructure, mineral extraction and built development.

#### **Capacity to absorb change:**

**Low.** This type is extremely rare and even minor change could impact on its overall character.

### 20th century Stud Farm (MIS-st)

GIS Legend



<b>Total Area:</b>	389.80 ha	0.11%	<b>Relict Area:</b>	20.27 ha	<b>Av. Polygon:</b>	4.50 ha
<b>Polygons:</b>	36	0.08%	<b>Relict Polygons:</b>	2	<b>Occurrence:</b>	<b>Very Rare</b>

#### **Description:**

This type covers post 1950's landscape type of modern stud farms. These are often distinguished by a new enclosure pattern with distinctive horse training arenas, trotting tracks, stable blocks, and tree shelterbelts.

#### **Factors influencing change:**

Reversion back to agriculture, built development, and transport infrastructure.

#### **Capacity to absorb change:**

**High.** These sites are able to absorb major change whilst still retaining many of the distinctive features.

## 5.11.4 Water-based Land Use

Water-based Land Use HLC types comprise duck decoy ponds, oyster beds, watercress beds and reservoirs. These are summarised below

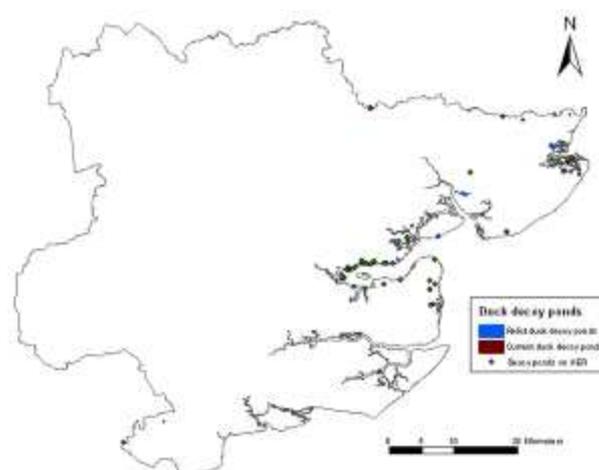
### Land Use – Water- based

#### Duck decoy pond (MIS-dd)

GIS Legend



<b>Total Area:</b>	16.16 ha	0.00%	<b>Relict Area:</b>	20.47 ha	<b>Av. Polygon:</b>	1.80 ha
<b>Polygons:</b>	9	0.02%	<b>Relict Polygons:</b>	7	<b>Occurrence:</b>	<b>Very Rare</b>



*Former duck decoy pond at Old Hall Marshes, the arms now silted up but showing as bright green*

#### **Description:**

37 decoy ponds are recorded on the Essex HER. Only just under a half were recognised in the HLC. These are often star shaped water bodies designed for the snaring & shooting of ducks. They occur predominantly on the coast but can also occur inland, and were usually constructed by enlarging a pre-existing creek. They date from the late medieval period to the 19th century, with various forms and functions. The earlier forms used dogs, which drove the ducks into nets along the pipes. Long decoys were used to scare Pochard into flight with sprung nets in their path. In later times the birds were shot as they flew off the water.

#### **Time-Depth:**

This type dates from the late medieval period through to the 19th century.

#### **Degree of change:**

**56% loss.** Moderate change, mostly through natural silting up of the ponds and through drainage of former marshland for agriculture.

#### **Factors influencing change:**

Drainage to reclaim the land for agriculture, development, mineral extraction or industry.

#### **Capacity to absorb change:**

**Low.** The rarity and nature of this type means that it is unable to absorb any change.

#### **Management:**

This type is extremely rare and has important value for social history, nature and wildlife. Several decoy ponds are designated as Scheduled Monuments. Management should seek to maintain the pond shape and surrounding water channels. Interpretation may be appropriate.

## Land Use – Water- based

### Oyster beds (CMW-ob)

GIS Legend 

<b>Total Area:</b> 61.68 ha	0.02%	<b>Relict Area:</b> 51.80 ha	<b>Av. Polygon:</b> 5.61 ha
<b>Polygons:</b> 11	0.03%	<b>Relict Polygons:</b> 7	<b>Occurrence:</b> <b>Very Rare</b>

#### **Description:**

Oyster beds have a very characteristic morphology, consisting of small rectangular pits, usually in serried rows, along coastal shores in the inter-tidal zone. They are the result of commercial farming of oysters in the 18th and 19th centuries.

#### **Factors influencing change:**

Coastal erosion, drainage to reclaim the land for agriculture, coastal development, mineral extraction or industry.

#### **Capacity to absorb change:**

**Low.** The rarity and nature of this type means that it is unable to absorb any change.

### Watercress beds (IMW-wb)

GIS Legend 

<b>Total Area:</b> 5.30 ha	0.00%	<b>Relict Area:</b>	<b>Av. Polygon:</b> 1.33 ha
<b>Polygons:</b> 4	0.01%	<b>Relict Polygons:</b>	<b>Occurrence:</b> <b>Very Rare</b>

#### **Description:**

Watercress beds occur in association with springs, streams and small rivers. Shallow, gravel based, depressions were constructed for the watercress which was grown in clean flowing water. This has been a small localised industry in Essex, originating in the 19th century.

#### **Factors influencing change:**

Neglect, changes in agricultural management, river management schemes.

#### **Capacity to absorb change:**

**Low.** The rarity and nature of this type means that it is unable to absorb any change.

### Reservoir (WAT-wr)

GIS Legend 

<b>Total Area:</b> 2414.02 ha	0.65%	<b>Relict Area:</b> 510.91 ha	<b>Av. Polygon:</b> 3.40 ha
<b>Polygons:</b> 711	1.68%	<b>Relict Polygons:</b> 4	<b>Occurrence:</b> <b>Rare</b>

#### **Description:**

This HLC type covers a wide range of water bodies, including public water supply reservoirs, flooded mineral extraction pits, and farm reservoirs and ponds for irrigation and livestock use. Most were created in the 20th century, but farm ponds may go back, predating the earliest map sources.

#### **Factors influencing change:**

Changes in drinking water demand, restoration of mineral extraction sites, change in agricultural use, climate change and changes in the water table level.

#### **Capacity to absorb change:**

**Low.** Farm ponds in particular are rare and unable to absorb any change. 20th century public water supply reservoirs and flooded mineral extraction pits can have value for nature and wildlife so small-scale change can be accommodated.

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Published February 2011