



The Maldon Coast:

an overview of planning and management issues affecting the historic environment of the rural coast of Maldon District.

Contents

1	Introduction	3
2	Existing guidance, advice and policy	3
2.1	Coastal Defence and the Historic Environment - English Heritage Guidance 2003	3
2.2	Shoreline Management Plan Review and the Historic Environment: English Heritage Guidance 2006	3
2.3	Wind Energy and the Historic Environment: English Heritage Guidance 2008 .	4
2.4	The Historic Environment and Managed Coastal Re-alignment: A Four Stage Approach - Environment Agency Guidance 2007	4
3	The Maldon Coast: a summary of the Historic Environment	4
3.1	Introduction	4
3.2	Chronological overview	5
3.3	Evidence Base	16
	Key Issues	19
3.4	Introduction	19
3.5	HECZ 8.1: Old Hall and Tollesbury Wick Marshes	22
3.6	HECZ 8.2: North Bank of the Blackwater	26
3.7	HECZ 8.3 North Intertidal Zone	28
3.8	HECZ 8.4 Osea Island	33
3.9	HECZ 8.5 Maldon Intertidal	35
3.10	HECZ 8.6 Northey Island	38
3.11	HECZ 8.7 Blackwater Estuary	41
3.12	HECZ 8.8 South Blackwater Intertidal Zone	43
3.13	HECZ 8.9 South Bank of the Blackwater Estuary	47
3.14	HECZ 9.2: The Mundon area	50
3.15	HECZ 9.3: The neck of the Dengie peninsula	52
3.16	HECZ 10.1 Bradwell airfield and power station	57
3.17	HECZ 10.2 Othona and St Peters Chapel	60
3.18	HECZ 10.5 Southminster and scattered farms towards the Crouch Estuary .	64
3.19	HECZ 11.1 Bradwell Marshes	68
3.20	HECZ 11.2 Old Dengie Marshes	71

3.21	HECZ 11.3 New Dengie Marshes	74
3.22	HECZ 11.4 Dengie salt-marsh	78
3.23	HECZ 11.5 Dengie tidal flats.....	81
3.24	HECZ 12.1 Fambridge and Stow Maries Marshland	83
3.25	HECZ 12.2 Bridgemarsh Island.....	88
3.26	HECZ 12.3 Crouch Estuary.....	90
Appendix 1		95
The scoring of the Historic Environment Character Zones		95
Diversity of historic environment assets.....		95
Survival		96
Documentation		96
Group Value Association.....		97
Potential.....		97
Sensitivity to Change.....		97
Amenity Value.....		98

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Front cover shows an aerial view looking south west across Old Hall and Tollesbury Wick marshes.

1 Introduction

This report sets out an overview of the historic environment of the rural coast Maldon District together with key issues which affect its conservation and management. The purpose will be to facilitate the incorporation of the historic environment into Integrated Coastal Zone Management and to help inform decisions on planning, conservation and management. The report covers the rural coast of the district and relates directly to the Historic Environment Character Zones (HEZCs) created for the *Maldon District Historic Environment Characterisation report*. All the rural zones which in some part touch upon tidal water are included, however this study does not consider urban zones of Burnham or Maldon itself. The nature of coastal issues in urban areas such that the points considered here would not be applicable or at least would not directly applicable, in urban areas. The historic environment of these towns is also rather different from that of the rural parts of Maldon District, and has been assessed in some detail not only in the *Maldon District Historic Environment Characterisation report* but also in the historic town reports for Maldon and Burnham (Medlycott 1999a and b).

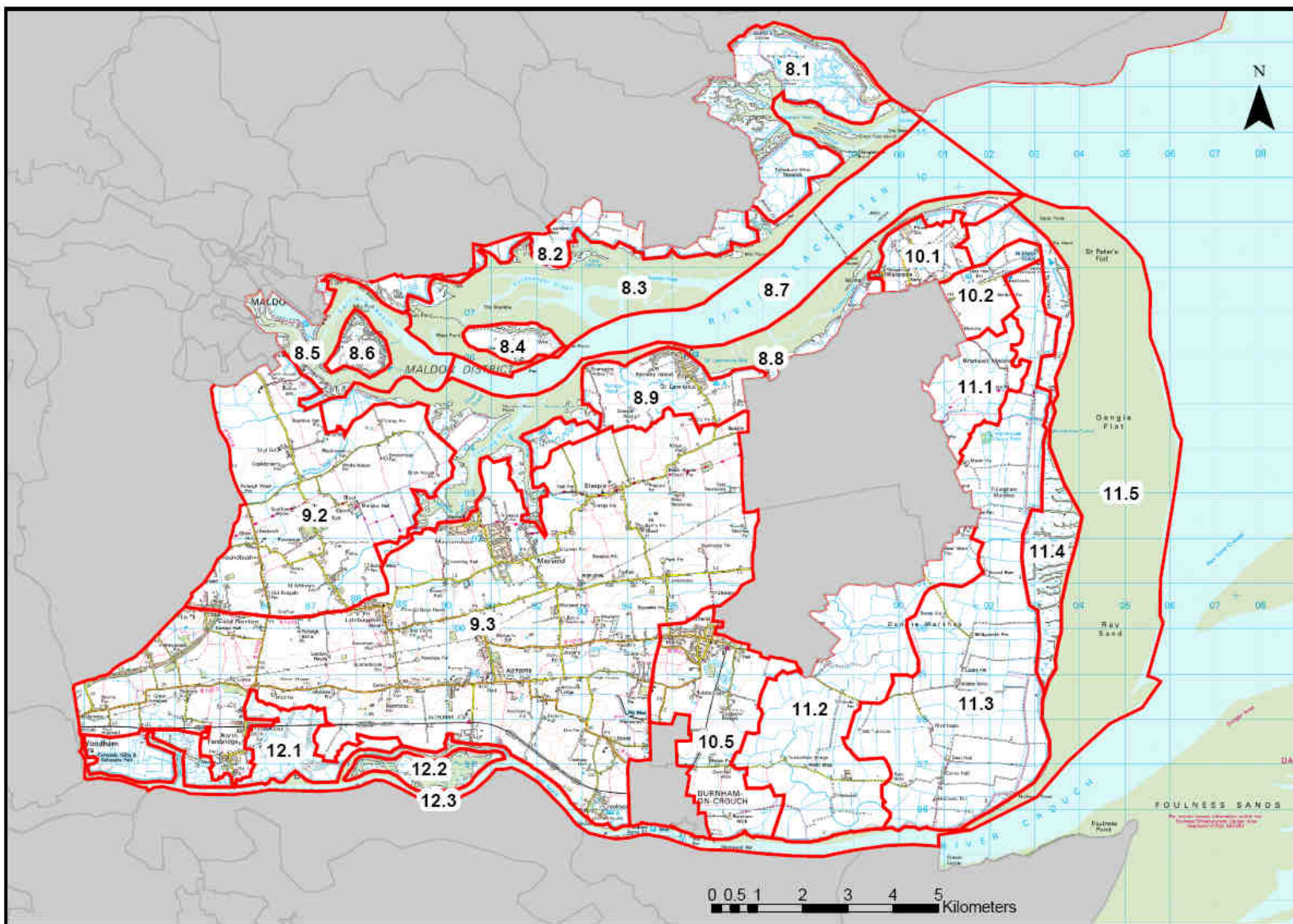


Fig. 1 Map showing the Historic Environment Character Zones included in this report

The historic environment of Maldon's coast is of great importance and sensitivity. The extraordinary extent of the surviving stretches of prehistoric land surface with associated Neolithic settlement sites, particularly in the Blackwater and the range of later wooden structures from Bronze Age tracks to huge Saxon fish-traps are all significant features of Maldon's coast. These factors, together with well preserved grazing marsh landscapes such as those immediately east of South Woodham Ferrers and around Tollesbury, have led to the Upper Crouch estuary, and the whole of the Blackwater estuary, being included on the English Heritage list of nationally significant sites as part of its *Heritage Management of England's Wetlands* initiative.

This report summarises the current range of advice and guidance from English Heritage on the protection of the historic environment in the coastal zone with regard to erosion, floodrisk and managed realignment, together with the Environment Agency policy on protection of the historic environment. In addition a summary of the English Heritage guidance on the historic environment impact of wind farms is also included since it is likely that wind farm development may be an issue particularly pertinent to the Maldon coast. A brief overview of the nature and significance of the historic environment of Maldon's coast, is also provided as background to the Key Issues. The Key issues are in many ways the core of this report and relate to each of the HECZs, the likely impacts and points for consideration are set out following the description of each zone. In particular four issues are especially pertinent:-

A sound knowledge base

Given the great complexity and sensitivity of the historic environment of Maldon's coast planning for its conservation and management requires a sound knowledge base.

Maintenance of historic landscape character

In many ways the most critical aspect of the historic environment is the pattern of estuary, creek salt marsh and grazing marsh; a landscape which is the result of many centuries of interaction between humanity and the sea. Therefore, preservation of historic landscape character is an important issue; and integrated management of the historic and natural environments, together with grazing and other agricultural activities, is crucial.

Managed Realignment

Managed realignment may be considered for various parts of the Maldon coast in relation to flood risk management, maintenance of landscape character or habitat creation, will affect the historic environment. To some extent the process could be beneficial in maintaining the broad pattern of the historic character of the coastal zone. However, careful consideration of location and likely effects would be required; there is a danger of severe adverse effects on fragile and rare elements of the historic environment, and any scheme would require measures to manage and mitigate adverse impacts on the historic environment.

Coastal access

This encompasses both physical access and access in the sense of knowledge and understanding, sometimes, rather grandly known as intellectual access. Physical access may be an issue particularly in view of the Marine and Coastal Access Bill. There may be adverse impacts with regard to erosion, but also opportunities in exploring and explaining the rich and varied historic environment of Maldon's coast, both to local people and visitors. Either way access issues would need to be handled sensitively and in close co-operation with landowners and conservation bodies.

2 Existing guidance, advice and policy

2.1 Coastal Defence and the Historic Environment - English Heritage Guidance 2003

<http://www.english-heritage.org.uk/upload/pdf/CoastalDefenceEH.pdf?1236035046>

This document provides advice on the implications of coastal and flood defence for the historic environment to those involved in coastal planning and coastal defence and to local authority historic environment officers. It considers the policy frameworks that are in place for Shoreline Management and managing the historic environment and provides an overview of the coastal archaeological resource. The document sets out how the protection of historic remains can be fully integrated within the shoreline management planning process and considers in detail the implications for the historic environment of the increasing number of managed realignment schemes likely to arise from a more sustainable coastal defence policy, providing guidance on appropriate responses. The guidance includes an outline protocol for archaeological evaluation and mitigation in the coastal zone and presents a number of good practice case studies.

2.2 Shoreline Management Plan Review and the Historic Environment: English Heritage Guidance 2006

<http://www.helm.org.uk/upload/pdf/Shoreline-Management-Plan-Review.pdf>

This guidance supplements and amplifies 'Coastal Defence and the Historic Environment: English Heritage Guidance 2003' and Defra's 'Shoreline Management Plan Guidance Volume 1: Aims and Requirements and Volume 2: Procedures, 2006'. It is intended to help ensure adequate consideration of the coastal historic environment during SMP Review, by providing Coastal Groups and consultants with information and guidance on the coastal Historic Environment., sources of advice and data, the legislative planning background and procedures for consultation during SMP review.

2.3 *Wind Energy and the Historic Environment: English Heritage Guidance 2008*

[http://www.helm.org.uk/upload/pdf/Wind_Energy_\(final\).pdf?1238066486](http://www.helm.org.uk/upload/pdf/Wind_Energy_(final).pdf?1238066486)

This document provides advice on the implications of wind energy and the Historic Environment and is intended for developers, local authorities and their historic advisors who are involved in strategic planning for renewable energy. The document outlines the English Heritage Policy on renewable energy and the historic environment, summarises the planning context and discusses wind turbine technology. It outlines the impacts of onshore wind turbine projects specifically looking at physical and indirect impacts, dealing with identified sites, setting and visual amenity and the wider landscape. It also identifies the need for planning authorities to ensure reversibility is possible. Finally it provides guidance on offshore wind turbines summarising the consent procedure and guidance on evaluating their impact .

2.4 *The Historic Environment and Managed Coastal Re-alignment: A Four Stage Approach - Environment Agency Guidance 2007*

This statement identifies the role of the Environment Agency and it's National Environmental Assessment Service (NEAS) archaeologists in schemes proposing the managed re-alignment of the English and Welsh coasts which may impact on the historic environment. It outlines the procedures that will be followed to ensure that the historic environment is given due weight in the design process where managed re-alignment of the coast is the preferred option. The four stage approach includes: Assessment of the heritage resource; Coastal Modelling; Site Investigation and Site Mitigation. The Environment Agency will only consider mitigating the direct impacts of its engineering works on the historic environment and is not required under its duties, to mitigate against the 'natural' processes of sea level rise or the ingress of coastal waters resulting from coastal re-alignment.

3 The Maldon Coast: a summary of the Historic Environment

3.1 *Introduction*

In many ways the coast of Maldon District can be seen as a microcosm of the coast of Essex in general. The Maldon coast is very long and is absolutely critical

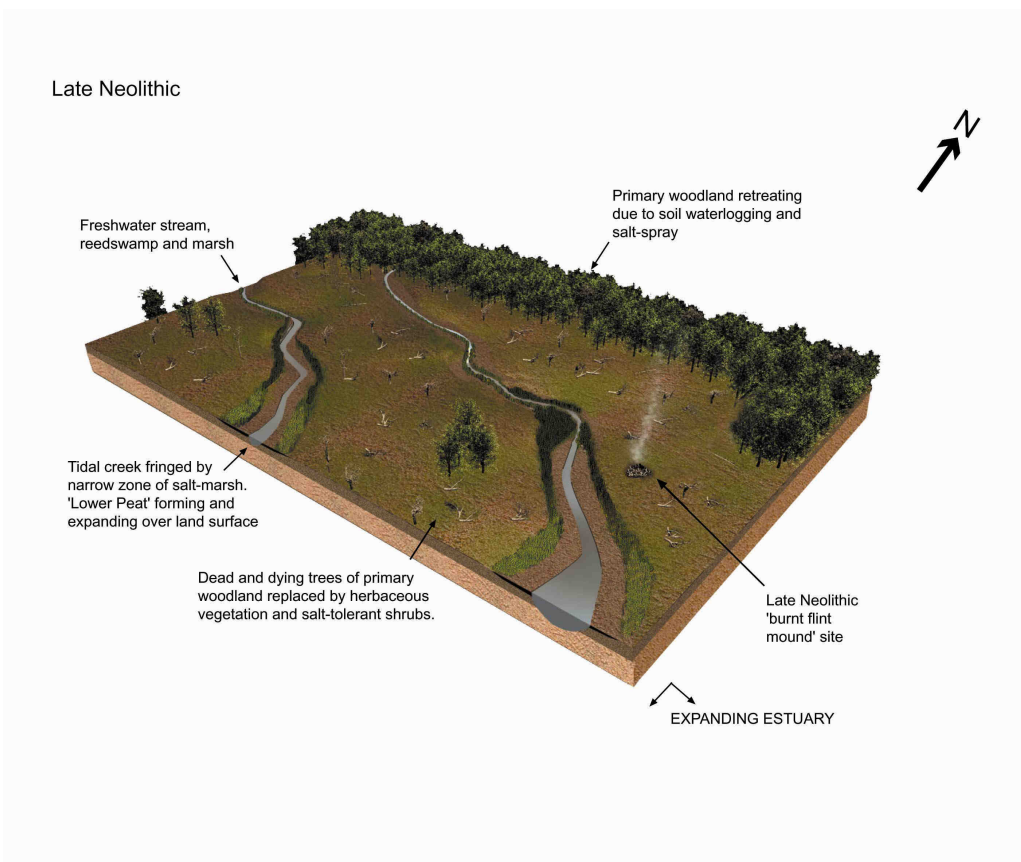
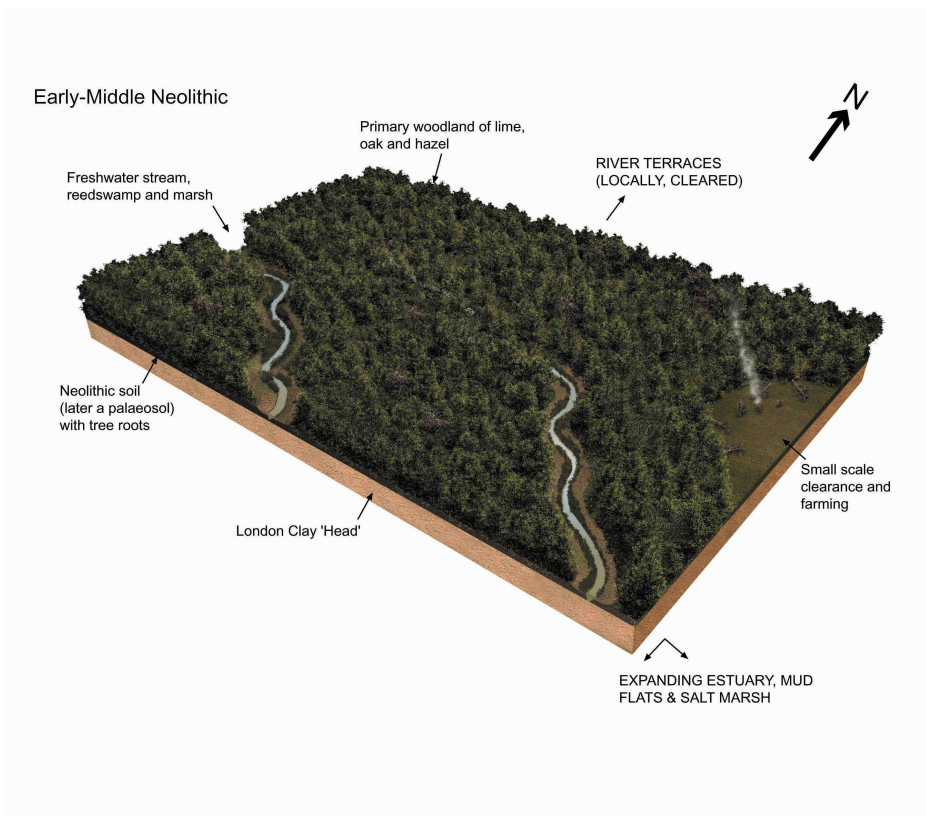
to the character of the District, it includes almost the whole of the Blackwater estuary and most of the northern shore of the Crouch estuary, together with their associated creeks. The historic environment of the Maldon coast is both rich and varied, including not only much that is of local interest, but also many places that are of regional and national significance. It is worth bearing in mind; that in the case of the Maldon coast, 'regional significance', can sometimes refer, not just to the East of England or the Greater Thames Estuary, but to a region comprising the southern North Sea basin, and is therefore, in effect, an indication of international significance. Probably the most striking aspect of the historic environment is the pattern of estuary, creek, salt marsh and grazing marsh; a landscape which is the result of many centuries of interaction between humanity and the sea. One of the most significant points about the coast of Maldon District, both in general terms, and particularly, in terms of the historic environment, is simply that it is not fixed, it has never, and will never, remain in one place. That simple but crucial fact, is something which gives the archaeology of Maldon's coast a particular significance and is perhaps the dominant issue in considering the long-term management of the historic environment.

3.2 Chronological overview

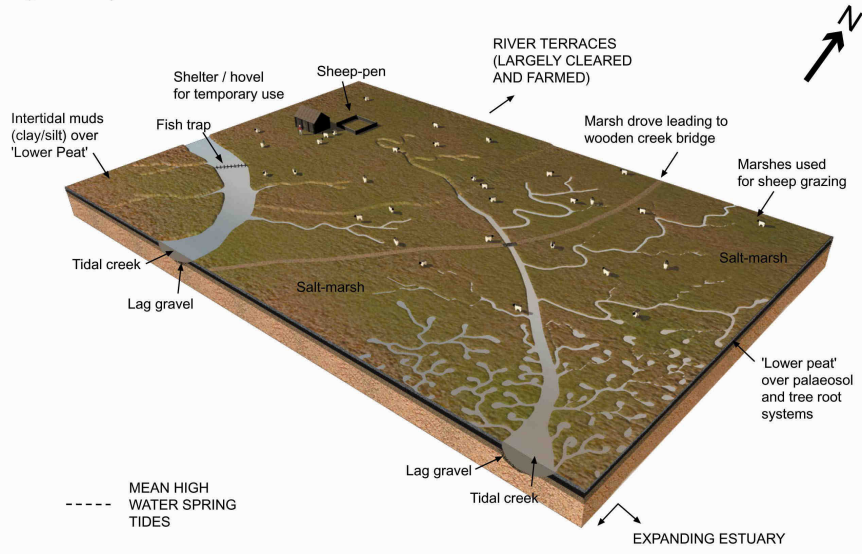
At the end of the last Ice Age, during a period known as the Mesolithic (c.10,000-4,000 BC) sea levels were much lower and Maldon District was entirely landlocked, the high tide limit lay far out into what is now the North Sea, and the estuaries of the Blackwater and Crouch were the valleys of freshwater rivers. Areas of what was then the dry land-surface are preserved at various locations in the estuaries of the Crouch and Blackwater and finds of very distinctive flint tools of the period, which are often tiny and known as microliths, indicate human settlement. These flint tools were first recorded in the early decades of the 20th century, subsequently extensive survey work was carried out by two local archaeologists in the late 1970s, this work (Vincent and George 1980) led to the instigation of The Hullbridge Survey funded by English Heritage and carried out

under the auspices of Essex County Council (Wilkinson and Murphy 1985). This survey eventually covered most of the intertidal zone of the Essex coast and forms the core of our knowledge of its archaeology.

Scatters of flint tools indicating Mesolithic settlement were noted in many locations by the Hullbridge Survey. Particularly large concentrations in the upper Crouch estuary around the mouth of Fen creek (in Chelmsford District) and at Maylandsea in the Blackwater estuary, imply repeated occupation over a long period of time. Due to melting ice and other environmental factors sea levels continued to rise throughout the Mesolithic. By the start of the Neolithic (the period when farming first began to be adopted) around 4,000 BC, in the Blackwater estuary it may be presumed that high tide level was about where the low tide mark is today. There were thus still extensive areas of dryland in what is now the intertidal zone, and many locations with clear indications of human settlement survive. One site, The Stumble in the Blackwater estuary, has been sampled in detail. Structural features, pits and large quantities of pottery and flint tools were recorded on an extensive area of old land surface, with preserved soils; pollen evidence suggests a predominately wooded landscape of lime, oak and hazel. Similar results were obtained from a contemporary site at Rolls Farm to the east. The Stumble site would have lain on the neck of a small promontory between two areas of higher ground represented by the present shore and Osea Island. Charred plant remains were abundant at the Stumble, these show that various types of wheat, barley and flax were cultivated; remains of fruit stones, tubers and nuts of wild plants were just as common. It appears therefore that there was no sudden shift to agriculture with a complete abandonment of the foraging economy which had characterised the Mesolithic.



Iron Age to Early Medieval



1985 AD

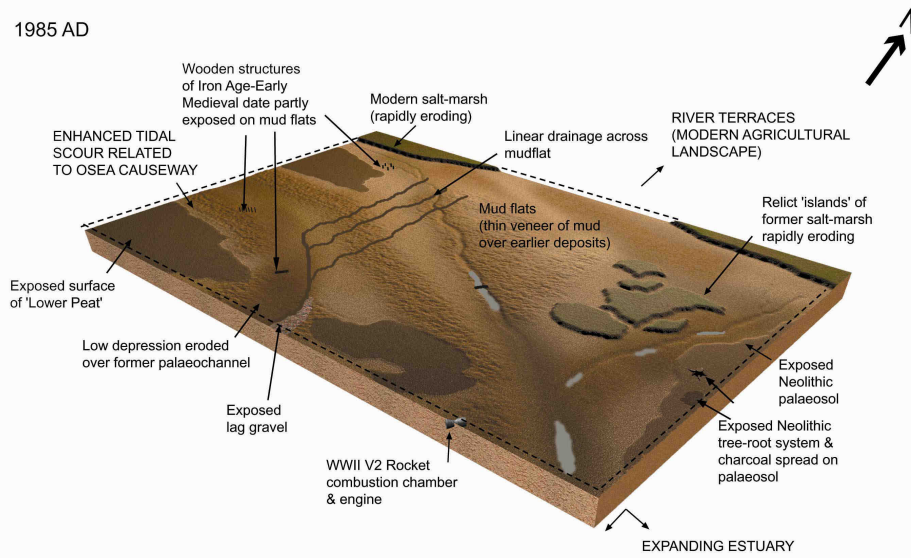


Fig. 2 Sequence of digital reconstructions of the landscape at the Stumble in the Blackwater estuary showing its development from the Early Neolithic to the time of its investigation by the Hullbridge Survey in the mid 1980s.

Overall The Stumble is one of the most important Neolithic sites in the East of England, and despite extensive survey having taken place over the last 10-15 years within the intertidal zone around the coast of England, very few comparable areas of settled land-surface have been recorded.

Whilst there were extensive areas of dryland in what is now the Blackwater and upper Crouch estuaries, by contrast the situation at the east end of the Dengie peninsula, from south of Bradwell to Burnham and south through Wallasea and Foulness, was very different. Here, the tidal limit was well inland of the present range, and the whole area must have formed a complex environment of salt marsh, tidal flats, and beach ridges of sand, gravel and shell. Shell ridges at depths of -5.5 to -8.3m OD and dated to the late Neolithic/Early Bronze Age show that these features were established at the mouth of the Crouch/Roach estuary. Today modern examples occur at various points around the Essex coast in Maldon most notably at Bradwell.

Sea level continued to rise and by the late Neolithic (c.2,500BC), locations like the Stumble were becoming severely affected by increasingly saline conditions and marine inundation, with trees dying off. Nonetheless the location was still exploited but without the extensive settlement of the earlier Neolithic. Actual tree stumps and root systems associated with the old land surface, as well as peat deposits, have been recorded at various places in the Blackwater and upper Crouch estuaries. By the late Bronze Age (c. 1,500 – 800 BC) the former dryland at The Stumble and Rolls Farm had become saltmarsh. At Rolls Farm an area of relict saltmarsh has been recorded with a number of short 'tracks' of wattle hurdles placed across the former creeks in the marsh, the wood of these structures has been radiocarbon dated to the late Bronze Age. By analogy with

medieval usage the hurdles are interpreted as sheep bridges, facilitating the use of the open saltmarsh for grazing livestock. On the gravel terraces immediately north of the Blackwater a number of later Bronze Age settlements have been excavated, often accompanied by wells. Pollen and plant macrofossils from these features indicate a local landscape of damp grassland with some evidence for localised enrichment by dung from grazing animals. The economy in the Maldon coastal zone at this time was largely pastoral; in a landscape from which woodland had been mostly cleared, although pollen evidence does indicate some areas of oak dominated woodland were still present. This seems to have remained the case during the Iron Age (800 BC – AD43) though at the very end of that period one of the most characteristic historic features, not only of Maldon, but of the Essex coast generally, began to be created. These were the Red Hills, mounds of debris from salt production comprising reddened soils and large quantities of coarse pottery used in the process of evaporating sea water to produce salt. The mounds of debris could be very extensive and up to two metres or more in height. Whilst the first of these distinctive features were created in the Late Iron Age, most date from the early Roman period. There are hundreds of Red Hills around the Essex coast and many examples in Maldon. Red Hills run in lines across the east end of the Dengie (marking the rough position of the contemporary shoreline) and along the shores of the Crouch and Blackwater estuaries. Though they survived as mounds for centuries, during the second half of the 20th century, most were flattened by ploughing as former grazing marsh was converted to arable.

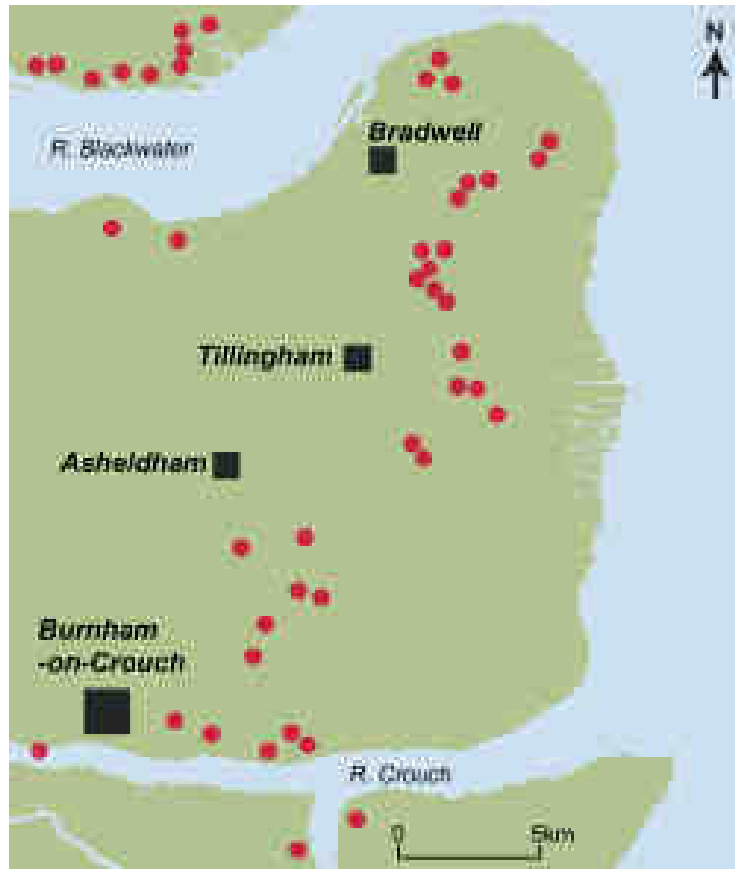


Fig. 3 Map showing the distribution of Red Hills across the end of the Dengie peninsula.

During the Roman period the estuaries were probably used for the cultivation of oysters, there is archaeological evidence for consumption of cultivated oysters from sites in both Rochford and Colchester Districts. The estuaries would also have been the routes by which imported goods from elsewhere in the empire reached sites such as the small town at Elms Farm, Heybridge. The recent excavation of a timber jetty or landing stage, preserved by water logging beneath former grazing marsh at Abbots Hall, in Colchester District, is a reminder of the kind of structures which are likely to be present around the creeks and estuaries of Maldon District. These creeks and estuaries also provided the main routes by which Saxon raiders and settlers arrived, at the end of the Roman period. In the late Roman period a fort was constructed at Bradwell at the mouth of the

Blackwater estuary, as a part of a defensive system around the coast of eastern England to protect against Saxon incursions. Ultimately these defences were of no avail and as the Roman empire collapsed Saxon settlers moved in.

Early Saxon settlements have been excavated at a number of locations around Heybridge and an early cremation cemetery has recently been excavated at Hall Road, Heybridge. The most striking site of the Saxon period on the Maldon coast is St. Peters church at Bradwell. Now starkly isolated on the edge of the marshes, its dramatic location is peculiarly affecting and that has, no doubt, helped to establish it in its present role as a place of pilgrimage. However, its original position was far from isolated. It was built within the remains of the Roman shore fort; such a location was frequently chosen for the establishment of religious institutions (as at Reculver, Kent and Burgh Castle Norfolk). A shell ridge ran across the mouth of the creek south of the fort. A southern extension of this ridge has been dated to the 6th - 7th centuries AD, and its existence may have either blocked access to the creek or possibly helped to provide sheltered anchorage (Wilkinson and Murphy 1995). The church lay across the estuary from the important estates on Mersea and the royal vill at Brightlingsea (Rippon 1996).

In the estuary itself massive amounts of timbers were used to create large fish-traps at Sales Point, Pewit Island, the Nass and most notably at Collins Creek where a complex of fish-traps extend across almost 1km of mudflats (Strachan 1998, Hall and Clarke 2000).

Evidence of relatively extensive ironworking has been recovered from excavations at Rook Hall and Chigborough Farm on the gravel terraces north of the Blackwater. Environmental evidence from excavations at sites on the gravel terraces indicate more intensive exploitation of pasture and increased cereal production at this time. St Peter's was thus a part of a thriving landscape centred on the Blackwater estuary, easily linked by sea transport to the great Saxon

trading centres of Ipswich to the north and London to the south and to the coastal areas of continental Europe around the North Sea basin.

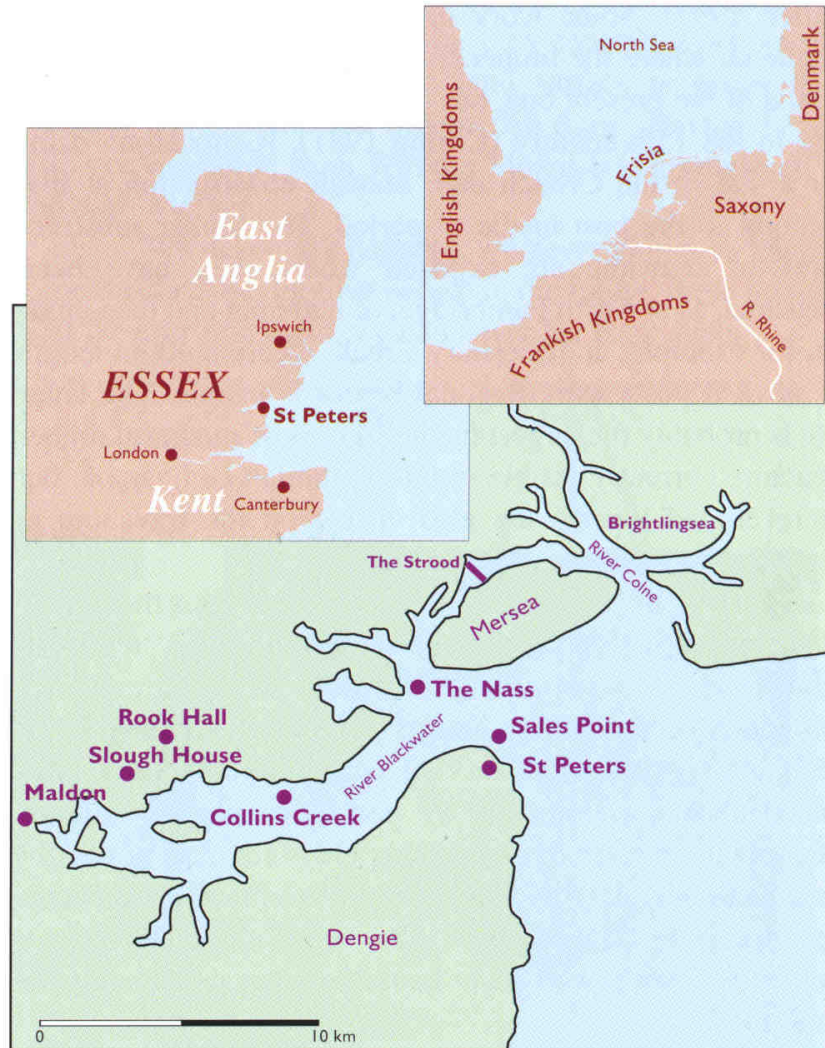


Fig. 4 Map showing the location of St. Peter's chapel showing its pivotal location during the Saxon period, an age dominated by sea borne travel

By the late Saxon period the coastal marshes appear to have been principally used for sheep-pasturage, there is no evidence that they were embanked at this period. Subsequently, during the medieval and early post medieval periods the importance of marshland grazing was such that the open salt marshes

threatened by climatic deterioration and consequent flooding, The Red Hills, created in the Roman Period, provided raised areas of dry ground and were used by shepherds as camp sites. There are records of more or less catastrophic flooding occurring at regular intervals, including the Great Martinmas Tide of 1099 when the Anglo-Saxon Chronicle recorded that *'the sea-flood sprung up to such a height and did so much harm as no man remembered that it ever did before'*. The marshes were progressively enclosed and protected by sea walls the salt marsh converted to grazing marsh. By 1210 the 'law of the marsh' set out the important principle that each man should contribute to the upkeep of the defences from which he benefited, in proportion to his land or rights on the marsh, this principle endured till the passing of the Land Drainage Act of 1930. The sea walls themselves are perhaps the most striking feature of the Maldon coast, and taken together represent the most extensive historic timber and earth structure surviving in the District. Although the enclosure of the marshes began in the medieval period, it was in the 17th century that the main phase of marshland reclamation took place, spurred by new Dutch technology and expertise. There was renewed interest in reclamation at the end of the 18th century, with medals distributed by the Society of Arts for landowners who undertook reclamation from the sea. At a number of locations, including North Fambridge, Rolls Farm and Tollesbury Creek where sea walls have been breached and subsequently abandoned, extensive exposures of timber sub structures can be seen, a number of these have been recorded and dated to the post-medieval period.



Fig.5. ECC FAU recording a relict sea wall at Rolls Farm

Salt continued to be manufactured during the medieval period, in a process quite different from that which resulted in the creation of the red hills. Instead elaborate sequences of linked ponds and tanks were created, which survive as earthworks in grazing marsh at Tollesbury Wick, with a particularly well preserved example at Stow Maries. Later in the post- medieval period duck-decoy ponds (a Dutch invention) were constructed to exploit the large numbers of wildfowl which frequent the Maldon coast. These features began to go out of use and to be neglected and abandoned in the later 19th and earlier 20th centuries. The large scale conversion of grazing marsh to arable in the second half of the 20th century led to many decoys being infilled, most now survive as buried features showing on aerial photographs as distinctive spider-like cropmarks, a few are partly extant but well preserved examples like that at Tillingham are rare survivals of a once common feature in the landscape.

Extensive military defences around the Maldon coast, part of a larger system of defences around the coast of Essex, were constructed during WWII mainly now survive in the form of numerous pill boxes and other concrete structures including, for instance, a dramatic minefield control tower at Burnham.

The remarkable range and complexity of the physical remains of the historic environment which have shaped, or lie buried beneath, the present landscape, have been outlined above. However, one other aspect should be touched upon; the Maldon coast has a cultural heritage reflected in the works of writers like H. Rider Haggard, S. Baring Gould, the short stories and essays of S. L. Bensusan, the books of Marjorie Allingham most obviously her wartime memoir 'The Oaken Heart' and more recently the evocation of the Dengie peninsula in Jonathan Raban's 'Coasting' and Robert MacFarlane's 'The Wild Places'. Today the Maldon coast attracts numerous painters following the tradition of F. Hamilton Jackson and L. Burleigh Bruhl. This imaginative appreciation of the coastal landscape of Maldon articulates the things that many residents and visitors feel about it, and is subtly, but crucially dependant on the maintenance of its historic character.

3.3 Evidence Base

A summary of the nature of the evidence base for our understanding of the historic environment of the Essex coast is set out below and the Historic Environment Record for Essex, provides an environment in which all this information is housed.

The Hullbridge Survey is at the centre of our understanding of the historic environment of Maldon's coast, and can be viewed as a pioneering version of a Rapid Coastal Zone Assessment Survey (RCZAS) of a kind currently being undertaken around much of the English coast (Murphy and Trow 2005) to enhance understanding and inform management (Olivier 2004, 163). Publication

of *An Archaeological Research Framework for the Greater Thames Estuary* (Williams and Brown 1999) focussed attention on the importance of Maldon's coast and provided the impetus for further fieldwork. Implementation of the research framework included monitoring survey to provide a systematic record of changes to archaeological sites and deposits, using the Hullbridge Survey data as a baseline. In particular, regular re-visits to a group of sites at Rolls Farm also demonstrated the usefulness of monitoring as mitigation, allowing a composite picture to be built up of sites which may never be entirely exposed at any given time.

This detailed work of survey and monitoring, formed part of a wider programme of investigation, carried out over the last two decades, to elucidate the history of human activity around the Essex coast in the context of planning for flood defence, nature and landscape conservation (Heppell and Brown 2008). Aerial survey proved particularly adept at locating later remains of Roman to post-medieval date, generally features associated with the exploitation of coastal resources, such as decoy ponds, oyster pits and other structures associated with the fishing industry (Ingle and Saunders forthcoming). Aerial survey was also a useful technique for investigating timber fish-traps. In the Blackwater estuary, these structures had first been brought to attention by local non-professional archaeologists; Kevin Bruce recorded large structures at Sales Point and Pewet Island, just off Bradwell-on-sea, whilst the late Ron Hall studied a remarkable complex of fish-traps extending across 2.5km of intertidal mudflats around Collins Creek. These fish-traps lie at the limits of current low water and are particularly difficult to record, only being exposed at the very lowest tides. Aerial survey at such times recorded four other large fish-traps in the Blackwater estuary and another in the Stour to the north. Subsequently, boat-based survey allowed a detailed plan of the Collins Creek complex to be prepared (Hall and Clarke 2000) and radiocarbon dates to be obtained from the Collins Creek, Sales Point, and the Nass, one of the other Blackwater weirs, all of which indicated that the structures were of broadly 8th and 9th AD century date (Strachan 1998b). In

addition, the Mersea Flats, Pewet Island and Sales Point structures were the subject of a side-scan sonar survey in 1998, which was able to map elements of the traps that were entirely sub-tidal (Lenham *et al.* unpublished).

Grazing marshes are widely recognised as important for their natural environment; are also historic landscapes of great complexity and increasing rarity. They are particularly striking examples of the way in which the natural and historic environments must be understood and managed in an integrated way. To help achieve this Essex county Council working in partnership with English Heritage, Essex Wildlife Trust, RSPB, National Trust and private landowners have facilitated analytical surveys of the main areas of extant grazing marsh around the Essex coast including the EWT reserves at Blue House Farm and Tollesbury Wick, and privately owned salterns at Stow Maries. In recognition of their complex and significant historic environments the Blackwater Estuary and inner Crouch estuary have recently been included by English Heritage on the list of nationally significant sites as part of their *Heritage Management of England's Wetlands* initiative. In this regard the Blackwater estuary includes large areas which lie in Colchester District, and the inner Crouch estuary extensive parts of both Chelmsford and Rochford Districts and it is important to recall that the effective management, conservation and enhancement of the heritage of the Maldon coast, cannot be effectively carried out in isolation from neighbouring areas.

Key Issues

3.4 Introduction

A brief summary of the main issues affecting the conservation management and enhancement of the historic environment, of Maldon's coast, is set out below. Each of the Historic Environment Character Zones are presented together with their scores as they appear in the *Historic Environment Characterisation* report for Maldon (for explanation of scoring system see appendix 1). The descriptions are followed by a series of points setting out key issues affecting or likely to affect, the historic environment in each zone.

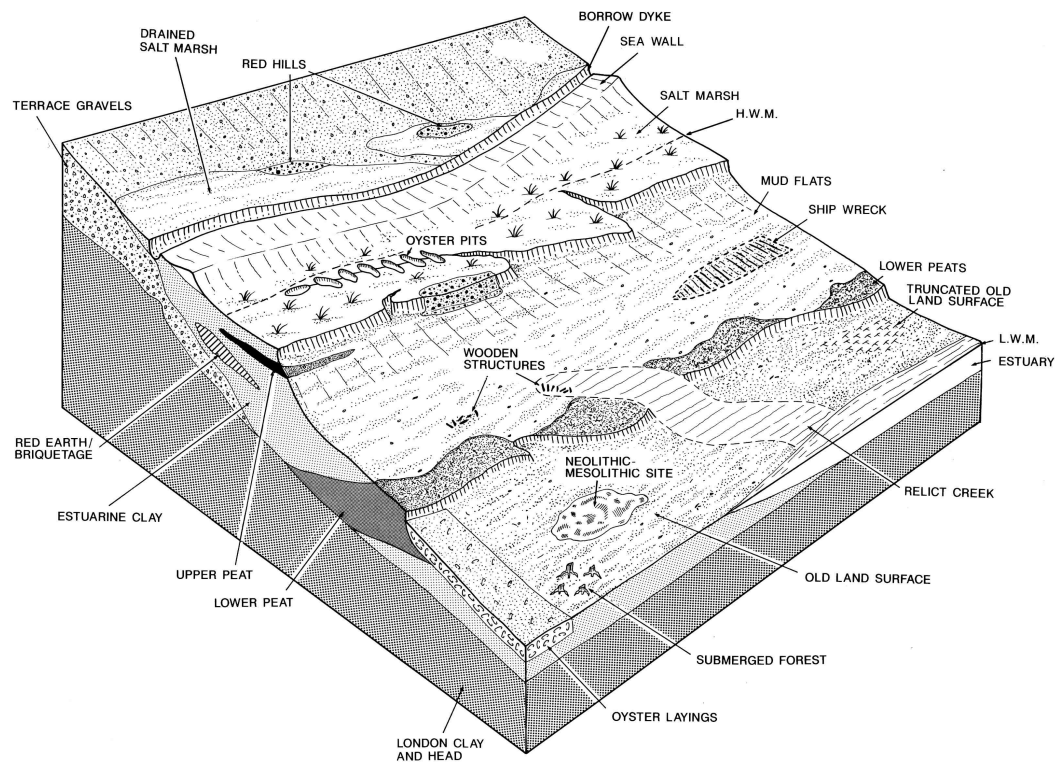


Fig. 6 Idealised section through an Essex estuary showing the range and variety of archaeological sites and deposits which could be expected. In practice such a range would be unlikely to occur in such close proximity, although at a few places in the Crouch and Blackwater estuaries something like the full sequence is present.

The extraordinary extent of the surviving stretches of prehistoric land surface with associated Neolithic settlement sites, particularly in the Blackwater and the range of later wooden structures from Bronze Age tracks to huge Saxon fish-traps are all significant features of Maldon's coast. These factors, together with well preserved grazing marsh landscapes such as those immediately east of South Woodham Ferrers and around Tollesbury, have led to the Upper Crouch estuary, and the whole of the Blackwater estuary, being included on the English Heritage list of nationally significant sites as part of its *Heritage Management of England's Wetlands* initiative.

In many ways the most critical aspect of the historic environment is the pattern of estuary, creek salt marsh and grazing marsh; a landscape which is the result of many centuries of interaction between humanity and the sea. Therefore, preservation of historic landscape character is an important issue; and integrated management of the historic and natural environments, together with grazing and other agricultural activities, is crucial. Although, perhaps not the most obvious historic feature, the pattern of field boundaries is a vital part of the historic character of the coastal zone, both with regard to the sinuous ditches typical of the areas present and former grazing marsh and the rectilinear pattern of field boundaries of the Dengie peninsula. Opportunities for the maintenance and restoration of these features and the grassland of the grazing marshes should be explored, and Environmental Stewardship schemes may be helpful. Woodland, with a few exceptions, has not been part of the coastal landscape for many centuries, and the form, scale and location of new planting would require the careful consideration of effects on the historic environment, particularly the historic landscape. The creation of a District wide tree/woodland strategy could be useful in that regard.

Managed realignment which may be considered for various parts of the Maldon coast in relation to flood risk management, maintenance of landscape character

or habitat creation, will affect the historic environment. To some extent the process could be beneficial in maintaining the broad pattern of the historic character of the coastal zone. However, careful consideration of location and likely effects would be required; there is a danger of severe adverse effects on fragile and rare elements of the historic environment, and any scheme would require measures to manage and mitigate adverse impacts on the historic environment.

Coastal access may be an issue particularly in view of the Marine and Coastal Access Bill. There may be adverse impacts with regard to erosion, but also opportunities in exploring and explaining the rich and varied historic environment of Maldon's coast, both to local people and visitors. Either way access issues would need to be handled sensitively and in close co-operation with landowners and conservation bodies.

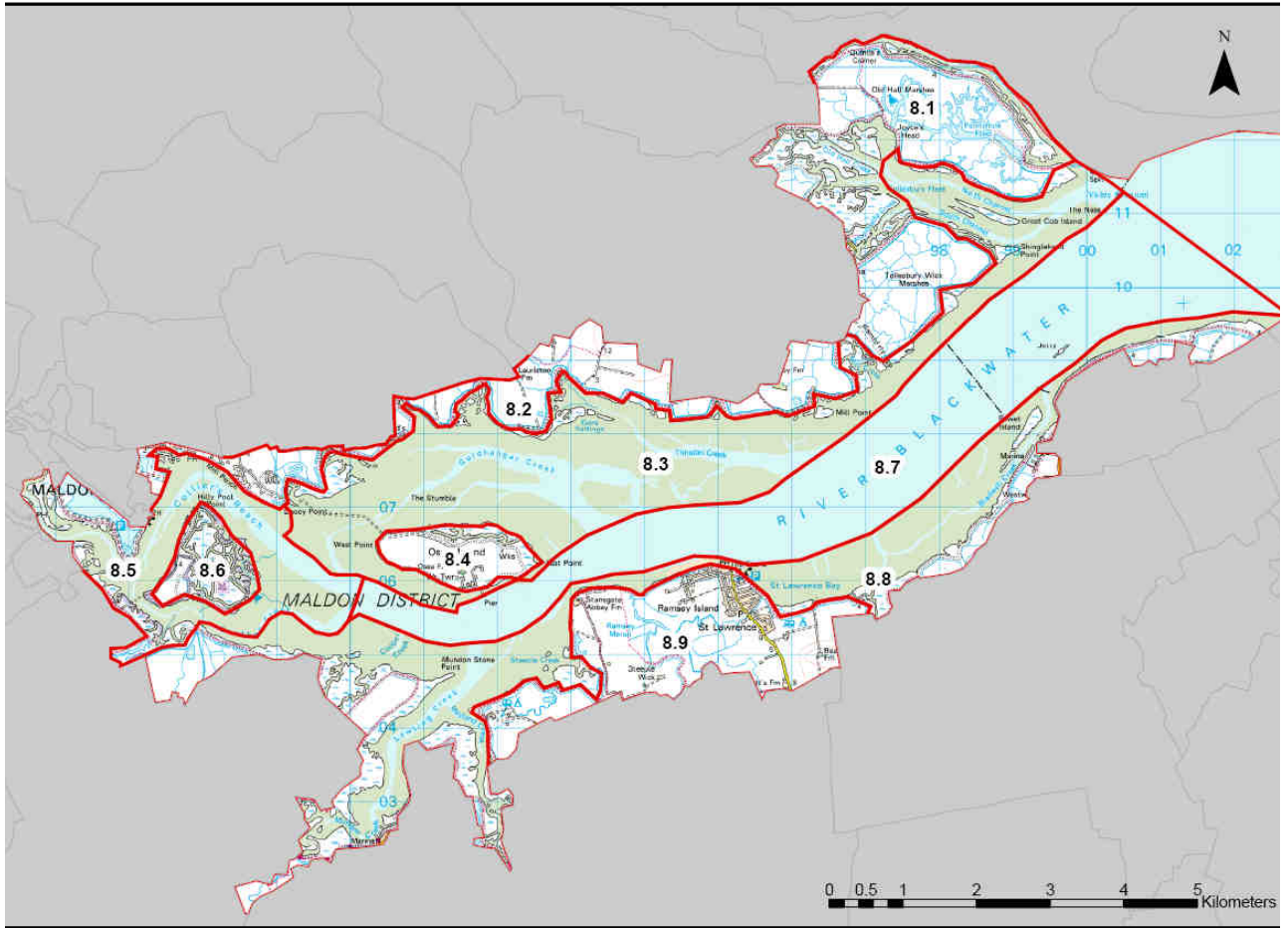


Fig. 7 Map showing HECZs 8.1-8.9

3.5 HECZ 8.1: Old Hall and Tollesbury Wick Marshes

Historic Environment Description

Summary: This zone comprises two areas of extant grazing marsh and extensive salt marsh. The grazing marshes are Old Hall to the north and Tollesbury Wick to the south divided by the channels and salt marsh of Tollesbury Fleet. Old Hall Marsh comprises around 291 hectares of unimproved grazing marsh with further areas of improved grassland, reed-bed, saltmarsh and open brackish water. Tollesbury Wick marsh is of a similar character but with less penetration by creeks and fleets. There is no significant settlement within the zone which is highly important in terms of the natural environment. The whole zone is a Site of Special Scientific Interest (SSSI) and part of an

Environmentally Sensitive Area (ESA). Large parts are also Ramsar designated and part of a National Nature Reserve (NNR). The zone contains two Scheduled Monuments.



Fig. 8 Aerial view of the managed realignment site at the head of Tollesbury Fleet.

Historic Landscape Character: The natural saltings within the zone probably began to be enclosed during the medieval period. The process of reclamation was certainly well underway by the late 16th century and by the late 18th century the Old Hall and Tollesbury Wick marshes (together with some adjacent areas which were converted from grazing marsh to arable in the 20th century) appear to have been fully reclaimed providing rich grazing for both cattle and sheep. The identification of a number of Dutch tobacco pipes within the sea wall at Tollesbury hints at the involvement of immigrants from the Low Countries in the erection and maintenance of the sea walls. Old Hall Marshes provide the largest remnant of unimproved grassland in Essex. An area of former grazing marsh that was converted to arable in the second half of the 20th century now forms part of a managed realignment scheme.

Archaeological Character: This zone contains a highly significant range of archaeological sites and monuments, these include the zone include the sea walls themselves and internal banks (counter walls), Red Hills, further unidentified mounds, duck decoys oyster beds and a number of miscellaneous earthworks. Two of the duck decoy ponds are protected as Scheduled Monuments. Oyster pits are recorded throughout the zone. The sea walls and counter walls are of varying age but probably date from the medieval period onwards. Exploitation of the zone in the Late Iron Age and Roman period is characterised by the number of red hills on the interface between the land and marsh areas. Detailed archaeological surveys have been undertaken for Tollesbury Wick and Old Hall Marshes. There is significant potential for palaeo-environmental and archaeological deposits within and below deep alluvial sequences

• Diversity of historic environment assets	Contains extant and below ground archaeological features, decoys, red hills etc	3
• Survival	As a result of the nature of land use survival is good	3
• Documentation	HER, marsh surveys, cartographic sources	3
• Group Value Association	Duck decoys, red hills, oyster pits, sea walls counter walls	3
• Potential	Significant potential for multi-period deposits	3
• Sensitivity to change	Highly sensitive to change	3
• Amenity Value	High amenity value, with regard to both the natural and historic environment	3

Key Issues

This zone comprises two areas of extant grazing marsh and extensive salt marsh. The well preserved grazing marsh landscapes, with their associated earthworks reflecting both the exploitation of pasture, marshland and the production of salt, make this zone one of the finest historic marshland landscapes in Maldon and indeed Essex more generally. The old pattern of creek, saltmarsh and grazing marsh so characteristic of the historic environment of the coast remains the dominant feature of this zone. Two important decoy ponds both located in Old Hall Marsh are protected as Scheduled Monuments.

1. **Preservation of historic landscape character is important to this zone.**
2. **Integrated management of the historic and natural environments, together with grazing and other agricultural activities is crucial.**
3. **Managed realignment which may be considered as part of flood risk management, maintenance of landscape character or habitat creation, will affect the historic environment. Large scale realignment would be likely to have severe adverse effects on fragile and rare elements of the historic environment. Smaller scale, carefully planned, realignment might be possible, depending upon location and measures to mitigate adverse impacts on the historic environment**
4. **Coastal access may be an issue particularly in view of the Marine and Coastal Access Bill. There may be adverse impacts with regard to erosion, but also opportunities in exploring and explaining the historic environment of this zone to local people and visitors. Either way access issues need to be handled sensitively and in close co-operation with landowners and conservation bodies.**
5. **A sound knowledge base is required to facilitate all of the above, and a firm foundation is already in place. The Hullbridge Survey (Wilkinson and Murphy 1995) provides a baseline for sites and deposits in the intertidal zone, and to some extent buried beneath the grazing marsh. The historic landscape of the EWT reserve at Tollesbury Wick and the RSPB site of Old Hall marshes has been the subject of a detailed survey supplied to both conservation bodies to inform their management of the reserves. Further information is provided in the settlement survey for Tollesbury (Medlycott 2004).**

3.6 HECZ 8.2: North Bank of the Blackwater

Historic Environment Description

Summary: This zone consists of the north bank of the Blackwater estuary between Heybridge and Mill Creek near Tollesbury. Lying largely below the 5 metre contour line, the zone comprises reclaimed saltings, notable for its high number of red hills. Some mineral extraction has occurred in the western portion of the zone.

Landscape Character: The zone consists of reclaimed saltings, former grazing marsh converted to arable in the second half of the 20th century; the area is low lying and bounded by the seawall to the south. Habitation is sparse with only occasional isolated farms. The far west of the zone also has a recent leisure element with a caravan park at Mill Beach.

Archaeological Character: The zone has significant potential for prehistoric features/finds of Mesolithic/Neolithic date onwards. Collections of Mesolithic flintwork have been recovered at many locations in the intertidal zones of the Blackwater estuaries. In several locations preserved land surfaces of Neolithic date have been identified within the inter-tidal area. A line of red hills, some now a little way inland, mark the line of the estuary or creeks during the Late Iron Age and Roman periods, clearly indicating the importance of salt production in the economy of the area at this time. A total of nine duck decoy ponds have been identified from aerial photography with the site at the Gore Decoy pond being protected as a Scheduled Monument. Further features include former seawalls, present sea walls and other features related to land reclamation have been identified.

• Diversity of historic environment assets	Red hills, sea walls, decoys, formerly inter-tidal buried archaeological deposits	3
• Survival	Survival where not compromised by mineral extraction is generally good	2
• Documentation	HER, Survey work, NMP	2
• Group Value Association	Red hills, decoy ponds	2
• Potential	Has good potential for surviving	2

	archaeological deposits associated with exploitation of the estuary	
• Sensitivity to change	Highly sensitive to change	2
• Amenity Value	Potential to explain human interaction with nature in the coastal zone over the past 10,000 years in conjunction with neighbouring zones.	2

Key Issues

A significant part of the value of the former marshland on the northern side of the Blackwater Estuary, in terms of the historic environment, is for the role it plays in maintaining the overall historic landscape pattern of estuary, creek, saltmarsh and grazing marsh. In addition the major archaeological features of importance are essentially related to the exploitation of the estuary including salt working sites, sea walls and decoy ponds. There is also a range of significant sites likely to be buried within and beneath the alluvium of the marshes.

1. **Preservation of historic landscape character is particularly critical to this zone, as the nature of this marshland and their relationship to the adjacent saltmarsh, and mudflats (HECZ8.3) is important to the historic environment of Maldon's coast. Agricultural change in the form of conversion of grazing marsh to arable has had a marked effect on the historic character of this zone. Environmental stewardship may be a means of re-establishing the historically significant grassland.**
2. **Integrated management of the historic and natural environments is important.**
3. **Managed realignment which may be considered as part of flood risk management, maintenance of landscape character or habitat creation, would affect the historic environment. Given the character, it is likely that some carefully planned realignment, with appropriate**

management and mitigation of adverse effects could be accommodated by the historic environment of this zone.

4. Coastal access, particularly in view of the Marine and Coastal Access Bill, is likely to impact on this zone. The history of human use of the marshes could be presented to users of these paths.

5. A sound knowledge base is required to inform management and facilitate 1, 3 and 4 above, and a firm foundation is already in place. The Hullbridge Survey (Wilkinson and Murphy 1995) and secondary sources such as Murphy and Brown (1999) and Medlycott (2007) provides a baseline for understanding the historic landscape, and archaeological sites and deposits in this zone. Other published sources, and historic sources, including historic mapping, provide additional useful information. Detailed assessments have been made on the settlements of Goldhanger (O'Connor 2007) and Tollesbury (Medlycott 2004).

3.7 HECZ 8.3 North Intertidal Zone

Historic Environment Description

Summary: Contained between the seawall to the north and the main channel of the Blackwater estuary to the south, this zone consists of large expanses of mudflat covered over at high water. Within the inter-tidal area important deposits of early prehistoric date have been identified comprising land surfaces with extensive evidence of occupation particularly during the Neolithic. Wooden structures, including some very large fish traps of Saxon date lie within this zone. High quality environmental deposits survive within this zone preserved by the water logged nature of the soils.

Landscape Character: Lying between the low and high water marks the expanses of the mudflats are exposed at low water, there are a number of areas of saltmarsh adjacent to the shore. The flats are cut by a number of small creeks retaining water at

low tide. Traditional activities within the zone include fowling and fishing. The extremely rich mudflats are important for many species of birds.



Fig. 9 Sunrise at Collins Creek, the upright posts are part of a complex of Saxon fishtraps.

Archaeological Character: During periods of lower sea levels in prehistory the zone was largely dry land on the north bank of the Blackwater and appears to have been extensively occupied/utilised from the Mesolithic period onwards. Deposition of river silts during subsequent rises in sea level has resulted in the preservation of highly significant prehistoric land surfaces. Exposures of the old land surface at The Stumble and at Rolls Farm have revealed large quantities of finds of Neolithic date these areas are essentially substantial fragments of preserved prehistoric land surfaces with well preserved settlement evidence. Of further interest is the large amount of environmental evidence recovered shedding light on the environment and economy of period.



Fig.10 Rolls Farm in the Blackwater estuary. A survey of a relict saltmarsh at low tide, the ponded water lies in former creeks within the marsh, the standing figure is recording a length of timber hurdle radiocarbon dated to the Bronze Age, and is considered by analogy with medieval practise to be the foundation of a 'sheep bridge' which facilitated grazing of the open marsh.

Within the zone a series of wooden structures have been identified from aerial photography, including a number of large fish traps; radio-carbon dating of the wood has established these as of middle Saxon date. Around Collins Creek there is a vast complex of such structures and the fish trap at the Nass, Tollesbury is protected as a Scheduled Monument. Toward the landward edge of the zone there are a number of Red Hills and post medieval wrecks and landing points are situated throughout the zone.



Fig. 11 Eroding red hill at the edge of the saltmarsh at Rolls Farm on the Blackwater estuary.

• Diversity of historic environment assets	Include buried land surfaces, flint scatters, Environmental deposits, fish traps etc.	3
• Survival	Survival is generally good and in places exceptional but subject to erosion	3
• Documentation	HER, Hullbridge Survey and more recent coastal zone survey, excavation reports	3
• Group Value Association	Buried land surfaces, wooden structures, wrecks	3
• Potential	High potential for significant archaeological deposits	3
• Sensitivity to change	Very sensitive to change	3

<ul style="list-style-type: none"> • Amenity Value 	Potential to explain human interaction with nature in the coastal zone over the past 10,000 years in conjunction with neighbouring zones.	2
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Key Issues

The zone contains the northern intertidal area of the Blackwater Estuary and Tollesbury Fleet as well as areas of relict salt marsh. A significant part of the value of the intertidal flats on the northern shore of the Blackwater Estuary in terms of the historic environment, is for the role they play in maintaining the overall historic landscape pattern of estuary, creek, saltmarsh and grazing marsh. There are a wide range of highly significant sites and deposits in this intertidal zone, either known, and recorded like the Ness fish trap (which is Scheduled) and eroding multi-period land surfaces at Goldhanger and Tollesbury, or anticipated to lie at various depths within the alluvial sequence which makes up the flats. The preserved land surface at the stumble represents one of the most significant areas of Neolithic settled landscape in England's intertidal zone.

- 1. Preservation of historic landscape character is particularly critical to this zone, as the nature of these intertidal flats and their relationship to the landscape to the north (HECZ's 8.2 and 8.1) is fundamental to the historic environment of Maldon's coast.**
- 2. Many of the most significant archaeological sites and deposits in this zone are eroding from the mudflats. Further north contemporary features, and earlier features are likely to be quite deeply buried within and beneath the alluvial sequence. Such is the range and importance of the historic and natural environment in this zone that any management measures should be carefully considered and undertaken in an integrated way so that conservation of one does not damage the other.**
- 3. Coastal access, particularly in view of the Marine and Coastal Access Bill, will not directly impact on this zone, and presumably health and**

safety issues are likely to mean access would not be encouraged. However, the evocative appearance of these flats is, and will continue to be, attractive to users of paths along the northern shore of the Blackwater. The history of human use of the flats could be presented to users of these paths.

4. Access by boat is also an issue; commercial traffic is limited to fishing craft and leisure boating is unlikely to have particularly adverse impacts. Both activities have more or less historic association with this coast.
5. A sound knowledge base is required to inform management and facilitate 2 and 3 above, and a firm foundation is already in place. The Hullbridge Survey (Wilkinson and Murphy 1995) provides a baseline for sites and deposits in this intertidal zone. Other published sources, and historic sources, including historic mapping, provide additional useful information.

3.8 HECZ 8.4 Osea Island

Historic Environment Description

Summary: Osea is an island located in the Blackwater estuary forming a low ridge bordered to the north and east by saltmarsh. Osea Island has preserved much of its medieval and post medieval landscape. The island has an important military history especially relating to the two World Wars at which time it was used as a naval base.

Landscape Character: The island is flat and low lying containing one settlement at Osea Farm. The landscape comprises rectangular fields and much of its medieval and post medieval landscape is well preserved. A single farm was located on the islands in the medieval period. In the 1900's Osea Island was owned by the Charrington family who established a home for inebriates.

Archaeological Character: Only limited archaeological work has been undertaken on Osea Island. Roman pottery has been recorded from the island which has been interpreted as probably being associated with agricultural activity or related to coastal activities. It is likely the island has been occupied from at least this date and further finds/deposits may be expected. Osea has been employed during both World Wars as a naval base and a number of structures relating to this military activity survive in a good degree of preservation. In the First World War the island was used as the Coastal Motor Boat Base, with 12 boats each able to carry a single torpedo. Accommodation was provided for nearly 700 military personnel, with new huts built and the sanatorium converted. Two pill boxes are located within the sea wall at the eastern end of the island.

An assessment of the Historic Environment of Heybridge (O'Connor 2007) has been undertaken which includes detailed information on the historic settlement, buildings and landscape of the parish.

• Diversity of historic environment assets	Below ground deposits, modern military archaeology	2
• Survival	Survival of a number of military features is good, Below ground deposits likely to survive well	2
• Documentation	HER data, settlement assessment, military assessment	3
• Group Value Association	Military remains	2
• Potential	Good potential especially for military sites and buried archaeology	2
• Sensitivity to change	All features sensitive to change	2
• Amenity Value	Military resource provides some potential for promotion, access is limited.	1

Key Issues

In terms of the historic environment of the coastal zone, perhaps its most significant aspect is the role the island plays in maintaining the overall historic landscape pattern of the estuary. In addition there are a range of archaeological sites likely to be buried on the island dating from at least the Roman period onwards.

1. A sound knowledge base is required to inform the future management of the islands historic environment and a firm foundation is already in place. The Hullbridge Survey (Wilkinson and Murphy 1995) and secondary sources such as O'Connor (2007) provide a baseline for understanding the historic landscape, and archaeological sites and deposits in this zone. Other published sources, and historic sources, including historic mapping, provide additional useful information.
2. Any management options, should be pursued in an integrated way, and historic environment issues given due consideration.
3. Any attempts at managed realignment are unlikely to be significant in scale and, with appropriate management and mitigation of adverse effects, could be accommodated by the historic environment of this zone.
4. Access to the island is limited but its history, and in particular its maritime defensive role during both World Wars, could be used to inform users of paths along the shore of the Blackwater estuary as well as users of the estuary itself.

3.9 HECZ 8.5 Maldon Intertidal

Historic Environment Description

Summary: Stretching from Maldon to the east of the Northey Island, the zone contains large areas of exposed mudflats at low water. With a high potential for prehistoric archaeology, the zone also at least partially encompasses the site of the Battle of Maldon.

Landscape Character: An area largely consisting of intertidal mudflats, saltings and creeks surrounding Northey Island. The main channel, Collier's Reach, leads to the moorings at Maldon. The Estuarine Marsh/Mudflats landscape is particularly affected by ongoing change due to dynamic coastal processes, and this is a key influence on the future management of these landscapes.

Archaeological Character: During periods of lower sea levels in prehistory the zone was largely dry land on the north bank of the Blackwater and appears to have been extensively occupied/utilised from the Mesolithic period onwards. Deposition of river silts during subsequent rises in sea level has resulted at least in part, of the preservation of highly significant prehistoric land surfaces. Deposits have been found both on the southern side of Northey Island and on the southern shore of the Blackwater. The causeway leading from Northey Island to the mainland is thought to form part of the area in which the Battle of Maldon (991AD) was fought. The western end of the causeway across the saltings is part of the area included within the English Heritage Registered Battlefield site. The zone contains a number of post-medieval hulks and wrecks including three Thames Barges.

• Diversity of historic environment assets	Wide range of assets including below ground archaeology and Battlefield	2
• Survival	Archaeological survival is good	2
• Documentation	HER data, Anglo-Saxon poem, Survey	2
• Group Value Association	Prehistoric deposits, wrecks and battlefield enhance group value	2
• Potential	High potential	2
• Sensitivity to change	Sensitive to change	2
• Amenity Value	High amenity value including the battlefield and natural environment assets	3

Key Issues

The zone contains the intertidal area of the Blackwater Estuary and the Limbourne Creek roughly to the west of Osea Island as well as areas of relict salt marsh. A significant part

of the value of the intertidal flats of the Blackwater Estuary in terms of the historic environment is for the role they play in maintaining the overall historic landscape pattern of estuary, creek, saltmarsh and grazing marsh. There are a range of significant sites and deposits in this intertidal zone, either known and recorded or anticipated to lie at various depths within the alluvial sequence which makes up the flats. The Causeway linking Northey Island with the mainland was crossed by the Vikings before the Battle of Maldon.

- 1. Preservation of historic landscape character is particularly critical to this zone, as the nature of these intertidal flats and their relationship to the landscape around (HECZ's 8.2 and 8.8 and 9.2), as well as their relationship to the historic town of Maldon, is fundamental to the historic environment of Maldon's coast.**
- 2. Many of the most significant archaeological sites and deposits in this zone are eroding from the mudflats. To both the north and south contemporary features, and earlier features are likely to be quite deeply buried within and beneath the alluvial sequence. Management is likely to be primarily driven by nature conservation but this should be informed by and integrated with the historic environment.**
- 3. Coastal access, particularly in view of the Marine and Coastal Access Bill, will not directly impact on this zone, and presumably health and safety issues are likely to mean access would not be encouraged. However, the evocative appearance of these flats is, and will continue to be, attractive to users of paths along the shore of the Blackwater. The history of human use of the flats as well as Maldon itself could be presented to users of these paths.**
- 4. Access in another sense, by boat, is also an issue, commercial traffic is limited to fishing craft and leisure boating is unlikely to have particularly adverse impacts. Both activities have more or less historic association with this coast.**

5. **The Causeway to Northey Island is important as it was crossed by the Vikings prior to the battle of Maldon and provides an opportunity to promote the area.**

6. **A sound knowledge base is required to inform management and facilitate 3 above, and a firm foundation is already in place. The Hullbridge Survey (Wilkinson and Murphy 1995) provides a baseline for sites and deposits in this intertidal zone. Other published sources, and historic sources, including historic mapping, provide additional useful information.**

3.10 HECZ 8.6 Northey Island

Historic Environment Description

Summary: Low lying island at the western end of the Blackwater estuary most of which is now saltmarsh. The island was the landing place of the Viking army in the late 10th century prior to the Battle of Maldon.

Landscape Character: Northey Island, now owned by the National Trust, is low lying and up to the late 19th century was largely under a regime of arable and pasture. A major storm in 1897 breached the sea wall and changed the island's character. The damage was never repaired and approximately two thirds of the island has now reverted to saltmarsh. A single building, Northey House is located on the island.

Archaeological Character: Evidence of multi-period occupation has been identified around the coast of the island. The most famous event in the island was on August 10th, 991 when a band of Viking raiders camped on Northey Island after a series of raids along the Essex coast. It was the base from which Olaf Tryggvason and his Danish army attacked and defeated Earl Brythnoth and the Saxon army at the Battle of Maldon. The main engagement however is thought to have taken place in the area where the causeway joins the mainland and it is unlikely that any evidence for the battle exists on the island itself. There are at least two earth mounds of undetermined date and function located on the island. Fairly modern exploitation of the marshlands is evidenced with the

presence of a duck decoy pond on the eastern side and oyster pits on the western part of the island.



Fig. 12 Aerial view of Northey Island showing the extent of the saltmarsh

• Diversity of historic environment assets	Prehistoric deposits, extant mounds, base of Danish army in 991AD	2
• Survival	Likely to be good but nothing visible relating to the battle	2
• Documentation	HER data, cartographic sources and Anglo-Saxon poem	3
• Group Value Association	Extant mounds, below ground deposits, site of Danish encampment	2
• Potential	Archaeological deposits have good potential	2
• Sensitivity to change	Deposits are sensitive to change	2

<ul style="list-style-type: none"> • Amenity Value 	High amenity value because of the history of the island.	2
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Key Issues

The main value of Northey Island in terms of the historic environment is for the role it plays in maintaining the overall historic landscape pattern of creek, saltmarsh and grazing marsh and the role it played in the battle of Maldon.

1. **Preservation of historic landscape character is particularly critical to this zone, the relict seawalls and former grazing marsh, now reverted to saltmarsh, are particularly evocative.**
2. **Whilst in the case of Northey Island, it may be that it's natural environment value is of greater significance than its historic environment value, any management options, should be pursued in an integrated way, and historic environment issues given due consideration.**
3. **Managed realignment has already been a success on Northey Island. If further planned realignment, with appropriate management and mitigation of adverse effects is proposed it could be accommodated by the historic environment of this zone.**
4. **Coastal access may be an issue particularly in view of the Marine and Coastal Access Bill. It's evocative appearance and history could be used to inform users of paths along the shore of the Blackwater estuary as well as visitors to the Island.**
5. **A sound knowledge base is required to facilitate the above, and a firm foundation is already in place. To some extent the Hullbridge Survey (Wilkinson and Murphy 1995) provides a baseline for sites and deposits in the intertidal zone. Historic sources, including historic mapping, provide a good overview of the island.**

3.11 HECZ 8.7 Blackwater Estuary

Historic Environment Description

Summary: This zone comprises the Blackwater estuary below the low water mark. The zone contains significant multi period archaeological features throughout its length many of which have been identified during detailed survey work. The river is important for both commercial and leisure activities.

Landscape Character: The broad expanse of the Blackwater estuary has been a major artery for trade and transport, together with a source of fish and shell fish, for millennia. In the recent past particularly during the 19th century the estuary was a focus of the oyster industry as shown by the number of oyster pits and fish traps along its length. Now mainly used by leisure craft the estuary still has some commercial and fishing traffic together.

Archaeological Character: During periods of lower sea levels in prehistory the zone was largely dry land on the north bank of the Blackwater and appears to have been extensively occupied/utilised from the Mesolithic period onwards. Deposition of river silts during subsequent rises in sea level has resulted at least in part, of the preservation of highly significant prehistoric land surfaces. A series of wooden fish traps have been identified to the north and south which extend into this zone. A range of wrecks and other nautical remains are likely to be present reflecting the maritime use of this zone over thousands of years

• Diversity of historic environment assets	Prehistoric land surfaces, Fish traps and wooden structures. Wrecks, hulks and possible aircraft crash sites	3
• Survival	Preservation of deposits is generally good	2
• Documentation	HER data, aerial photography	2
• Group Value Association	Buried land surface, wooden structures, wrecks etc.	2

• Potential	High potential for multi-period deposits and sites	2
• Sensitivity to change	Fragile deposits but not generally threatened	2
• Amenity Value	Zone can be promoted along with the evidence in the inter tidal zones.	2

Key Issues

A significant part of the value the Blackwater estuary in terms of the historic environment is for the role it plays in maintaining the overall historic landscape pattern of estuary, creek, saltmarsh and grazing marsh. There are a range of significant sites and deposits in the intertidal zone, but these are largely dealt with under HECZ8.3, 8.5 and 8.8. It is known that archaeological remains are present within and beneath the alluvial deposits in the sub-tidal zone as indicated by the Scheduled fish trap adjacent to Pewet Island

1. **Preservation of historic landscape character is particularly critical to this zone, as the nature of the Blackwater estuary is fundamental to the historic environment of Maldon's coast.**
2. **Whilst in the case of the Blackwater estuary many of the most significant historic features are on the fringes of the estuary, in the intertidal zone, salt marsh and present and former grazing marsh dealt with in consideration of other zones (see above); archaeological sites and deposits will exist within and beneath the alluvium in the sub tidal zone. It is unlikely that any regular maintenance dredging will have much impact on such remains but capital dredging, or provision of substantial new jetties may.**
3. **Significant development on the edge and within the zone at Bradwell Nuclear power station is a possibility. The impact of any development such as the creation of piers, boat activity bringing in supplies and outfalls will require detailed archaeological assessment as part of any**

Environmental Impact Assessment and appropriate mitigation strategies developed.

4. Coastal access, particularly in view of the Marine and Coastal Access Bill, will not directly impact on this zone. However, the evocative appearance of the Blackwater is, and will continue to be, a major attraction to users of paths along the shores of the estuary. The history of human use of the Blackwater could be presented to users of these paths.
5. Access in another sense, by boat, is also an issue, commercial traffic and leisure boating is active throughout the estuary and has a historic significance of its own built up over the last hundred years and more. It is possible that provision of new landing facilities and jetties may have an impact on the wider historic environment. The fish traps and other surviving historic environment assets within the zone are susceptible to damage from passing boats.
6. A sound knowledge base is required to facilitate the above, and a firm foundation is already in place. The Hullbridge Survey (Wilkinson and Murphy 1995) provides a baseline for sites and deposits in the intertidal zone, and to some extent the sub tidal zone. Historic sources, including historic mapping, provide a good overview of the estuary.

3.12 HECZ 8.8 South Blackwater Intertidal Zone

Historic Environment Description

Summary: The zone is situated mainly between the seawall to the south and the main channel of the Blackwater estuary to the north, and consists of large expanses of mudflat covered over at high water. The potential for significant archaeological deposits particularly of prehistoric date is high.

Landscape Character: Largely lying between the low and high water marks, the expanses of the mudflats are exposed at low water. Traditional activities within the zone include fowling and fishing. The extremely rich mudflats are important for many species of birds. The zone also contains areas of relict salt marsh and grazing marsh to the south of the sea wall.

Archaeological Character: During periods of lower sea levels in prehistory the zone was largely dry land on the south bank of the Blackwater and appears to have been extensively occupied/utilised from the Mesolithic period onwards. Deposition of river silts during subsequent rises in sea level has resulted at least in part, of the preservation of highly significant prehistoric land surfaces, particularly within the Lawford/Mayland creek system. Exposures of the old land surface at have produced quantities of finds of Neolithic date and a number of *in situ* archaeological features. Of further interest is the large amount of environmental evidence recovered shedding light on the environment and economy of the prehistoric periods represented. Within the zone a series of wooden structures have been identified including a substantial timber fish trap now scheduled. Post medieval wrecks and landing points are situated throughout the zone.



Fig. 13 Saxon fishtrap off Pewit Island (photo Kevin Bruce)

• Diversity of historic environment assets	Buried land surface and prehistoric deposits, wooden structures, wrecks and hulks	3
• Survival	Generally good levels of survival	3
• Documentation	HER data	2
• Group Value Association	Prehistoric deposits	2
• Potential	High potential for well preserved deposits	3
• Sensitivity to change	Fragile deposits largely subject to natural processes	3
• Amenity Value	Amenity value high for historic environment understanding although cannot be displayed within the zone.	2

Key Issues

The zone contains largely the southern intertidal area of the Blakwater Estuary and the Limbourne Creek as well as areas of relict salt marsh and grazing marsh to the south of the sea wall. A significant part of the value of the intertidal flats on the southern shore of the Blackwater Estuary in terms of the historic environment, is for the role they play in maintaining the overall historic landscape pattern of estuary, creek, saltmarsh and grazing marsh. There are a wide range of significant sites and deposits in this intertidal zone, either known and recorded like the Pewitt Island fish trap (which is Scheduled), eroding multi-period land surfaces at Mayland and St Lawrence or anticipated to lie at various depths within the alluvial sequence which makes up the flats.

- 1. Preservation of historic landscape character is particularly critical to this zone, as the nature of these intertidal flats and their relationship to the landscape to the south (HECZ's 8.9, 9.2, 9.3, 10.1 and 10.3) is fundamental to the historic environment of Maldon's coast. The cheniers and the saltmarsh they protect have been part of the coastal landscape of Maldon for at least the last 5,000 years.**

2. **Many of the most significant archaeological sites and deposits in this zone are eroding from the mudflats. Further south contemporary features, and earlier features are likely to be quite deeply buried within and beneath the alluvial sequence. Management is likely to be primarily driven by nature conservation but this should be informed by and integrated with the historic environment.**
3. **Coastal access, particularly in view of the Marine and Coastal Access Bill, will not directly impact on this zone, and presumably health and safety issues are likely to mean access would not be encouraged. However, the evocative appearance of these flats is, and will continue to be, attractive to users of paths along the southern shore of the Blackwater. The history of human use of the flats could be presented to users of these paths.**
4. **Access in another sense, by boat, is also an issue, commercial traffic is limited to fishing craft and leisure boating is unlikely to have particularly adverse impacts. Both activities have more or less historic association with this coast.**
5. **Significant development on the edge and within the zone at Bradwell Nuclear power station is a possibility. The impact of any development to the north of the sea wall such as the creation of piers, boat activity bringing in supplies and outfalls will require detailed archaeological assessment as part of any Environmental Impact Assessment.**
6. **A sound knowledge base is required to inform management and facilitate 3 above, and a firm foundation is already in place. The Hullbridge Survey (Wilkinson and Murphy 1995) provides a baseline for sites and deposits in this intertidal zone. Other published sources, and historic sources, including historic mapping, provide additional useful information.**

3.13 HECZ 8.9 South Bank of the Blackwater Estuary

Historic Environment Description

Summary: Lying largely at or below the 5 metre contour, much of the zone consists of reclaimed saltings and is now under arable or pasture. The area has significant archaeological potential.

Landscape Character: Historically consisting of Ramsey Island and significant areas of saltmarsh much of the zone has been reclaimed and is now under arable and pasture. A slightly higher area to the west of the zone contained a medieval Cluniac Priory, founded in 1112, now forming part of Stansgate Abbey Farm. The former Ramsey Island is now substantially occupied by modern settlement. To the east of the zone, the land rises to around 30 metres at Beacon Hill Farm. Modern leisure facilities for camping and caravanning are well established at St. Lawrence Bay and Canney House at Mayland Creek.

Archaeological Character: The zone has a varied range of archaeological deposits and features. Stansgate Abbey Farm is the site of a Cluniac Priory founded in 1112AD. It was dissolved during the Reformation and there now remains little to be seen. Quantities of 13th century pot found south of Ramsey Island demonstrate medieval activity within the zone outside the priory. Also recorded within the area are cropmarks of a possible enclosure, red hills, a decoy pond and World War II defensive features situated on or close to the sea wall. Two of the 68 embarkation hards built around Southern Britain during World War Two in preparation for D-Day were constructed in this zone and one still survives in excellent condition, as the berthing point for Marconi Sailing Club and Stone Sailing Club.

• Diversity of historic environment assets	Cluniac Priory, cropmarks, red hills, decoy and World War II sites	2
• Survival	Little remains above ground of the priory Below ground deposits will survive well.	2
• Documentation	HER data, Military survey	2
• Group Value Association	World War II monuments	2

• Potential	Good potential for survival of multi-period deposits across the zone	2
• Sensitivity to change	Archaeological deposits sensitive to change	2
• Amenity Value	Potential for the promotion of the historic environment within the zone, and especially if amalgamated with other zones in the Blackwater Estuary.	2

Key Issues

A significant part of the value of the former marshland within zone 8.9, in terms of the historic environment, is for the role it plays in maintaining the overall historic landscape pattern of estuary, creek, saltmarsh and grazing marsh. In addition the major features of importance are essentially parts of the historic landscape such as the location of the priory, duck decoy pond, sinuous ditches, relict sea and counter walls. In addition there are a range of significant sites likely to be buried within and beneath the alluvium of the reclaimed marshes.

1. **Preservation of historic landscape character is particularly critical to this zone, as part of the overall pattern of creek, mudflat, saltmarsh and grazing marsh which is important to the historic environment of Maldon's coast. Whilst many of the sinuous boundary ditches survive well, the effects of urban development and agricultural improvement in the second half of the 20th century have had an effect through the conversion of almost all the grazing marsh to arable. Environmental stewardship may be a means of re-establishing the historically significant grassland.**
2. **Managed realignment which may be considered as part of flood risk management, maintenance of landscape character or habitat creation, will affect the historic environment. Given the character it is likely that some carefully planned realignment, with appropriate management and mitigation of adverse effects could be accommodated by the historic environment.**

3. Coastal access, particularly in view of the Marine and Coastal Access Bill, is likely to impact on this zone, particularly its southern end where a footpath runs along the seawall. The history of human use of the marshes, including the relict creek, red hills and sinuous ditches could be presented to users of these paths.
4. A sound knowledge base is required to inform management particularly with regard to 1 and 3 above, and a firm foundation is already in place. The Hullbridge Survey (Wilkinson and Murphy 1995) and secondary sources such as Murphy and Brown (1999) provide a baseline for understanding the historic landscape, and archaeological sites and deposits in this zone. Other published sources, and historic sources, including historic mapping, provide additional useful information.

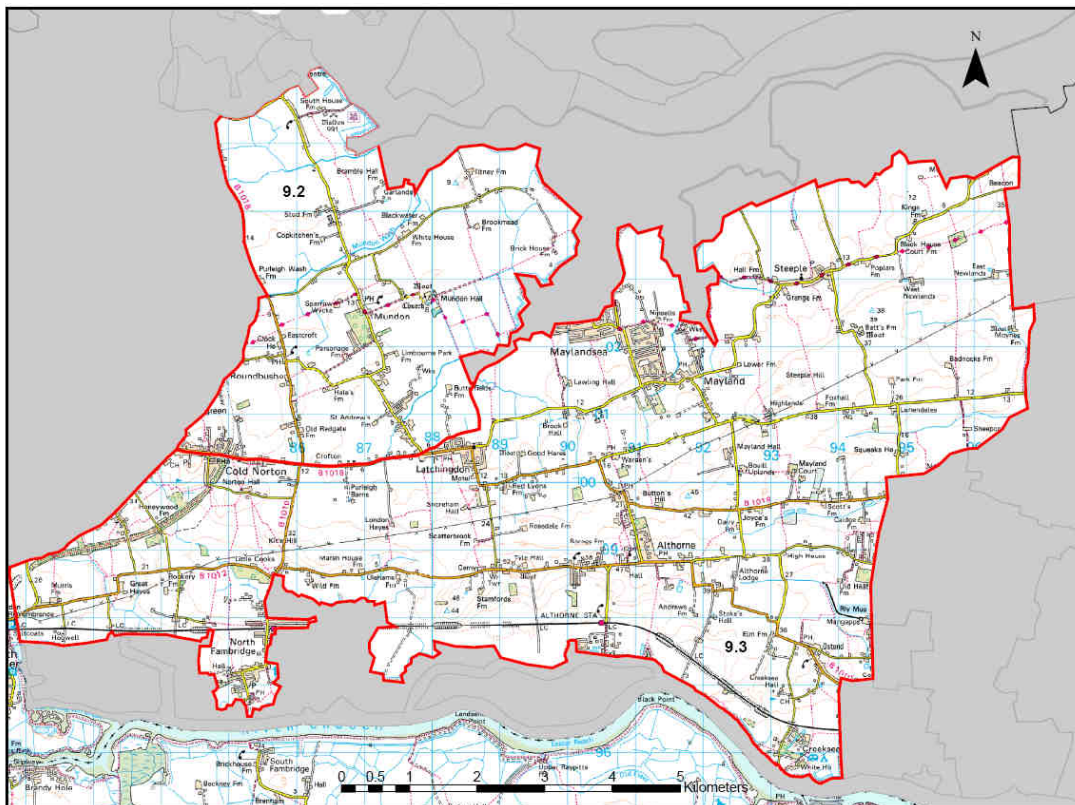


Fig. 13 Map showing location of HECZs 9.2 and 9.3

3.14 HECZ 9.2: The Mundon area

Historic Environment Description

Summary: This zone lies at the western end of the Dengie peninsula, and extends as far north as the southern edge of Maldon urban area. The surface geology is largely London clay, with head deposits and alluvium in the valleys of the Mundon Wash and Mundon Creek. The zone contains the only registered battle site in Essex comprising the Battle of Maldon, held in 991 between the Saxons under Earl Brythnoth and the Viking invaders.

Historic Landscape Character: Mundon Marsh and Creek originally extended as far inland as Mundon Hall. The field system is similar to that of the rest of the Dengie, comprising a distinctive co-axial rectilinear field pattern, although it becomes somewhat less regular in the northern and western parts of the zone. It is of considerable antiquity, and may have its origins in the mid-late Saxon period, if not before. The historic settlement pattern comprises a church/hall complex and dispersed farmsteads.

Archaeological Character: The soil-type is not conducive to cropmark formation and only limited archaeological fieldwork has been undertaken in this zone. Red hills have been recorded including one on the edge of the former Mundon Marsh which are indicative of Late Iron Age and Roman exploitation of the coast. The field-system is believed to be of considerable antiquity dating back to the mid-late Saxon period, although some elements may be older. This zone incorporates the landward portion of the Battle of Maldon, held in 991 between the Saxons under Earl Brythnoth and the Viking invaders. Historically, settlement was highly dispersed with isolated farms and a church/hall complex at Mundon. In the 18th century Mundon marsh was reclaimed, the original sea-walls are still visible. And in 1832 a Canal was built linking the River Blackwater at Southey Creek with White House Farm, in order to move agricultural produce. The course of the canal can still be traced and traces of old wooden piling and lock basin brickwork survive.

<ul style="list-style-type: none"> Diversity of historic environment assets 	Field-system, isolated farms, church/hall complex, archaeological deposits, battle site	2
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• Survival	Good survival of historic environment assets	2
• Documentation	HER data, Poem,	2
• Group Value Association	Field-system, White House Farm canal	2
• Potential	Potential for surviving landscape features and archaeological deposits	2
• Sensitivity to change	Archaeological deposits, field-system and building complexes are sensitive to change	2
• Amenity Value	The area has a distinctive character of its own, and taken in conjunction with the adjoining estuaries has a high amenity value especially with the site of the Battle of Maldon included	2

Key Issues

In terms of the management of the historic environment of the coastal zone, the northern part of the zone, fringing Lawling and Limbourne Creeks and the Blackwater estuary, is most significant. The zone is also bisected by the valleys of the Mundon Wash and Creek. In terms of the historic environment, perhaps the most significant aspect is the role the zone plays in maintaining the overall historic landscape pattern of estuary, creek, grazing marsh, linking with the distinctive rectilinear field pattern of the Dengie. The zone contains the only registered battlefield in Essex. A range of prehistoric pottery and flint scatters are recorded from the very northern part of the zone.

- 1. Preservation of historic landscape character is important to this zone, as part of the overall pattern of creeks and grazing marsh which is important to the historic environment of Maldon's coast. Few of the sinuous boundary ditches formerly characteristic of the northern part of the zone survive well, the effects of agricultural improvement in the second half of the 20th century have had a significant effect through the conversion of almost all the grazing marsh to arable, as well as the removal of many of the field boundaries, Environmental stewardship**

may be a means of re-establishing the historically significant grassland.

2. The most significant historic site within the zone is the site of the Battle of Maldon, fought in 991 between the Saxons under Earl Brythnoth and the Viking invaders. The battlefield is of national significance with considerable literature available on the battle. The presence of the battlefield results in this zone having the potential for a high amenity value.
3. Many of the archaeological sites and deposits in the northern part of this zone are likely to be associated with red hills, the former creeks of the saltmarsh, farms relict sea walls and other landscape features.
4. Coastal access, particularly in view of the Marine and Coastal Access Bill, is likely to impact on this zone, particularly its northern end where there are a number of footpaths including the one which runs along the seawall. The history of human use of the marshes, including the relict creek, red hills and sinuous ditches could be presented to users of these paths.
5. A sound knowledge base is required to inform management and facilitate 1 - 4 above, and a firm foundation is already in place. The Hullbridge Survey (Wilkinson and Murphy 1995) and secondary sources such as Murphy and Brown (1999) (Rippon 1991 and 2000) provide a baseline for understanding the historic landscape, and archaeological sites and deposits in this zone. Other published sources, and historic sources, including historic mapping, provide additional useful information.

3.15 HECZ 9.3: The neck of the Dengie peninsula

Historic Environment Description

Summary: This zone lies in the centre of the Dengie peninsula. The surface geology is largely London clay, with some areas of Claygate beds and sand and gravel at the eastern end of the area, the latter originates as river terraces marking the course former Medway. It is characterised by the historic rectilinear field-system, and dispersed historic settlement comprising church/hall complexes, moated sites and individual farms.

Historic Landscape Character: There is a ridge of slightly higher ground running down the centre of the zone, drained by a few small streams. The field system is similar to that of the Canewdon area to the south of the Crouch, comprising a distinctive co-axial rectilinear field pattern (known as Dengie-form after this area). These are of considerable antiquity, and may have their origins in the middle Saxon period, if not before. The field boundaries were historically bordered by elm hedgerows, but the elm standards were lost in the 1970s because of Dutch Elm Disease. The historic settlement is largely scattered along the roads along the top of the ridge, at Latchingdon, Althorne and Mayland. North Fambridge and Maylandsea are sited close to the Crouch and Blackwater estuaries respectively. The southern part of the zone includes a stretch of the north shore of the Crouch estuary, at Althorne creek and Cliff Reach, which as the name suggests, includes a small stretch of shore which, is bounded not by a seawall, but by a low London Clay cliff. There is a small area of present and former grazing marsh fringing the creek and estuary, and an historic ferry at Creeksea connecting to Wallasea. Historically the settlement pattern was highly dispersed with church hall complexes, individual farms and moated sites, many of which are connected by lanes and tracks to creeks and estuaries.

Archaeological Character: Little archaeological work has been undertaken within the zone. However, occupation from the prehistoric period onwards has been identified on the northern side of the Crouch Estuary. The eastern end of the zone contains important river gravels deposited in the former valley of the River Medway in the Pleistocene period with the potential for Paleolithic or Pleistocene deposits being present. Quantities of flintwork and evidence of an Iron Age cemetery have been found in the southern part of the zone. Several exposures of the prehistoric land-surface, some with associated flint work and Bronze Age timber structures have been recorded in the intertidal zone of Althorne Creek and the Crouch estuary. The field-system is believed to be of considerable antiquity dating back to the mid-late Saxon period although some elements

may be older. A complete small pot of Late Saxon Ipswich Ware has been recovered from Althorne Creek. There are a number of church/hall complexes such as those at Snoreham, Mayland, Althorne and Steeple.

• Diversity of historic environment assets	Field-system, moated sites, church/hall complexes, prehistoric and Roman sites	3
• Survival	Good survival of historic environment assets	2
• Documentation	HER data	2
• Group Value Association	Field-system, church hall complexes	2
• Potential	Potential for surviving landscape features and archaeological deposits	2
• Sensitivity to change	Archaeological deposits, field-system and building complexes are sensitive to change	2
• Amenity Value	The area has a distinctive character of its own, and taken in conjunction with the adjoining estuaries has a high amenity value	2

Key Issues

With regard to the management of the historic environment of the coastal zone, the southern part of the zone, fringing Althorne Creek and the Crouch estuary, is most significant. In terms of the historic environment, perhaps the most significant aspect is the role it plays in maintaining the overall historic landscape pattern of estuary, creek, saltmarsh and grazing marsh, linking with the distinctive rectilinear field pattern of the Dengie to the north. In addition there are areas of exposed prehistoric landsurface in the intertidal zone, and a short stretch of cliff.

- 1. Preservation of historic landscape character is particularly critical to this zone, as part of the overall pattern of creek, mudflat, saltmarsh and grazing marsh which is important to the historic environment of Maldon's coast. The rectilinear boundaries of this zone are an integral part of the field system which characterises much of the Dengie peninsula and which is of ancient origin. The boundaries of present and former grazing marsh are part of this rectilinear system, as are the lanes and tracks which connect many of the farms and**

settlements to the estuary. Such lanes are very characteristic of the historic settlement pattern around the coast, their maintenance and that of the rectilinear pattern of boundaries is of the utmost importance for the historic character of the area, and is an aspect of the historic character of the Dengie peninsula which is of regional and national significance. In general the absence of woodland, as with much of the coast, is an integral part of the historic character of this zone. However, there are a few small areas of ancient woodland; where these occur they comprise small rectangular blocks. In terms of preserving historic character large scale planting would be inappropriate. Should new planting be proposed, careful consideration should be given to location and mass, and the preservation of the rectangular pattern of land division should be paramount. Where grazing marsh has been converted to arable, in the second half of the 20th century, environmental stewardship may be a means of re-establishing the historically significant grassland.

2. Whilst a range of sites and features may lie within and beneath the present and former grazing marsh; many of the most significant archaeological sites and deposits related to the coast in this zone are likely to be in intertidal areas associated with the prehistoric land surface. Systematic survey of these areas has not been undertaken since the mid 1980s and the inevitable pattern of erosion and deposition will have affected exposures and structures recorded then. The recovery of an Ipswich ware vessel from Althorne Creek is unusual and may indicate Late Saxon activity which would be of particular interest. Accordingly resurvey work on this stretch of coast, might be beneficial.

3. Coastal access, especially in view of the Marine and Coastal Access Bill, is likely to impact on this zone, particularly its southern end where a footpath runs along the seawall, and a number of paths

connect to it. There is potential for access from Burnham and the station at Althorne. The history of human use of the marshes, creek and estuary, including the prehistoric land surface, associated structures such as red hills and the historically significant rectilinear pattern of the landscape, could all be explained and presented to users of these paths.

4. A sound knowledge base is required to inform management and facilitate 1 - 3 above, and a firm foundation is already in place. The Hullbridge Survey (Wilkinson and Murphy 1995) and secondary sources such as Murphy and Brown (1999) (Rippon 1991 and 2000) provide a baseline for understanding the historic landscape, and archaeological sites and deposits in this zone. Other published sources, and historic sources, including historic mapping, provide additional useful information.

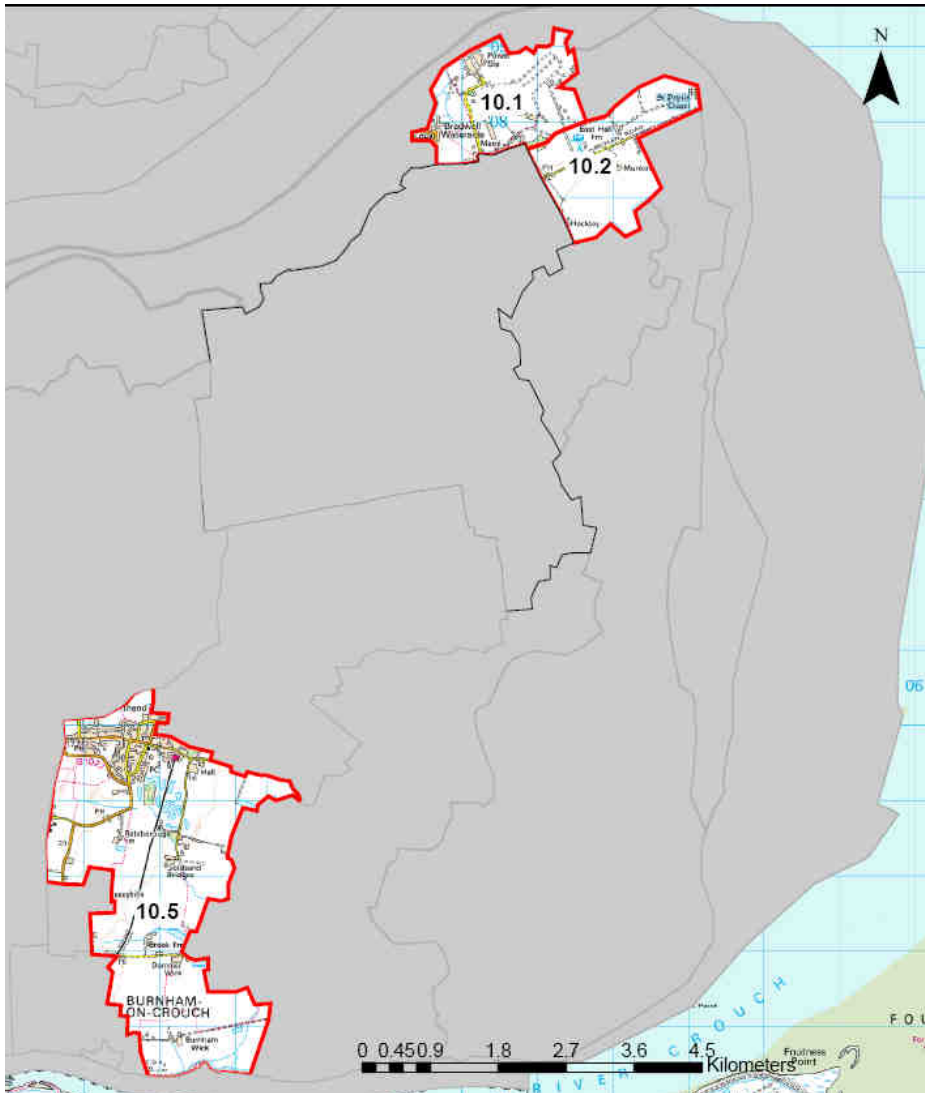


Fig. 15 Map showing location of HECZs 10.1, 10.2 and 10.5

3.16 HECZ 10.1 Bradwell airfield and power station

Historic Environment Description

Summary: This zone comprises Bradwell Waterside, the former airfield and Nuclear Power Station at the north-eastern end of the Dengie Peninsula. The surface geology is a mix of head deposits and river terrace gravels associated with the former valley of the river Medway.

Historic Landscape Character. This zone originally formed part of the 'Dengie-form' type of co-axial, rectilinear field-system. However this pattern has largely been

obliterated by the subsequent military and industrial uses of the zone. A small hamlet and quay developed at Bradwell Waterside in the Saxon or early medieval period. Extensive changes to the landscape took place during the Second World War with the construction of an airfield as well as a number of pill boxes. To the north of this is Bradwell nuclear power station, a first generation “ Magnox” power station. Work began in January 1957 and it began supplying electricity to the National Grid by 1962. The site ceased generating electricity in 2002 and is currently being decommissioned.

Archaeological Character. The zone is sited on important river gravels deposited in the former valley of the River Medway in the Pleistocene period. Bore-hole evidence has given important information on the palaeogeography for the Neolithic and Bronze Age from this zone. A saltern has been identified indicating Roman occupation and exploitation of the zone. A small hamlet and quay developed at Bradwell Waterside in the Saxon or early medieval period. The strategic coastal position of the parish led to a pre-war landing ground being developed into Bradwell Airfield. It was established in 1937 to service aircraft using the nearby bombing range and enlarged to a full airfield in 1941. The main runways and control tower survive and a number of other buildings have been reused.

An assessment of the Historic Environment of Bradwell-on-Sea (O’Connor 2006) has been undertaken which includes detailed information on the historic settlement, buildings and landscape of the parish. This covers parts of this zone.

• Diversity of historic environment assets	Range of palaeo-environmental, archaeological, military and industrial features	3
• Survival	Potential for good survival in areas undisturbed by power station or airfield	2
• Documentation	HER data, NMP data, excavation data, military survey, borehole survey	3
• Group Value Association	Historic structures associated with Bradwell Waterside and the airfield	2
• Potential	Potential for surviving deposits in undisturbed areas.	2

<ul style="list-style-type: none"> • Sensitivity to change 	Military remains and below-ground deposits are sensitive to change	2
<ul style="list-style-type: none"> • Amenity Value 	Bradwell Waterside, military evidence and modern development all have potential amenity value in explaining the history and development of the area	2

Key Issues

A significant part of the value of this zone, in terms of the historic environment, is the buried archaeological deposits, the military airfield and modern power station. There are a range of significant sites likely to be buried beneath the top-soil. The presence of buried peat deposits have been proved to be in existence by the Hullbridge Survey.

1. **Significant development within the zone at Bradwell Nuclear power station is a possibility. The impact of any development will require detailed archaeological assessment as part of any Environmental Impact Assessment.**
2. **Potential wind farm developments are a possibility and will require detailed historic assessment as part of any Environmental Impact Assessment, which should include their impact on the below ground deposits, historic landscape including, visual impact, together with consideration of necessary mitigation.**
3. **Coastal access, particularly in view of the Marine and Coastal Access Bill, is likely to impact on this zone, particularly its southern end where a footpath runs along the seawall. The history of human use of the marshes, including the relict creek, red hills and sinuous ditches could be presented to users of these paths.**
4. **Significant amenity value could be gained from the promotion of the 20th century developments within the zone related to the much longer history of the coastal landscape.**

5. A sound knowledge base is required to inform management, and a firm foundation is already in place. The Hullbridge Survey (Wilkinson and Murphy 1995) and secondary sources such as Murphy and Brown (1999) provide a baseline for understanding the historic landscape, and archaeological sites and deposits in this zone. Other published sources, and historic sources, including historic mapping, provide additional useful information.

3.17 HECZ 10.2 Othona and St Peters Chapel

Historic Environment Description

Summary: This zone is situated in the far north eastern corner of the Dengie area. The zone is characterised by a promontory of higher ground, formed from glacial deposits on London Clay, that form a ridge of higher ground, which would have stood clear of the surrounding salt marsh. It comprises the remains of the Saxon shore fort and settlement at the headland and the Roman road leading to them. It also contains the early medieval church of St Peters and possible Saxon settlement. The Saxon estates later became the medieval manors, including East Hall Farm. The surface geology is a mix of head deposits with outcrops of London Clay. It forms part of the historic settlement of Bradwell-on-Sea.

Historic Landscape Character. The coastal ‘tip’ afforded a strategic position for defence purposes. The Roman fort was located on the extreme eastern point of dry land on a creek. Coring work has revealed that there were substantial inlets from the sea, one reaching to the fort, providing a sheltered anchorage. Cropmarks reveal the remains of a regimented, rectilinear field system of possible Roman origin upon the higher ground closer to the village. Shallow gully features broadly aligned with the fort possibly represent agricultural or horticultural activity.

Archaeological Character. Bore-hole evidence has given important information on the palaeo-geography for the Neolithic and Bronze Age from this zone. The zone has important Roman military sites with the remains of a Saxon shore fort and associated

settlement to the north. East End Road follows the course of a Roman road running along a ridge of higher ground to the fort, which is protected as a Scheduled Monument. Othona is considered to have been built around c.250-270 AD and was mentioned in the *Notitia Dignitatum* as under the command of the Count of the Saxon Shore in Britain. The construction of the fort and its defences was substantial, with thick walls surrounded by a wide ditch. Geophysical survey has shown a settlement associated to the fort extending westwards down the Roman road.

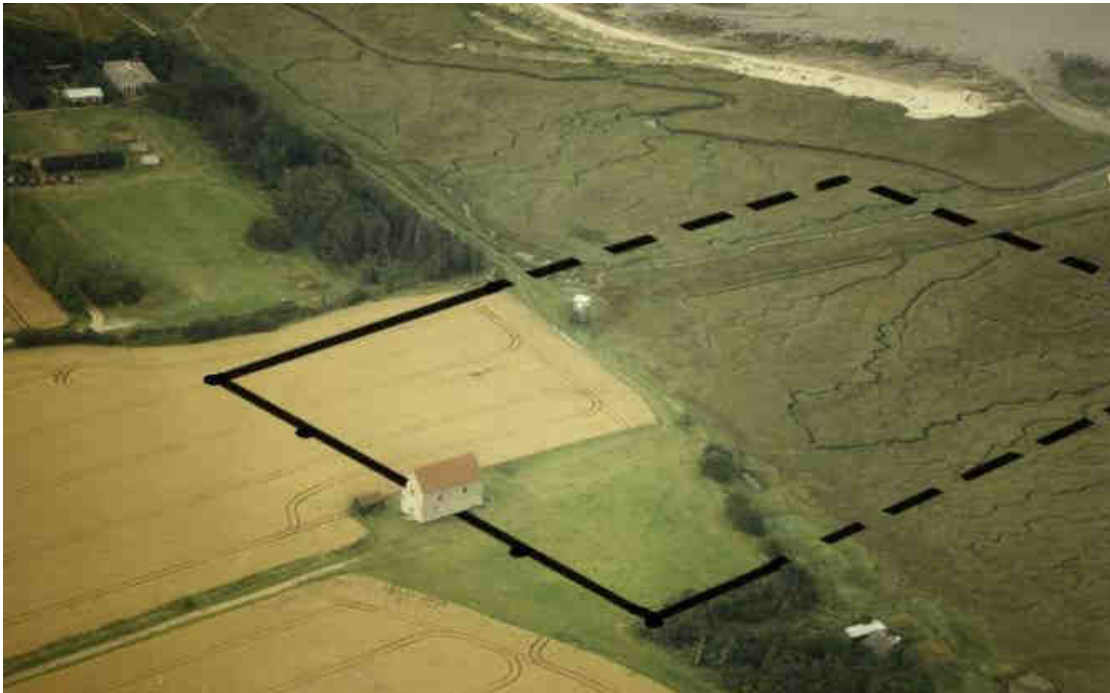


Fig.16. Aerial view of the St. Peter's chapel, a beach chenier can be seen in the top right hand of the photograph. The outline of the Roman fort is shown in black, north of the chapel the arable field has been converted to a wildflower meadow, under an Environmental Stewardship Scheme preventing further erosion of the buried remains through continued ploughing.

By the 5th century there is evidence that the Roman fort had been abandoned. It has been suggested that there may have been an Anglo-Saxon settlement, known as *Ythancestir*, from the 5th century onwards. The ruins of the Roman fort were used as a site of a monastery in the Saxon period. The church of St Peter's, protected as a Scheduled Monument, is thought to be the monastery built by St. Cedd, a monk from

Holy Island, Lindisfarne, around 653AD when King Oswiu of Northumbria, having imposed his overlordship, persuaded King Sigebert II of Essex to adopt Christianity.

The Saxon estates became medieval manors after 1066 and part of the land was held by the monastery of St Valery. During the medieval period there appears to have been some consolidation of the Domesday manors.

An assessment of the Historic Environment of Bradwell-on-Sea (O'Connor 2006) has been undertaken which includes detailed information on the historic settlement, buildings and landscape of the parish and covers the whole of the zone.

• Diversity of historic environment assets	Range of Roman military and civil remains, Saxon religious house and Medieval manorial estates.	3
• Survival	Part of the fort defences survive. St Peters nave walls still survive and the chapel is of extreme interest as one of the earliest surviving churches in England.	3
• Documentation	Historical sources, HER data, NMP data, excavation data, survey data, borehole survey	3
• Group Value Association	Historic structures associated with Roman defences and Saxon monastery, field systems	3
• Potential	High Potential for surviving archaeological deposits	3
• Sensitivity to change	Fort remains and below-ground deposits are sensitive to change. Chapel?	3
• Amenity Value	Very high value due to the survival of the chapel and elements of the Roman fort. Potential for further promotion and management of the zone	3

Key Issues

A significant part of the value of this zone in terms of the historic environment is related to the upstanding and buried archaeological deposits. The zone sits on slightly higher ground than the surrounding area and has formed a focus for settlement. The most significant site is that of the Chapel of St Peter on The Wall and the earlier Roman Saxon Shore Fort. Further Roman occupation has been identified to the west outside of the Roman fort. A range of WWII military sites are located within the sea wall defences.

- 1. Preservation of historic landscape character is particularly critical to this zone, as part of the overall pattern of saltmarsh and grazing marsh and settlement which is important to the historic environment of Maldon's coast. The effects of agricultural improvement in the second half of the 20th century have had an effect through the conversion of almost all the grazing marsh to arable production. Environmental stewardship has already been used as a means of re-establishing the historically significant grassland and protecting below ground remains in a small area of the Roman fort. Environmental Stewardship may be a means of enhancing environmental management. There are ongoing issues around the conservation of the above ground remains of the Roman fort.**
- 2. Coastal access, particularly in view of the Marine and Coastal Access Bill, is likely to impact on this zone. The history of human use of the zone could be presented to users of the paths and those visiting the chapel and fort.**
- 3. A sound knowledge base is required to inform management, and a firm foundation is already in place. The Hullbridge Survey (Wilkinson and Murphy 1995) and secondary sources such as Murphy and Brown (1999) provide a baseline for understanding the historic landscape, and archaeological sites and deposits in this zone. Detailed assessment has been undertaken in and around the Roman fort (Heppell et al unpublished) Other published sources, and historic sources, including historic mapping, provide additional useful information.**

3.18 HECZ 10.5 Southminster and scattered farms towards the Crouch Estuary

Historic Environment Description

Summary: This zone comprises the land between Burnham, the Crouch Estuary and the northern edge of Southminster. The surface geology is a mix of head deposits and river terrace gravels associated with the former valley of the river Medway with outcrops of London Clay. It contains the earthworks within Pandole Wood which are a Scheduled Monument, the historic settlement of Southminster and post medieval to modern industrial and recreational development towards the estuary.

Historic Landscape Character: The zone is dominated by an area of higher ground (c.30mOD) in the west capped by river terrace sands and gravels, there are head deposits on the lower slopes up to the interface with the former saltmarsh. To the south the zone extends to the coast which is the northern coast of the River Crouch. The majority of the zone originally formed part of the 'Dengie-form' type of co-axial, rectilinear field-system, although it becomes increasingly less regular in the south due to the coastal influence. This field-type is of considerable antiquity, and may have its origins in the mid-late Saxon period, if not before. However this pattern has largely been obliterated through modern farming techniques leading to boundary loss, and village expansion and quarrying largely in the northern half of the zone. The medieval village developed from the late Saxon predecessor around the church and along the High Street, with the manor house of Southminster Hall located on the eastern edges of the settlement. The post-medieval village is a typical example of a small nucleated settlement of that period. To the eastern and southern part of this zone, part of the Dengie Marshes, was an area of former salt-marsh that was largely reclaimed in the 17th century. The marshes are characterised by their open aspect and sinuous drainage channels, which fossilise the plan of the tidal-creeks within the marsh. A major factor in the wealth of this area was the marshland pastures which provided rich grazing for livestock and had an integrated relationship to the settlement on the higher ground to the west.

Archaeological Character. The zone is rich in archaeological deposits of multi-period date. Cropmarks are present throughout the zone, however, the more complex groups are located in the southern part of the zone. Within Pandole Wood on the eastern side of Southminster is an earthwork complex, variously interpreted in the past as an Iron Age, Roman or Viking enclosure. It consists of a roughly rectangular enclosure formed from banks enclosing a waterlogged interior with a small central mound. The siting of the enclosure, on the eastern edge of the sand and gravel ridge, provides views to the north across the Asheldham Brook to the early Iron Age hill-fort at Asheldham Camp (see HECZ 10.4) and to the east and south-east across the coastal marsh. At the end of the Saxon period the Domesday Book records the manor of Southminster belonging to the Bishop of London. The manor had a relatively high population and there was probably a village centred on the Minster church at Southminster itself. The area has a long history of agricultural activity; sea defences were built within the former marsh to facilitate the improvement of the grazing land during the post medieval period. A variety of post medieval industrial activity was conducted within the zone on a small or domestic scale, including milling and malting as well as brickworks and quarrying. Later, in the industrial period, the railway arrived and Gas Works at Burnham, which used to supply Southminster. During World War I there was a landing ground and flight station located near to Burnham. The modern expansion of Southminster has grown to envelope its' former 'satellite' settlements such as North End, however the small historic core survives partially with a small number of listed buildings dating from the 16th to 19th century. In the area of marshland which forms the eastern and southern part of the zone, during the prehistoric period the area was tidal marsh-land, intersected by small creeks. There are numerous Red Hills dating to the late Iron Age and Roman period sited along the interface between the dryland and the marsh. A number of early sea-walls and counter walls have been identified, probably relating to the piecemeal nature of the marsh enclosure.

An assessment of the Historic Environment of Southminster (Medlycott 2001) has been undertaken which includes detailed information on the historic settlement, buildings and landscape of the parish. This covers parts of this zone.

• Diversity of historic environment assets	Settlement evidence, earthworks, cropmarks	2
• Survival	Some loss of historic environment, erosion of scheduled monument	2
• Documentation	HER data, NMP data, excavation data, settlement assessment	2
• Group Value Association	cropmarks	2
• Potential	Further archaeological deposits likely to be present throughout the zone. Occupation evidence within the settlement known to exist.	2
• Sensitivity to change	Historic core, scheduled monument and other known sites highly sensitive. Other areas less so.	3
• Amenity Value	Potential for the promotion of the settlement of Southminster and its associated Scheduled monument especially in association with zones to the north, east and south.	2

Key Issues

In terms of management of the historic environment of the coastal Zone the eastern and southern portion of HECZ 10.5, forms part the marshland at the east end of the Dengie peninsula. In terms of the historic environment, perhaps the most significant aspect is the role it plays in maintaining the overall historic landscape pattern of estuary, creek, saltmarsh and grazing marsh. In addition the major features of importance are essentially parts of the historic landscape such as the location of farms, sinuous ditches, relict sea and counter walls and red hills. In addition there are, of course, a range of significant sites likely to be buried within and beneath the alluvium of the marshes.

- 1. Preservation of historic landscape character is particularly critical to this zone, as part of the overall pattern of creek, mudflat, saltmarsh and grazing marsh which is important to the historic environment of**

Maldon's coast. Whilst many of the sinuous boundary ditches survive well, the effects of agricultural improvement in the second half of the 20th century have had an effect through the conversion of almost all the grazing marsh to arable. Environmental stewardship may be a means of re-establishing the historically significant grassland.

- 2. Many of the most significant archaeological sites and deposits in this zone are likely to be associated with a red hills, the former creeks of the saltmarsh, farms, relict sea walls and other landscape features.**
- 3. Managed realignment which may be considered as part of flood risk management, maintenance of landscape character or habitat creation, would affect the historic environment. Given the character and relatively large size of this zone, it is likely that some carefully planned realignment, with appropriate management and mitigation of adverse effects could be accommodated by the historic environment of this zone.**
- 4. Coastal access, particularly in view of the Marine and Coastal Access Bill, is likely to impact on this zone, particularly its southern end where there are a number of footpaths including the one which runs along the seawall. The history of human use of the marshes, including the relict creek, red hills and sinuous ditches could be presented to users of these paths.**
- 5. A sound knowledge base is required to inform management and facilitate 1, 3 and 4 above, and a firm foundation is already in place. The Hullbridge Survey (Wilkinson and Murphy 1995) and secondary sources such as Medlycott (2001) provide a baseline for understanding the historic landscape, and archaeological sites and deposits in this zone. Other published sources, and historic sources, including historic mapping, provide additional useful information.**

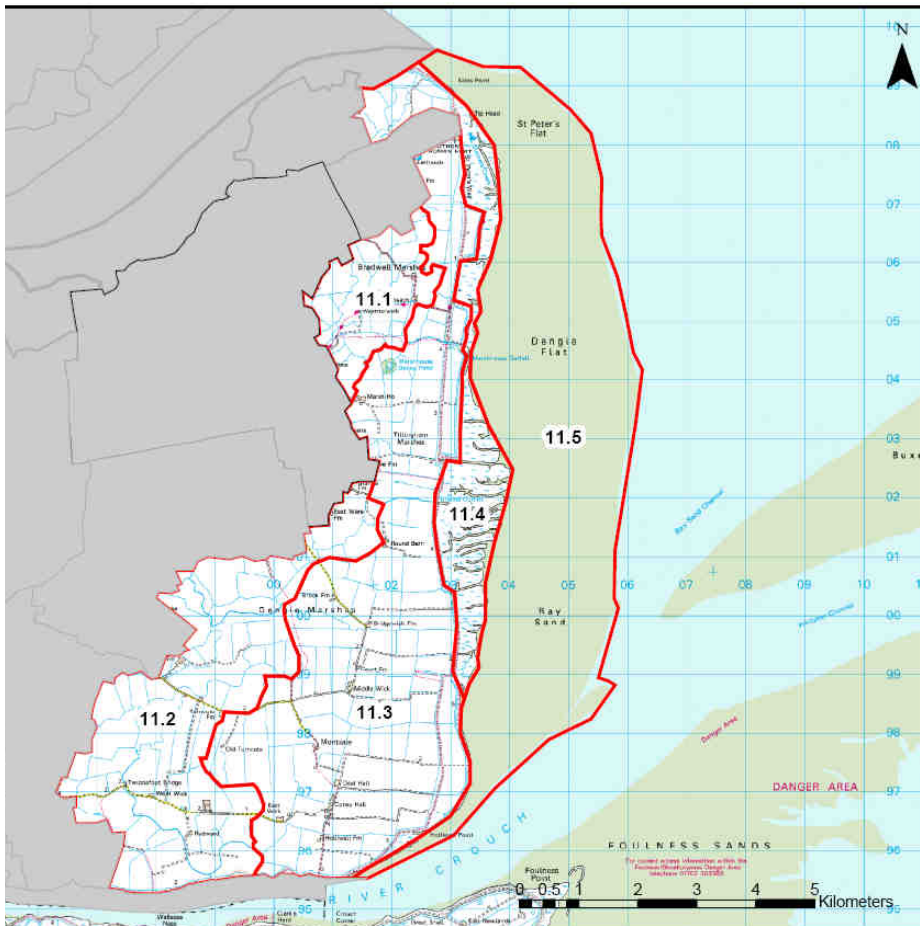


Fig. 17 map showing the location of the HECZs in HECA 11

3.19 HECZ 11.1 Bradwell Marshes

Historic Environment Description

Summary: This zone comprises part of the marshes at the end of the Dengie peninsula. The surface geology is alluvium, overlying London Clay. Part of the marshes of the historic settlements of Bradwell and Tillingham are located within this zone.

Historic Landscape Character: The marshland of this zone, an area of former salt-marsh that was reclaimed as grazing marsh in the 17th century. They are characterised by their open aspect and sinuous drainage channels, which fossilise the plan of the tidal-creeks within the marsh. Much of this zone formed the sheep-fold or pastures of

Pirimers, first mentioned in 1222 when it belonged to the Canons of St Pauls. Enclosure and accompanying improved drainage of this area began in 1611 and was complete by 1739.

Archaeological Character: In the prehistoric period the zone was tidal marsh-land, intersected by numerous creeks. Bore-hole evidence from the north of the zone has given important information on the palaeo-geography for the Neolithic and Bronze Age. There are several Red Hills dating to the late Iron Age and Roman periods sited along the interface between the dryland and the marsh. An 18th century duck decoy pond was located to the north of Weatherwick Farm.

An assessment of the Historic settlements of Bradwell (O'Connor 2006) and Tillingham (Medlycott 2007) and their parishes have been undertaken which includes detailed information on the historic settlement, buildings and landscape of the parish. This covers parts of this zone and zones 10.1, 10.2, 11.3, 11.4.

• Diversity of historic environment assets	Range of historic landscape and archaeological features	3
• Survival	Potential for good survival.	3
• Documentation	HER data, NMP data, excavation data	3
• Group Value Association	Landscape features	1
• Potential	High potential for surviving deposits.	3
• Sensitivity to change	Landscape and archaeological deposits highly sensitive to change.	3
• Amenity Value	Potential for promoting the importance of the historic environment within the Dengie marshes	2

Key Issues

A significant part of the value this marshland, in terms of the historic environment, is for the role it plays in maintaining the overall historic landscape pattern of estuary, creek, saltmarsh and grazing marsh. In addition the major features of importance are essentially parts of the historic landscape such as the sinuous drainage ditches, location

of farms, relict sea and counter walls and sites of Red Hills. There are, of course, a range of archaeological sites likely to be buried within and beneath the alluvium of the marshes.

- 1. Preservation of historic landscape character is particularly critical to this zone, as the nature of this marshland and their relationship to the adjacent saltmarsh, and mudflats (HECZ11.4) is important to the historic environment of Maldon's coast. Whilst many of the sinuous boundary ditches survive well, the effects of agricultural improvement in the second half of the 20th century have had an effect through the conversion of almost all the grazing marsh to arable. Environmental stewardship may be a means of re-establishing the historically significant grassland.**
- 2. Many of the most significant archaeological sites and deposits in this zone are likely to be associated with farms, red hills, the former creeks of the saltmarsh, relict sea walls and other landscape features.**
- 3. Potential wind farm developments are a possibility and will require detailed historic assessment as part of any Environmental Impact Assessment, which should include their impact on the below ground deposits, historic landscape including, visual impact, together with consideration of necessary mitigation.**
- 4. Managed realignment which may be considered as part of flood-risk management, maintenance of landscape character or habitat creation, would affect the historic environment. Given the character and relatively large size of this zone, it is likely that some carefully planned realignment, with appropriate management and mitigation of adverse effects could be accommodated by the historic environment of this zone.**
- 5. Coastal access, particularly in view of the Marine and Coastal Access Bill, is likely to impact on this zone, a long distance path St. Peters Way passes through it. The history of human use of the marshes and**

its associated features such as sinuous creeks and red hills, could be presented to users of the path.

6. A sound knowledge base is required to inform management and facilitate 1, 3 - 5 above, and a firm foundation is already in place. The Hullbridge Survey (Wilkinson and Murphy 1995) and secondary sources such as Murphy and Brown (1999), O'Connor (2006) Medlycott (2007) provides a baseline for understanding the historic landscape, and archaeological sites and deposits in this zone. Other published sources, and historic sources, including historic mapping, provide additional useful information.

3.20 HECZ 11.2 Old Dengie Marshes

Historic Environment Description

Summary: This zone comprises part of the marshes at the end of the Dengie peninsula. The surface geology is alluvium, overlying London Clay. These marshes formed part of the historic settlements of Tillingham, Dengie, Southminster and Burnham.

Historic Landscape Character: This zone, part of the Dengie Marshes, was an area of former salt-marsh that was largely reclaimed in the 17th century. The marshes are characterised by their open aspect and sinuous drainage channels, which fossilise the plan of the tidal-creeks within the marsh. Enclosure and associated improved drainage of this area began in 1611 and was largely complete by 1679. A major factor in the wealth of this area was the marshland pastures which provided rich grazing for livestock and had an integrated relationship to the settlement on the higher ground to the west.

Archaeological Character: In the prehistoric period the area was tidal marsh-land, intersected by creeks, including a major one that ran north from the mouth of the Crouch almost to the earthwork enclosure of Asheldham Camp. There are numerous Red Hills dating to the late Iron Age and Roman period sited along this creek and the interface

between the dryland and the marsh. A number of early sea-walss and counter walls have been identified, probably relating to the piecemeal nature of the marsh enclosure.

Assessment reports on the Historic Settlements of Tillingham and Southminster (Medlycott 2007: 2001) have been undertaken which include detailed information on the historic settlement, buildings and landscape of those parishes, which include parts of this zone.

• Diversity of historic environment assets	Range of historic landscape and archaeological features	3
• Survival	Potential for good survival.	3
• Documentation	HER data, NMP data, excavation data	2
• Group Value Association	Landscape features	1
• Potential	High potential for surviving deposits.	3
• Sensitivity to change	Landscape and archaeological deposits highly sensitive to change.	3
• Amenity Value	Potential for promoting the importance of the historic environment within the Dengie marshes	2

Key Issues

A significant part of the value the marshland at the east end of the Dengie peninsula, in terms of the historic environment, is for the role it plays in maintaining the overall historic landscape pattern of estuary, creek, saltmarsh and grazing marsh. In addition the major features of importance are essentially parts of the historic landscape such as the location of farms, sinuous ditches, relict sea and counter walls and red hills. In addition there are, of course, a range of significant sites likely to be buried within and beneath the alluvium of the marshes, perhaps particularly associated with the major buried creek.

1. **Preservation of historic landscape character is particularly critical to this zone, as part of the overall pattern of creek, mudflat, saltmarsh and grazing marsh which is important to the historic environment of**

Maldon's coast. Whilst many of the sinuous boundary ditches survive well, the effects of agricultural improvement in the second half of the 20th century have had an effect through the conversion of almost all the grazing marsh to arable. Environmental stewardship may be a means of re-establishing the historically significant grassland.

- 2. Many of the most significant archaeological sites and deposits in this zone are likely to be associated with a former major creek running roughly north south through the centre of the zone, together with farms, red hills, relict sea walls and other landscape features.**
- 3. Potential wind farm developments are a possibility and will require detailed historic assessment as part of any Environmental Impact Assessment, which should include their impact on the below ground deposits, historic landscape including, visual impact, together with consideration of necessary mitigation.**
- 4. Managed realignment which may be considered as part of flood risk management, maintenance of landscape character or habitat creation, would affect the historic environment. Given the character and relatively large size of this zone, it is likely that some carefully planned realignment, with appropriate management and mitigation of adverse effects could be accommodated by the historic environment of this zone.**
- 5. Managed realignment which may be considered as part of flood risk management, maintenance of landscape character or habitat creation, will affect the historic environment. Given the character and relatively large size of this zone, it is likely that some carefully planned realignment, with appropriate management and mitigation of adverse effects could be accommodated by the historic environment. Of this zone.**

6. **Coastal access, particularly in view of the Marine and Coastal Access Bill, is likely to impact on this zone, particularly its southern end where a footpath runs along the seawall. The history of human use of the marshes, including the relict creek, red hills and sinuous ditches could be presented to users of these paths.**

7. **A sound knowledge base is required to inform management particularly with regard to 1, 3 - 6 above, and a firm foundation is already in place. The Hullbridge Survey (Wilkinson and Murphy 1995) and secondary sources such as Murphy and Brown (1999) and Medlycott (2001, 2007) provide a baseline for understanding the historic landscape, and archaeological sites and deposits in this zone. Other published sources, and historic sources, including historic mapping, provide additional useful information.**

3.21 HECZ 11.3 New Dengie Marshes

Historic Environment Description

Summary: This zone comprises part of the marshes at the end of the Dengie peninsula. The surface geology is alluvium, overlying London Clay, within this alluvium, and buried below are ancient cheniers, sand and shell island spits. These marshes formed part of the historic settlements of Tillingham, Dengie, Southminster and Burnham.

Historic Landscape Character: This zone comprises the outer portion of the Dengie Marshes, an area of former salt-marsh that was largely reclaimed in the 17th century. A row of farms (Bridgewick, Middlewick, the Mountsales, Deal Hall, Coney Hall, East Wick and Holliwell) are located on or close to the chenier in the centre of the marsh. Further areas to the seaward side of this were reclaimed and drained in the 19th century. The area is now characterised by its open aspect and regular drainage channels, the landward side of which are the result 20th century straightening of the original sinuous field pattern, occasional more sinuous boundaries still survive. One of the most complete examples of a Duck Decoy pond in Essex lies in the northern part of this zone at Tillingham.

Archaeological Character: In the prehistoric period the area was intertidal mudflats and marsh-land, intersected by numerous creeks. The cheniers would have provided an ideal focus for human activity within the marsh and must be considered of high archaeological potential. Beneath the marsh there are also the remnants of a series of small creeks. A number of early sea-walls and counter walls have been identified, probably relating to the piecemeal nature of the marsh enclosure in the post-medieval period, also belonging to this phase are of duck-decoy ponds. Scattered throughout the marsh are a number of sites relating to the Second World War defence of the eastern seaboard of Britain, including an anti-aircraft site, several pill-boxes (a number of which are built into the sea wall) and a remarkable mine field control tower.



Fig. 18 WWII minefield control tower at the mouth of the Crouch estuary

An assessment of the Historic Environment of Tillingham (Medlycott 2004) has been undertaken which includes detailed information on the historic settlement, buildings and landscape of the parish which includes parts of this zone.

• Diversity of historic environment assets	Range of historic landscape and archaeological features	3
• Survival	Potential for good survival.	3
• Documentation	HER data, NMP data, excavation data	2
• Group Value Association	Landscape features, duck decoy ponds	2
• Potential	High potential for surviving deposits.	3
• Sensitivity to change	Landscape and archaeological deposits highly sensitive to change.	3
• Amenity Value	Potential for promoting the importance of the historic environment within the Dengie marshes	2

Key Issues

A significant part of the value the marshland at the east end of the Dengie peninsula, in terms of the historic environment, is for the role it plays in maintaining the overall historic landscape pattern of estuary, creek, saltmarsh and grazing marsh. In addition the major features of importance are essentially parts of the historic landscape such as the location of farms, relict sea and counter walls and WWII defences. In addition there are, of course, a range of significant sites likely to be buried within and beneath the alluvium of the marshes, perhaps particularly associated with the buried cheniers. The effects of agricultural changes in the second half of the 20th century have been very marked, with many ditches being straightened and almost all of the grazing marsh converted to arable.

- 1. Preservation of historic landscape character is particularly critical to this zone, as the nature of this marshland and their relationship to the adjacent saltmarsh, and mudflats (HECZ11.4) is important to the historic environment of Maldon's coast. Agricultural change in the form of ditch straightening and conversion to of grazing marsh to arable has had a marked effect on the historic character of this zone. Environmental stewardship may be a means of re-establishing the historically significant grassland.**

2. Many of the most significant archaeological sites and deposits in this zone are likely to be at its northern end, associated with a buried creek and possibly used as an anchorage/harbour for ships serving the Roman Fort, or along the line of buried cheniers running roughly north south through the centre of the zone. Archaeological deposits may also be associated with farms, red hills, relict seawalls and other landscape features
3. Potential wind farm developments are a possibility and will require detailed historic assessment as part of any Environmental Impact Assessment, which should include their impact on the below ground deposits, historic landscape including, visual impact, together with consideration of necessary mitigation.
4. Managed realignment which may be considered as part of flood risk management, maintenance of landscape character or habitat creation, would affect the historic environment. Given the character and relatively large size of this zone, it is likely that some carefully planned realignment, with appropriate management and mitigation of adverse effects could be accommodated by the historic environment of this zone.
5. Coastal access, particularly in view of the Marine and Coastal Access Bill, is likely to impact on this zone, a long distance path St. Peters Way passes through the zone, and the path along the sea wall is, at least in the northern part of the zone, much used. The history of human use of the marshes could be presented to users of these paths.
6. A sound knowledge base is required to inform management and facilitate 1, 3 - 5 above, and a firm foundation is already in place. The Hullbridge Survey (Wilkinson and Murphy 1995) and secondary sources such as Murphy and Brown (1999) and Medlycott (2007) provides a baseline for understanding the historic landscape, and

archaeological sites and deposits in this zone. Other published sources, and historic sources, including historic mapping, provide additional useful information.

3.22 HECZ 11.4 Dengie salt-marsh

Historic Environment Description

Summary: This zone comprises a thin strip of un-reclaimed salt-marsh located along the eastern sea-board of the Dengie peninsula. The surface geology is alluvium with bands of 'cheniers' or sand and shell ridges located on the seaward side, overlying London Clay.

Historic Landscape Character: This zone largely comprises the un-reclaimed salt-marshes beyond the sea-wall at the eastern end of the Dengie Marshes there are a number of cheniers at the seaward edge of the marshes, and a particularly good example runs south from sales Point.. The northern part of this area, by the Othona Saxon Shore fort, is now a nature reserve, and the whole has considerable importance for biodiversity and wildlife. It is categorised by salt-marsh vegetation and numerous twisting mud-filled creeks inundated twice a day, by the tide. To the north of the Saxon Shore fort a small area of reclaimed marsh is included in this zone, this was reclaimed in the 17th or early 18th century and is characterised by sinuous boundaries, fossilising the line of the original creeks.

Archaeological Character: Bore-hole evidence has given important information on the palaeogeography for the Neolithic and Bronze Age from the northern portion of this area, a summary of which is included in the Hullbridge Survey report (Wilkinson and Murphy 1995). Half of the Roman fort of Othona, which formed part of the Saxon Shore defence line, has been eroded and its site now lies within the tidal marsh area. It is not known what, if any, below-ground remains survive beneath the alluvium and vegetation, however nothing is visible on the surface. Any earlier evidence is now buried beneath layers of alluvium. Ito the south any remains of medieval or earlier date are likely to be buried by a considerable depth of alluvium. Later periods are represented by the

remains of 19th century sea-walls, remnants of a failed attempt to further extend the Dengie peninsula seawards. A number of bomb-craters, dating to the Second World War have also been recorded within the marsh. There are also a few hulks, or deliberately beached vessels, located in the creeks.

• Diversity of historic environment assets	Range of buried deposits, land surfaces, erosion of the Saxon Shore Fort	2
• Survival	Potential for good survival.	2
• Documentation	HER data, NMP data, excavation data	2
• Group Value Association	archaeological deposits eroding from the coast	2
• Potential	Potential for surviving deposits.	2
• Sensitivity to change	Landscape and archaeological deposits highly sensitive to change.	3
• Amenity Value	Potential for promoting the importance of the historic environment within the inter-tidal zone in association with other zones and the historic environment within zone 11.2	2

Key Issues

A significant part of the value of the intertidal flats at the east end of the Dengie peninsula, in terms of the historic environment, is for the role they play in maintaining the overall historic landscape pattern of estuary, creek, saltmarsh and grazing marsh. There are of course a range of significant sites and deposits in this intertidal zone, either known and recorded like the Sales Point fish trap or anticipated to lie at various depths within the alluvial sequence which makes up the flats.

- 1. Preservation of historic landscape character is particularly critical to this zone, as the nature of these intertidal flats and their relationship**

to the adjacent saltmarsh (HECZ11.4) is fundamental to the historic environment of Maldon's coast.

2. Many of the most significant archaeological sites and deposits in this zone are likely to be at its northern end on St. Peters Flat, associated with the Sales Point Fishtrap, St Peters Chapel and the Roman Fort. Further south contemporary, and earlier, features are likely to be quite deeply buried within and beneath the alluvial sequence. Regular activities such as exploitation of cockles are unlikely to have a particularly detrimental effect, but deeper disturbances may have adverse impacts and the northern end of the zone is likely to be most sensitive.
3. Coastal access, particularly in view of the Marine and Coastal Access Bill, will not directly impact on this zone, and presumably health and safety issues are likely to mean access would not be encouraged. However, the evocative appearance of these flats is, and will continue to be, attractive to users of paths along the east shore of the Dengie, particularly in the north around St. Peters Chapel. The history of human use of the flats could be presented to users of these paths.
4. Access in another sense, by boat, is also an issue, commercial traffic is limited to fishing craft and leisure boating is unlikely to have particularly adverse impacts. Both activities have more or less historic association with this coast.
5. A sound knowledge base is required to inform management and facilitate 3 above, and a firm foundation is already in place. The Hullbridge Survey (Wilkinson and Murphy 1995) provides a baseline for sites and deposits in this intertidal zone. Other published sources, and historic sources, including historic mapping, provide additional useful information.

3.23 HECZ 11.5 Dengie tidal flats

Historic Environment description

Summary: This zone comprises a broad area of tidal flats, some 2.5km wide at its widest point. The geology comprises marine muds and sands overlying London Clay. There are a number of important archaeological structures, relating to the utilisation of the marine environment, located within this zone including the fish trap at Sales Point.

Historic Landscape Character: This zone comprises a wide flat expanse of tidal sands and mud, stretching from Sales Point in the north to Holliwell Point in the south, and encompassing St Peter's Flat, Dengie Flat and Ray Sand. It forms an important marine habitat, being particularly noted for its cockle-beds. The Environment Agency placed a line of barges at the seaward side of St Peter's Flat which has resulted in a significant build-up of material on the shore in the lea of the breakwaters.

Archaeological Character: At the northern end of the zone, at Sales point, a wooden Saxon fish trap consisting of two rows of stakes survives with large panels of wattling between the stakes is protected as a Scheduled Monument. It has been radiocarbon dated to AD656-957 and is probably associated with the monastery founded by St Cedd on the site of the Roman fort of Othona. There is also one wreck spot recorded by the HER on St. Peters Flat and it is likely that other wrecks will be present in this zone. Archaeological remains from earlier periods, is now buried beneath the marine deposits

• Diversity of historic environment assets	Deeply buried remains, fish traps, wrecks	2
• Survival	Potential for good survival.	2
• Documentation	HER data, NMP data, excavation data	2
• Group Value Association	Limited group value	1
• Potential	Potential for surviving deposits as well as eroding deposits.	2
• Sensitivity to change	Archaeological sites and deposits highly sensitive to change.	2
• Amenity Value	Potential, together with neighbouring zones, for promoting the importance of the historic	2

	environment within the inter-tidal zone in association with other zones	
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Key Issues

A significant part of the value the intertidal flats at the east end of the Dengie peninsula, in terms of the historic environment, is for the role they play in maintaining the overall historic landscape pattern of estuary, creek, saltmarsh and grazing marsh. There are of course a range of significant sites and deposits in this intertidal zone, either known, and recorded like the Sales Point fish trap or anticipated to lie at various depths within the alluvial sequence which makes up the flats.

1. **Preservation of historic landscape character is particularly critical to this zone, as the nature of these intertidal flats and their relationship to St Peters chapel, and the adjacent tidal flats (HECZ11.5) is fundamental to the historic environment of Maldon's coast. The cheniers and the saltmarsh they protect have been part of the coastal landscape of Maldon for at least the last 5,000 years. Buried cheniers dating from the later Neolithic are known to exist within and beneath the alluvium of the east end of the Dengie (see part 3 above)**
2. **Many of the most significant archaeological sites and deposits in this zone are likely to be at its northern end toward, St Peters Chapel and the Roman Fort. Further south contemporary and earlier features are likely to be quite deeply buried within and beneath the alluvial sequence. Management is likely to be primarily driven by nature conservation but this should be informed by and integrated with the historic environment.**
3. **Coastal access, particularly in view of the Marine and Coastal Access Bill, will not directly impact on this zone, and presumably health and safety issues are likely to mean access would not be encouraged. However, the evocative appearance of these flats is, and will continue to be, attractive to users of paths along the east shore of the Dengie,**

particularly in the north around St. Peters Chapel. The history of human use of the flats could be presented to users of these paths.

4. Access in another sense, by boat, is also an issue, commercial traffic is limited to fishing craft and leisure boating is unlikely to have particularly adverse impacts. Both activities have more or less historic association with this coast.
5. A sound knowledge base is required to inform management and facilitate 3 above, and a firm foundation is already in place. The Hullbridge Survey (Wilkinson and Murphy 1995) provides a baseline for sites and deposits in this intertidal zone. Other published sources, and historic sources, including historic mapping, provide additional useful information.

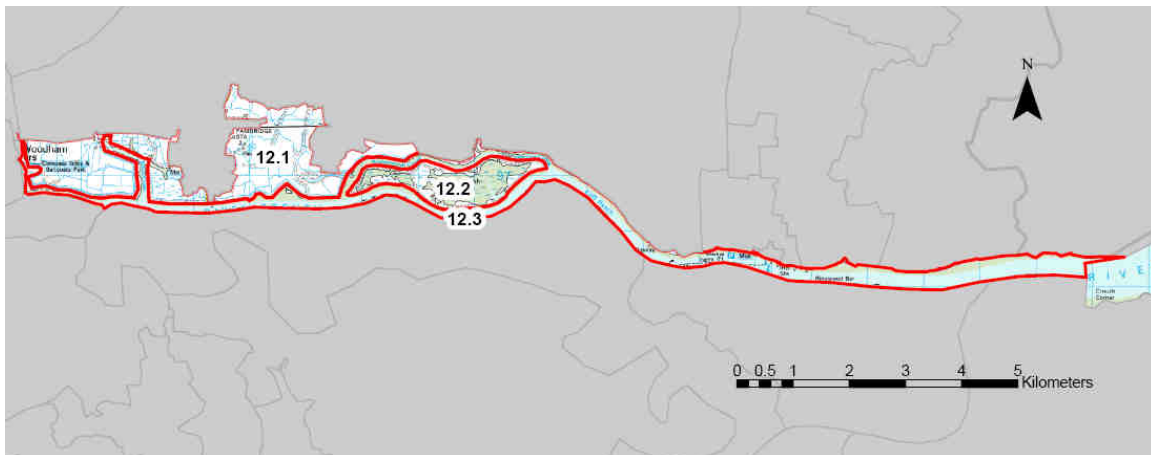


Fig. 19 Map showing location of HECZs 12.1-3

3.24 HECZ 12.1 Fambridge and Stow Maries Marshland

Historic Environment Description

Summary: This zone the marshes on the northern side of the River Crouch, namely Stow Marsh and North Fambridge Marsh. The marshes appear to have been largely

reclaimed in the post-medieval period. The marshes retain extensive archaeological features relating to their exploitation as grazing land and to the salt industry.



Fig. 20 Aerial view of earthworks of a salt-manufacturing site at Stow Maries

Historic Landscape Character. This zone comprises present and former grazing marsh either side of Stow Creek to the west of North Fambridge and the Essex Wildlife Trust reserve east of North Fambridge.. There are extensive views across and down the estuary. The field boundaries are large drainage ditches, mainly without banks or hedges, some following the sinuous course of the former creeks. The marshes were largely enclosed in the post medieval period; many of the seawalls, particularly at Blue House Farm, appear to date from the 18th century. Settlement was very sparse and comprised individual farms located on the dryland boundary, on slightly raised ground

beyond the immediate threat of flooding as at Hogwells and Blue House Farm. The zone was primarily used for grazing, and also for the salt industry. Though some of the grazing marshes were converted to arable in the later post-medieval and modern periods, extensive areas of grazing marsh remain preserving a range of archaeological features and deposits relating to the salt industry. Earthworks relating to these functions are a characteristic part of the landscape at Blue House Farm, and the best preserved late medieval/early post medieval earthworks in Essex relating to salt extraction are on privately owned grazing land at Morris Farm, adjoining Clements Green Creek just west of South Woodham Ferrers new town. A storm in 1897 breached the seawall east of Stow Creek, the breach was never repaired and former grazing marsh has reverted to saltmarsh over a large area from Stow creek east to the southern edge of North Fambridge and north as far as the Southminster branch railway line.

Archaeological Character: The beach and foreshore to the south of North Fambridge Marsh have yielded 44 pieces of struck flint, mostly Neolithic but including one Mesolithic blade. There are extensive exposures of old land surface with associated peat deposits and submerged forest at along the northern shore of Clements Green Creek and the Crouch west of Stow creek, with similar though smaller exposures in the intertidal zone at Blue House Farm. The sequence of deposits in the upper Crouch is one of the cornerstones for our understanding of the development of the Essex coastal landscape, and the Hullbridge survey recorded the complete sequence of old land surface, lower peat, upper peat, lower, middle and upper clays east of the junction of Clements Green Creek and the Crouch. A Red Hill was also recorded from this marsh. In addition there are important earthworks on Stow Marsh, comprising a series of platforms, mounds, banks and ditches associated with a series of medieval and early post medieval salt-working complexes that once clustered around the head of Clements green Creek. It is known that this area was used for grazing in the medieval period, and were progressively enclosed, most of the seawall apparently dating from the post –medieval period. Earthworks relating to the exploitation of grazing including relict sea walls and counter walls relating are widespread particularly at Blue House Farm, which forms a large and well preserved historic marshland landscape including the site of the post-medieval farm buildings, yards and boundaries.

• Diversity of historic	Range of historic landscape and	3
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environment assets	archaeological features	
• Survival	Potential for good survival of prehistoric land surfaces and associated features.	3
• Documentation	HER data, NMP data, survey data	3
• Group Value Association	Surviving earthworks relating to salterns, Blue House Farm and reclamation	3
• Potential	High potential for surviving deposits.	3
• Sensitivity to change	Landscape and archaeological deposits highly sensitive to change.	3
• Amenity Value	Potential, in conjunction with neighbouring zones for promoting the importance of the marshes as a economic asset in the past	3

Key Issues

The well preserved grazing marsh landscapes, with their associated earthworks reflecting both the exploitation of pasture and the production of salt, make this zone one of the finest historic marshland landscapes in Maldon and indeed Essex more generally. The fortuitous reversion to salt marsh of a large area east of Stow Creek following a breach of the seawall at the end of the 19th century, has resulted in the age old pattern of creek, saltmarsh and grazing marsh so characteristic of the historic environment of the coast remaining the dominant feature of this zone. In addition the presence of extensive areas of the prehistoric land surface, peat and submerged forest, at a number of locations is also significant, these deposits, exposed on the foreshore, will also be preserved inland of the seawalls, buried beneath surface of the grazing marshes. The presence at a number of locations of deposits representing full developmental sequence of the costal landscape from the Neolithic to the post-medieval period is particularly significant. It is these factors together with similar remains in Chelmsford District to the east and to some extent Rochford to the south, that have led to the inclusion of the Upper Crouch estuary on the English Heritage list of nationally significant sites as part of their *Heritage Management of England's Wetlands* initiative.

- 1. Preservation of historic landscape character is particularly critical to this zone.**

2. **Integrated management of the historic and natural environments, together with grazing and other agricultural activities is crucial.**
3. **Managed realignment which may be considered as part of floodrisk management, maintenance of landscape character or habitat creation, will affect the historic environment. Large scale realignment would be likely to have severe adverse effects on fragile and rare elements of the historic environment. Smaller scale, carefully planned, realignment might be possible, depending upon location and measures to mitigate adverse impacts on the historic environment.**
4. **Coastal access may be an issue particularly in view of the Marine and Coastal Access Bill. There may be adverse impacts with regard to erosion, but also opportunities in exploring and explaining the rich and varied historic environment of this zone to local people and visitors. Either way access issues would need to be handled sensitively and in close co-operation with landowners and conservation bodies.**
5. **A sound knowledge base is required to facilitate the above, and a firm foundation is already in place. The Hullbridge Survey (Wilkinson and Murphy 1995) provides a baseline for sites and deposits in the intertidal zone, and to some extent buried beneath the grazing marsh.. The historic landscape of the EWT reserve at Blue House Fm. has been the subject of a detailed survey supplied to the EWT to inform their management of the reserve. Similar survey has been carried out on the privately owned earthwork complex at Morris Farm.**
6. **Patterns of erosion and deposition in the creeks and estuary will inevitably effect exposures in the intertidal zone. Anecdotal evidence suggests that the submerged forests and associated peat deposits around Clements Green creek recoded by the Hullbridge Survey in the mid 1980s were still extant in the later 1990s; survey of their current**

condition would be beneficial, particularly with regard to points 4 and 5 above.

3.25 HECZ 12.2 Bridgemarsh Island

Description of the historic environment

Summary: This zone comprises a former marsh island on the northern side of the River Crouch, about 3 miles upriver from Burnham on Crouch within the parish of Althorne. The surface geology is alluvium, overlying London Clay. The island was used for wild-fowling and salt-marsh grazing. Today the island comprises fragmentary salt marsh and which is frequently overrun by high tides.

Historic Landscape Character: This zone comprises the former marsh island of Bridgemarsh Island. In the mid 18th century it was formally reclaimed, with the construction of a sea-wall, drainage channels and a brick causeway from Stamford Farm. Subsequently a clay extraction pit was established on the island, followed by the development of a brick and tile works linked to a quay on the river by a tramway. There was also a windmill at this spot. The island was flooded in 1897 and again in 1928 before being finally lost to the sea in the 1953 floods. Remnants of the old sea-walls survive, and remains of a farmhouse are still visible during low tide. It is now a haven for wildlife.

Archaeological Character: Although there are no archaeological features, apart from the old sea-walls recorded on the island, the Hullbridge Survey of the archaeology of the Essex coast recorded surviving portions of the prehistoric land-surface, flint scatters and two Late Bronze Age wooden platforms on the northern bank of Bridgemarsh Creek, immediately opposite the island. More recently a small late Saxon 'Ipswich Ware' vessel has been recovered from Althorne Creek. In addition an area of oyster-pits is shown on the first ed. OS map (1875) at the eastern end of the island.

<ul style="list-style-type: none"> Diversity of historic environment assets 	Range of historic landscape and archaeological features	3
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• Survival	Potential for good survival of prehistoric land surfaces and associated features.	3
• Documentation	HER data, NMP data, survey data	2
• Group Value Association	Landscape features	1
• Potential	High potential for surviving deposits.	3
• Sensitivity to change	Landscape seawalls and potential archaeological deposits highly sensitive to change.	3
• Amenity Value	Potential in conjunction with adjacent zones for promoting the importance of the historic environment within the inter-tidal zone	2

Key Issues

The main value of Bridgemarsh Island in terms of the historic environment is for the role it plays in maintaining the overall historic landscape pattern of creek, saltmarsh and grazing marsh.

1. **Preservation of historic landscape character is particularly critical to this zone; the relict seawalls and former grazing marsh, now reverted to saltmarsh are particularly evocative.**
2. **Whilst in the case of Bridgemarsh Island, it may be that it's natural environment value is of greater significance than its historic environment value, any management options, which are in any case likely to be minimal, should be pursued in an integrated way, and historic environment issues given due consideration.**
3. **Coastal access may be an issue particularly in view of the Marine and Coastal Access Bill. It is unlikely that greater access to the island would be either practicable or desirable. However, its evocative**

appearance and history could be used to inform users of paths along the northern shore of the Crouch estuary, Bridgemarsh and Althorne Creeks.

4. A sound knowledge base is required to facilitate the above, and a firm foundation is already in place. To some extent the Hullbridge Survey (Wilkinson and Murphy 1995) provides a baseline for sites and deposits in the intertidal zone. Historic sources, including historic mapping, provide a good overview of the development and abandonment of the island.

3.26 HECZ 12.3 Crouch Estuary

Historic Environment description

Summary: The Crouch estuary, comprising the inter-tidal area and the area below the low water mark. The zone contains significant multi period archaeological features throughout its length.

Historic Landscape Character: This zone comprises the Maldon district side of the Crouch Estuary, an approximately 20km long and 250m wide stretch of inter-tidal mud and sand and the main river channel. The landscape comprises un-reclaimed salt-marsh, sinuous tidal creeks, low London Clay cliffs, a mud and sand foreshore and the River Crouch itself. The zone contains a variety of Prehistoric, Roman, Medieval and Post-Medieval remains.

Archaeological Character: Rise in sea level since the end of the last Ice Age and the subsequent deposition of silt and clay is known to have preserved the old land surface and there is potential for archaeological deposits and features to be sealed below alluvium. Archaeological survey of the inter tidal zone which has revealed a remarkable range of prehistoric and Roman archaeological deposits and sites, including Late Bronze Age wooden platforms. In addition there are more recent remains, such as the sites of landings/quays, relicts of the oyster industry and a number of abandoned hulks, salterns. A range of wrecks hulks and other nautical remains are likely to be present reflecting the maritime use of this zone over thousands of years

• Diversity of historic environment assets	Range of historic landscape and archaeological features	3
• Survival	Potential for good survival of prehistoric land surfaces and associated features.	3
• Documentation	HER data, NMP data, survey data	3
• Group Value Association	Archaeological deposits, including features and finds relating to the old land surface and to the maritime environment	3
• Potential	High potential for surviving deposits.	3
• Sensitivity to change	Landscape and archaeological deposits highly sensitive to change.	3
• Amenity Value	High amenity value in showing the exploitation of the river and its inter tidal area.	3

Key Issues

A significant part of the value of the Crouch estuary in terms of the historic environment is the role it plays in maintaining the overall historic landscape pattern of estuary, creek, saltmarsh and grazing marsh. There are of course a range of significant sites and deposits in the intertidal zone, but these are largely dealt with under HECZ12.1 and, to some extent, HECZs 12.2 11.2, 11.3 10.5 and 9.3. It is also likely that archaeological remains are present within and beneath the alluvial deposits in the sub-tidal zone

- 1. Preservation of historic landscape character is particularly critical to this zone, as the nature of the Crouch estuary is fundamental to the historic environment of Maldon's coast.**
- 2. Whilst in the case of the Crouch estuary many of the most significant historic features are on the fringes of the estuary, in the intertidal zone, salt marsh and present and former grazing marsh are dealt with**

in consideration of other zones (see above); archaeological sites and deposits will exist within and beneath the alluvium in the sub tidal zone. It is unlikely that any regular maintenance dredging will have much impact on such remains but capital dredging, or provision of substantial new jetties may.

3. Coastal access, particularly in view of the Marine and Coastal Access Bill, will not directly impact on this zone. However, the evocative appearance of the Crouch is, and will continue to be, a major attraction to users of paths along the north shore of the estuary. The history of human use of the Crouch could be presented to users of these paths.
4. Access in another sense, by boat, is also an issue, commercial traffic is now largely limited to the outer estuary but leisure boating is active throughout the estuary and has a historic significance of its own built up over the last hundred years and more. It is possible that provision of new landing facilities and jetties may have an impact on the wider historic environment.
5. A sound knowledge base is required to facilitate the above, and a firm foundation is already in place. The Hullbridge Survey (Wilkinson and Murphy 1995) provides a baseline for sites and deposits in the intertidal zone, and to some extent the sub tidal zone. Historic sources, including historic mapping, provide a good overview of the estuary.

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Appendix 1

The scoring of the Historic Environment Character Zones

Each character zone has been scored on a range of criteria for which separate scores are retained within the GIS metadata. The following system is based on scoring developed for the English Heritage Monuments Protection Programme (MPP), modified to consider broad zones rather than particular monuments. This method of scoring is intended as a simple means of engaging with issues of sensitivity, value and importance. It is not designed to be definitive and is likely to be subject to change as new information becomes available and understanding develops.

Seven criteria have been used:

- Diversity of historic environment assets
- Survival
- Documentation
- Group Value Association
- Potential
- Sensitivity to change
- Amenity Value

Each of the criteria have been scored for each of the zones with a rating of 1, 2, or 3 with 1 as the lowest and 3 as the highest. Where in a few instances a score of 1/2 or 2/3 is given in the text the lower score is shown on the metadata.

Diversity of historic environment assets

This indicates the range of Historic Environment Assets within the zone which may be chronologically diverse. For example a zone with multi-period settlement sites or a zone with a range of assets, such as church, village, farmstead, field systems of the same

date would both score highly, whilst a zone containing a limited range of historic environment assets would score low.

- 1 = Very few known assets or many assets of a limited range of categories.
- 2 = Contains a range of assets of different date and character
- 3 = Contains a wide range of assets both in date and character

Survival

This relates to the state of completeness of the range of historic environment assets within the character zone. The zone may be relatively well preserved or it may have been disturbed by hostile land-use/development and/or erosion. Even where such factors have adversely affected assets within a zone there may be potential for well preserved but deeply buried deposits.

- 1 = Zone extensively disturbed by for instance quarrying or development. Likelihood is that whilst many of the assets have been disturbed or destroyed there is the potential for survival in some areas or of some types of assets.
- 2 = Zone has little disturbance but there are few known assets, or there are many known assets but there has been some adverse effects from, for instance, development or quarrying.
- 3 = Zone contains known assets which are well preserved.

Documentation

The level of documentation for a zone reflects the extent of investigations that have taken place. Such work includes; excavation, field survey/recording, historical documentation, research project work (this includes for example the National Mapping Programme[which comprises the plotting of all known aerial photographic evidence onto OS base maps], coastal zone survey etc).

- 1 = Little or no documentation.
- 2 = A range of documentation containing elements of the above
- 3 = A wide range of documentation.

Group Value Association

Two forms of association are considered, either historic environment assets of a similar nature or historic environment assets of a similar date. For example a zone with red hills all of the same date or a zone with multi-period historic environment assets associated with coastal exploitation would both score highly, whilst a zone with a wide range of diverse assets, which are not associated, would score low.

1 = Contains few historic environment assets of a similar date or nature.

2 = Contains a limited range of historic environment assets which are related or of a similar date.

3 = Contains a range of historic environment assets which are related such as moats with well preserved field systems of medieval origin or salt working sites of different dates.

Potential

The potential is assessed with reference to the expected average circumstances within the zone. The score considers the nature of the historic environment assets based on current evidence and indicates the likelihood of further assets being present.

1 = The potential for surviving historic environment assets within the zone has been significantly reduced by for instance quarrying or development.

2 = There are limited known historic environment assets however the landscape has not been significantly disturbed and current lack of knowledge is probably the result of lack of investigation rather than poor preservation.

3 = Current evidence and little disturbance indicates that a range of high quality assets probably survive within the zone.

Sensitivity to Change

Each Historic Environment Zone is assessed with regard to the sensitivity of the area to medium to large-scale development, specifically housing expansion. The score is an indication of the vulnerability of the historic environment assets within the zone to this

type of change. A lack of sensitivity to change should not be taken as an indication that no historic environment mitigation would be required to accommodate development. It would be possible to consider sensitivity to other types of change e.g. flood risk management.

1 = The historic environment of the zone could accommodate medium to large-scale development; however specific historic environment assets may suffer adverse effects.

2 = Medium to large-scale development is likely to have a considerable impact on the historic environment character of the zone.

3 = The zones historic environment is highly sensitive to medium to large-scale development.

Amenity Value

Relates to the actual and/or potential amenity value of the historic environment zone and this is indicated in the description box. If there are specific elements which would warrant enhancement these are also indicated in the description box. The score may relate to uniqueness, historical associations, key landmarks, good access, and interest for visitors and educational value etc.

1 = Historic environment does not lend itself to display or visitor attraction. Current knowledge gives limited potential for the historic environment to play a significant role in creating a definable and promotable identity to the zone.

2 = Historic environment does, or could help define a sense of place of the zone. There may be specific elements which are or could be promoted such as woodlands, castles etc.

3 = The historic environment plays, or could play a key role in the zones sense of place for the local people and visitors. The zone contains assets which, are or could be, promoted for the benefit of local people or visitors.

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