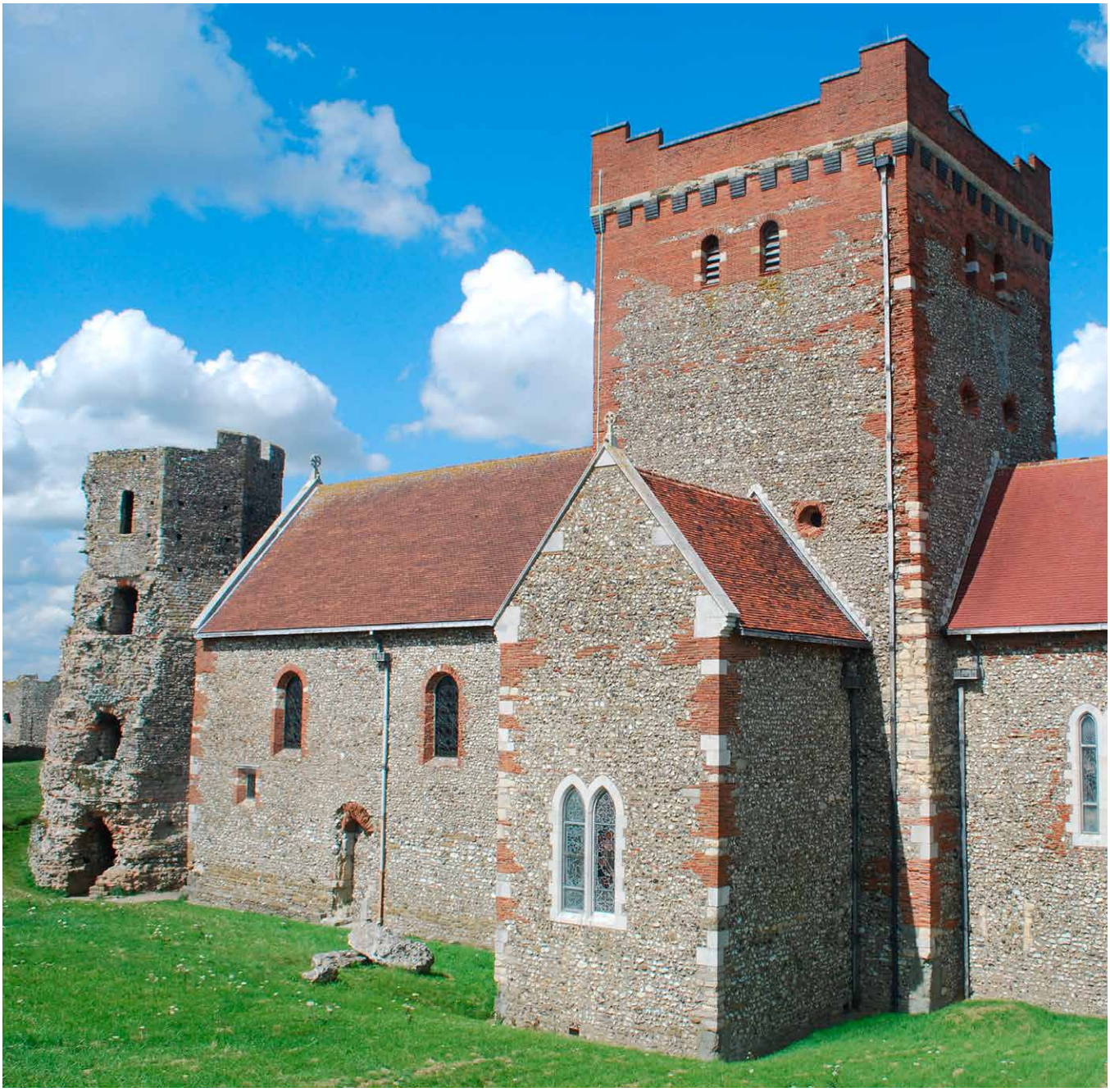
Historic England

Maritime and Naval

Scheduling Selection Guide



Summary

Historic England's scheduling selection guides help to define which archaeological sites are likely to meet the relevant tests for national designation and be included on the National Heritage List for England. For archaeological sites and monuments, they are divided into categories ranging from Agriculture to Utilities and complement the listing selection guides for buildings. Scheduling is applied only to sites of national importance, and even then only if it is the best means of protection. Only deliberately created structures, features and remains can be scheduled. The scheduling selection guides are supplemented by the Introductions to Heritage Assets which provide more detailed considerations of specific archaeological sites and monuments.

This selection guide offers an overview of the sorts of archaeological monument or site with maritime or naval associations which are likely to be deemed to have national importance, and for which of those scheduling may be appropriate. It aims to do two things: to set these within their historical context, and to give an introduction to the designation approaches employed.

This document has been prepared by Listing Group. It is one is of a series of 18 documents. This edition published by Historic England July 2018.

Please refer to this document as:

Historic England 2018 Maritime and Naval: Scheduling Selection Guide. Swindon. Historic England.

HistoricEngland.org.uk/listing/selection-criteria/scheduling-selection/

Front cover
The pharos (lighthouse) at Dover, Kent, England's tallest Roman structure. It later served as the bell tower for the Saxon church of St Mary in Castro.

Contents

Introduction

This selection guide offers an overview of the sorts of archaeological monument or site with maritime or naval associations which are likely to be deemed to have national importance, and for which of those scheduling may be appropriate. It aims to do two things: to set these within their historical context, and to give an introduction to the designation approaches employed.

As an island nation, the sea has played a large part in the story of England. The coast is long, cut by tidal estuaries and creeks, and has been (and continues to be) much altered by rising sea levels, erosion and the silting of creeks and harbours. In the past, when boats and ships were generally smaller, many more places up what were then navigable rivers were ports or places of transhipment – and thus to some extent maritime – than is today the case. To properly understand sites and landscapes in their contemporary setting, landscape changes need to be quantified and characterised.

The systematic, and integrated, study of maritime and coastal archaeology (in the broadest sense) as a subject of research is relatively recent. In Greater London a waterfront archaeology programme was set up in 1971, since when the recording of harbourworks, waterfronts and vessel remains of Roman, medieval and later date in the City, Southwark and Kingston-upon-Thames has been important in its own right as well as providing a model for work elsewhere. But by the late 1990s it was clear that the coastal historic environment was under-investigated and existing records did not provide an adequate evidence base for responding to challenges posed by climate change and Flood and Coastal Erosion Risk Management (FCERM). Consequently, Historic England initiated the national Rapid Coastal Zone Assessment Survey (RCZAS) programme. Despite such evidence, however, it was only in 2002 that English Heritage (now Historic England) formally gained responsibility for archaeology in English coastal waters.

Given the extent of the coastal zone, there is a maritime component to many other scheduling selection guides with, for instance, coastal defences of all periods covered under the two Military scheduling selection guides (Pre -1500 and post-1500), and ship canals under that for Transport. In addition, reference should also be made to the Maritime and Naval Buildings, and the Military Structures listing selection guides which cover post-medieval structures in more detail than this document.

Many industrial and agricultural activities including salt-making, the burning of seaweed in stone-lined shoreline pits to produce an additive used in the manufacture of glass and soap, and fishing via fish weirs, were located along coasts and up estuaries. Where of note, these activities are dealt with in other scheduling guides, including those relating to Agriculture and Industrial Sites. Another selection guide, Ships and Boats: Prehistory to Present, treats vessels and wrecks, and discusses the role of the Protection of Wrecks Act (1973) in addition to scheduling. Further historical and archaeological detail can also be found within Historic England's Introductions to Heritage Assets (cited where relevant below). Reference should also be made to Historic England's suite of RCZASs, which are systematically adding to our knowledge of coastal sites through identification and characterisation.

1 Historical Summary

1.1 Prehistoric

Because of post-glacial sea level rise from about 8000 BC until Britain became an island separated from continental Europe around 6500 BC, early prehistoric coastal sites are now generally far from modern coastlines. Identification and study into such sites is a developing area of research: this is still in its infancy and to date no such site has been considered for designation via scheduling.

Early prehistoric sites closer to modern shorelines typically represent inundated dry land. Few have been identified and studied, but examples such as the Mesolithic site at Bouldnor Cliff in the Solent demonstrate that where the process of inundation and re-exposure are favourable there is great potential for the survival of organic material. Unfortunately most intertidal zone discoveries are subjected to damaging erosion (Fig 1). In the Scilly Isles, some areas of Bronze

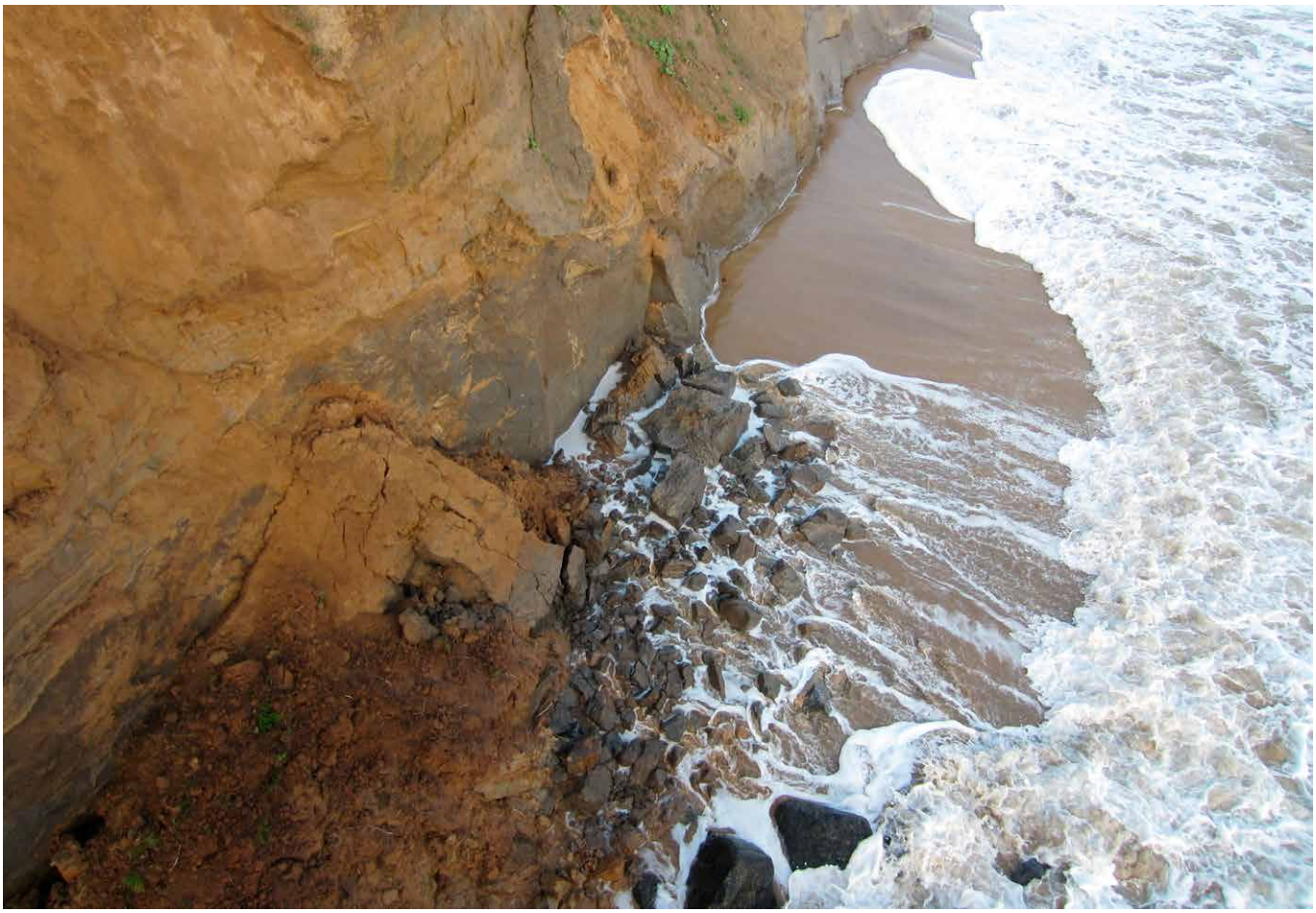


Figure 1
Happisburgh, Norfolk. Now that beach defences are no longer maintained, unstable cliffs of till – unsorted material deposited directly by glacial ice – are rapidly eroding. Internationally significant Lower Palaeolithic deposits are exposed on the beach, and historic buildings on the shore are vulnerable to erosion.

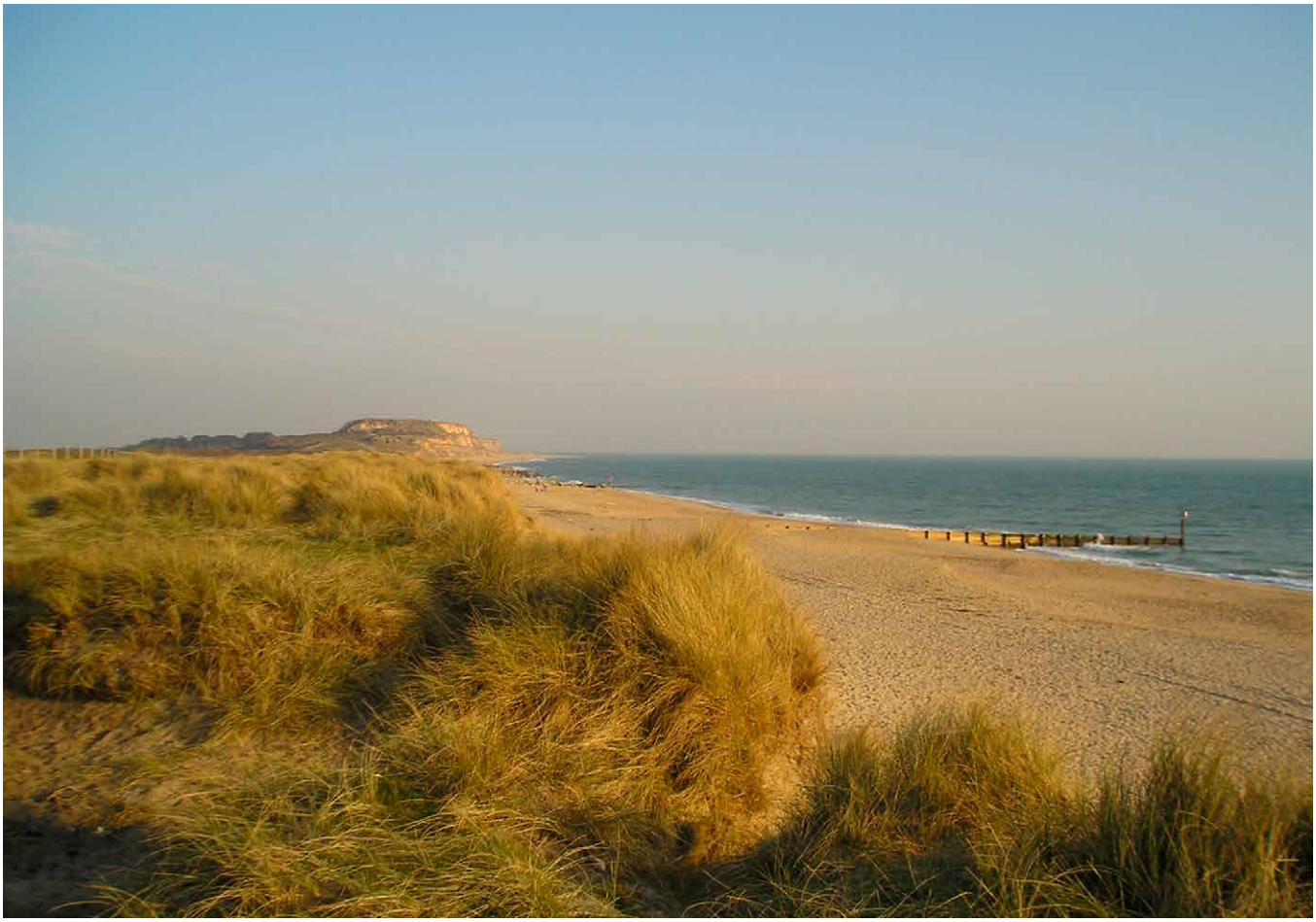


Figure 2
Hengistbury Head, Bournemouth, Dorset. The headland is included within an extensive, multi-period site. Excavation has demonstrated settlement and maritime trade here in the first century BC and later.

Age field systems and settlement remains have been scheduled even where they extend out into the sea. However, such sites are significant as representatives of prehistoric dry land sites – they are only now maritime because of sea level rise – and thus should be assessed with reference to the Agriculture and Settlement Sites scheduling selection guides.

There is plentiful indirect evidence for trade and transport along the Atlantic seaboard in prehistory with similar monuments (such as passage graves in Spain, Brittany and the British Isles), artefacts and linguistic evidence. However, direct archaeological evidence of port and harbour facilities is generally lacking, either because boats were landed on beaches (as is suggested for the important late prehistoric trading port of Hengistbury Head, Dorset; Fig 2), or because evidence has been swept away by later developments or coastal erosion. Only one waterfront structure of the period is known, at Poole Harbour (Dorset), where a timber and limestone rubble mole (a jetty or breakwater) has been recorded as Iron Age, although not without dissent. For a summary of current knowledge about Early Ships and Boats, see our two Introductions to Heritage Assets.

1.2 Roman

The Roman invasions of 55-54 BC and AD 43 were unopposed by any naval forces. It is thought that the country's first organised navy was Rome's Classis Britannica (British Fleet). This fleet's role was largely one of logistical support, ferrying large numbers of people and supplies across

the English Channel; its primary base may have been at Boulogne in Gaul (France) rather than the English candidates of Richborough and Dover (both Kent) or Portchester Castle (Hampshire). Although direct archaeological evidence for the Roman navy is sparse, there are numerous maritime-related sites known for the period including a pharos (lighthouse) at Dover, quays (such as London and Chester), and forts that could only have been supplied by ship (such as Roall, on the River Aire in North Yorkshire).

The Roman transport system has traditionally been assumed to have been predominantly based on road networks. However, it is notable that the major Roman military and civilian centres of London, Colchester, Exeter, Chester and perhaps even York were ports for sea-going vessels, and it is likely that considerable use was made of low-cost river transport to tranship goods to key sites such as Lincoln and inland nodes on the road system such as Catterick (North Yorkshire).

Roman-period port facilities are poorly known, the best explored being London. Here considerable detail has been revealed of the port founded in the late first century AD, with successive waterfronts encroaching further into the river over some 150 years. Each quay was lower than its predecessor, leading to the suggestion that a fall in the tidal level of up to 1.5m required measures to retain an adequate depth of water for ships to berth. At Dover, a breakwater or mole was constructed in the second century: timber piles, groynes and mooring rings have been recorded, as well as stone and chalk-block that may represent the harbourside/quay. In addition, Dover was furnished with two lighthouses (only one of which survives today). In terms of inland ports and landing places, at York traces of riverside structures, including piles and a platform of stone blocks, along with other evidence of possible quays and jetties, have been found on the River Foss. There is also limited evidence for riverside structures in Lincoln, while at Heronbridge, near Chester, it has been suggested that a stream bed was deepened to create a ramp into an inlet, with associated features possibly representing the positions of mooring posts for barges.

During the earlier part of the Roman period in England a system of drains with river embankments, sea-walls and sluices provided defences against the sea and allowed the reclamation of land around the coast (see the Introduction to Heritage Assets on Roman and Medieval Sea and River Flood Defences). Sea walls, more-or-less certainly of Roman date, are known or inferred from the Solway Firth, East Anglian Fenlands, East Kent, Somerset and the Severn Estuary. However, coastal erosion and marine transgression mean that few stretches of the modern coastline equate to those of Roman times. This is demonstrated, for instance, by a number of Roman routes on the east coast that now end at the sea before reaching any Roman settlement.

1.3 Post-Roman to Noman Conquest

Between the early fifth century and the Norman Conquest in 1066, England experienced a series of seaborne incursions from German and Scandinavian raiders and settlers, while documentary and especially archaeological evidence attests to seaborne trade, even in relatively humdrum goods. Physical evidence for maritime affairs in terms of sites and monuments is generally circumstantial, although it includes perhaps the most spectacular find ever made in England, the ghost-like imprint of the early seventh-century Sutton Hoo ship, buried on a bluff above the River Deben, inshore from the Suffolk coast. Alfred the Great (King of Wessex 871-899) is credited with building a fleet of 60-oared warships, and while documents confirm a standing navy by the tenth century, and in the eleventh century under Danish rule, little in the way of direct archaeological evidence has been found.

Production and trading sites were re-established around North Sea and Channel coasts in England in the sixth and seventh centuries, at Ipswich (*Gippeswic*), Southampton (*Hamwic*) and elsewhere. The underlying motivations for development are currently thought to be related to the development of kingship and state formation, to stimulate trade and generate taxes.

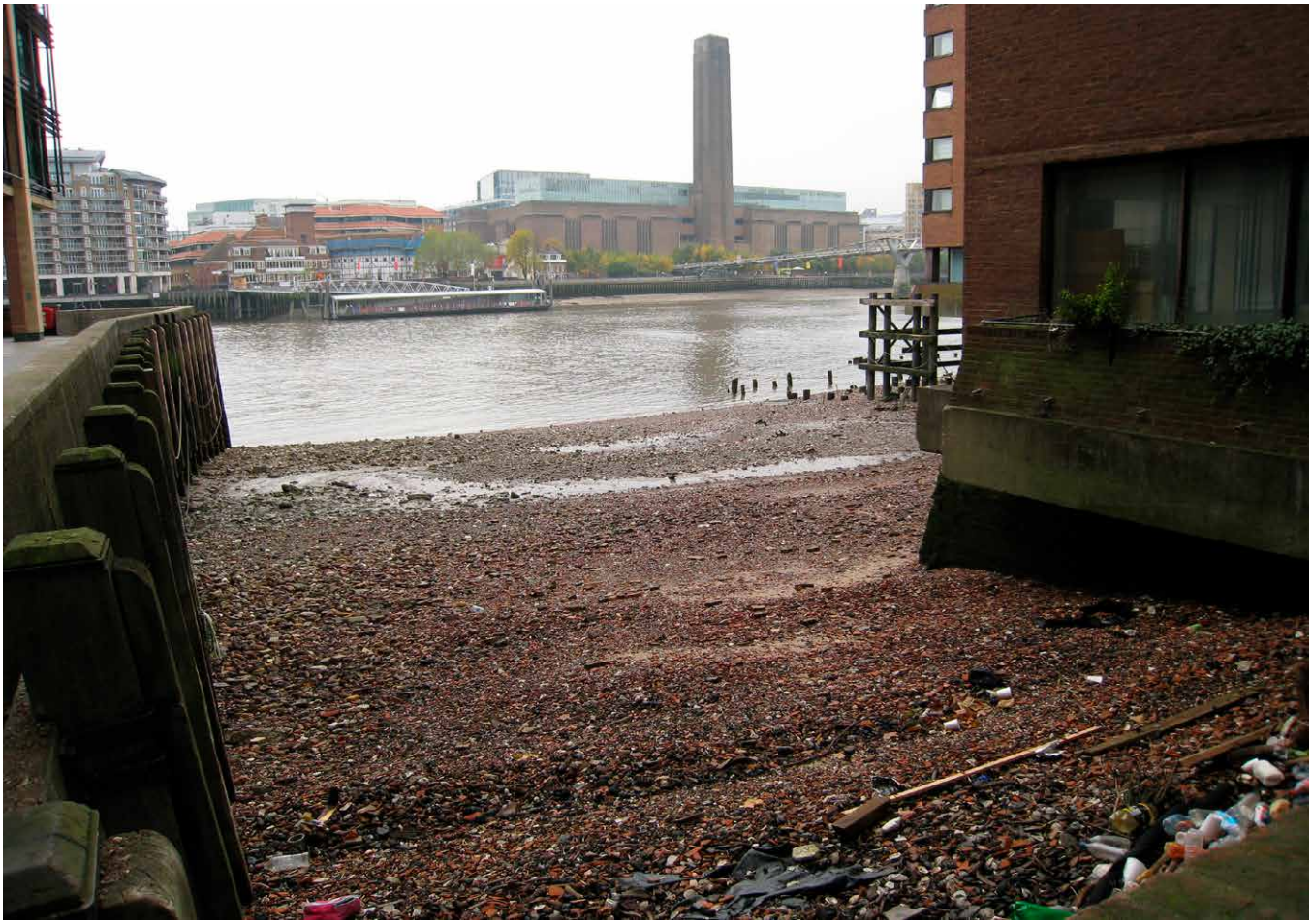


Figure 3
Queenhithe, City of London. Although today with few reminders of its past history, and heavily silted, Queenhithe Dock was an important port for London from the later ninth century. Earlier, it may also have served Roman London

Early monastic establishments were also involved in developing trading centres and waterfronts, for example at Barking Abbey (Essex). In the west and south-west, for example at Meols (Merseyside) and Tintagel (Cornwall), trading links with the Mediterranean were maintained in the post-Roman period and beyond. Some waterfront structures of this period have been investigated, for example at Bridge Street, Ipswich, where Middle Saxon waterfront structures were at first insubstantial, consisting of roundwood post revetments, but by the eleventh century were mainly of oak timber. This shift to more substantial structures could reflect a change in function related to the beaching or subsequent berthing of vessels.

As regards London, by about the late seventh or early eighth century a new trading settlement known as *Lundenwic* (Bede's 'mart of many peoples coming by land and sea') had developed west of the walled city of London, under Covent Garden, with a river frontage in the area of The Strand. Some structural remains of waterfront management have been found, with finds attesting to international trade. In the ninth century this extra-mural settlement was deserted and the walled city was resettled (Fig 3). By the early eleventh century it seems international trade was increasing again: the Thames foreshore in the Billingsgate area seems to have been the focus of greatest activity. A jetty of about this date at New Fresh Wharf has been argued to be evidence of new techniques for handling cargoes, offloaded there at anchor rather than from vessels hauled onto the foreshore. If so, it was exceptional – for another century boats and ships were hauled up the beach elsewhere along the Thames. By

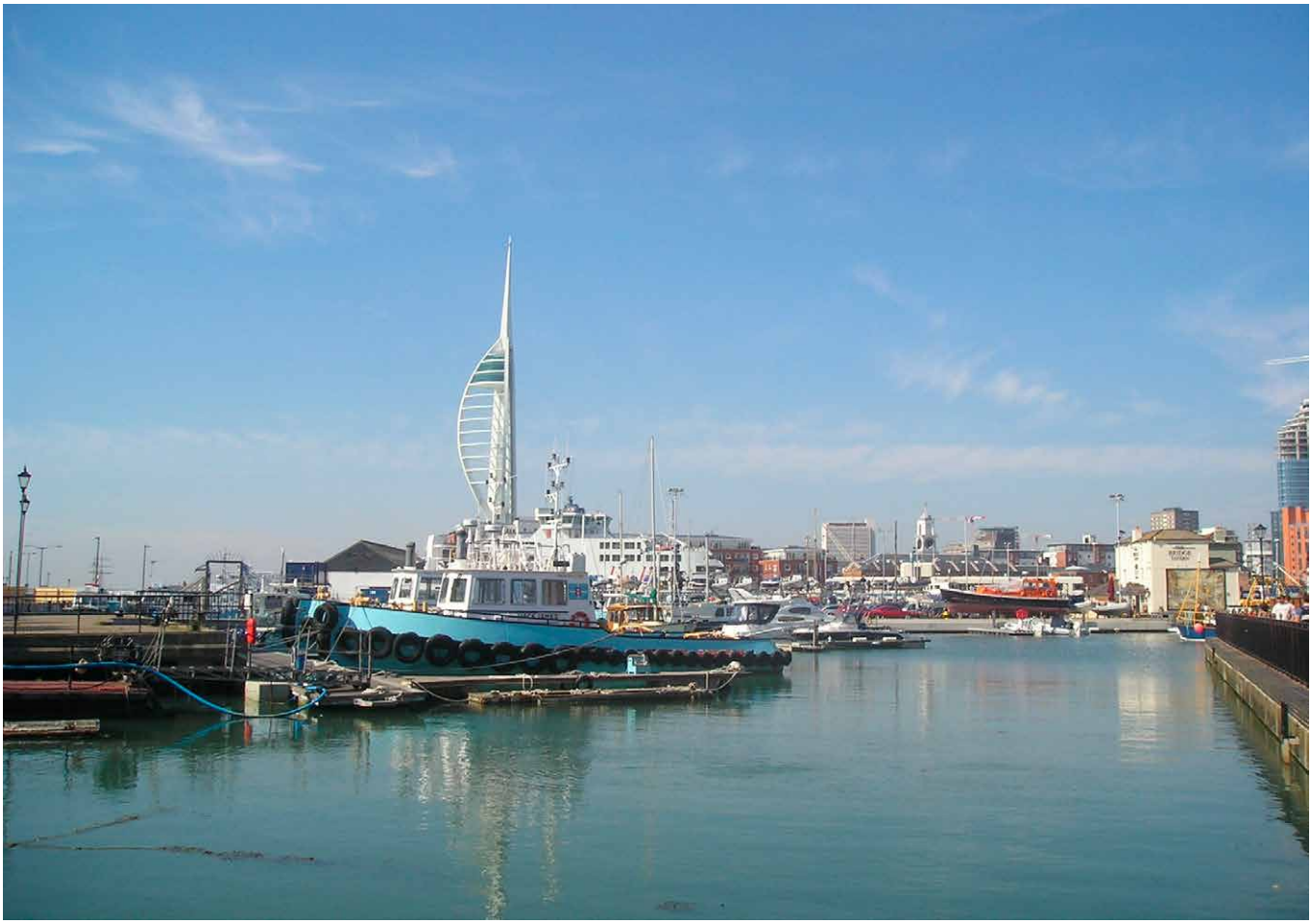


Figure 4
The Camber, Portsmouth, Hampshire. There may have been a harbour here before King John commissioned an enclosed dockyard in 1212. Portsmouth's Extensive Urban Survey identified that evidence for quay frontages may survive adjacent to East Street; waterlogging means organic materials may be preserved.

around 1100 much greater investment in riverside reclamation can be seen, with embankments of logs, stones and earth being replaced by braced wooden walls 2 metres or more high.

Around the coast, following post-Roman inundation, there was a second phase of land reclamation in the Middle to Late Saxon period, when parts of Fenland, Romney Marsh and the coast of Somerset were embanked.

1.4 The Middles Ages

Considering that between 1066 and the final loss of Calais in 1558, English kings were regularly concerned with either holding or retaking possessions in France, it is surprising that the country generally lacked a formalised navy, instead relying on the episodic requisitioning of ships in times of need. Key to this strategy were the Cinque Ports of Kent and Sussex: five ports (Dover, Hastings, Romney, Hythe and Sandwich, with Rye and Winchelsea added later) which enjoyed various privileges in return for the prompt mobilisation of merchant vessels into a navy to fight against pirates and enemy attacks. As a consequence, although King John had a dry dock constructed at Portsmouth in 1212 (Fig 4), shipyards generally remained small-scale and widely scattered private enterprises, while organised supply depots and armouries were poorly developed.

Large, clinker-built, ships were being constructed by 1400; their deeper draught presumably required shipyards to have direct access to deeper water.

Archaeological evidence suggests that vessel-breaking, vessel repair and vessel building were all closely-related activities in this period, and shared the same sites. At Poole (Dorset) there was evidence that timbers from broken-up vessels were used as templates for new ones.

From about the fifteenth century new shipbuilding technologies enabled the construction of large, carvel-built, multi-decked, multi-masted ships. Clinker-building was now only used for river boats and barges and other small boats, and clearly by now two very different traditions in boat- and ship-wrighting were represented, with different resources and skills and operating on different construction sites. Another increasingly clear distinction lay between yards used to build warships and those constructing large merchant ships, although the techniques, resources and skills required were broadly the same since the larger private yards were sometimes used to build extra warships.

The Tudor period was the great age of discovery by English seamen, and saw the creation of the forerunner of the modern Navy. Henry VII (1485-1509) built a dry dock at Portsmouth in 1495 – this was where the Mary Rose was built in 1509 and rebuilt in 1536 before sinking in 1545 in the Solent. Henry VIII (1509-1547) inherited a navy of just seven warships, soon increased to 24, establishing Royal Dockyards at Woolwich, in the Royal Borough of Greenwich (1512) and Deptford, partly in Greenwich and partly in the London Borough of Lewisham (1513), both on the south bank of the Thames. Henry's ships had improved sea-worthiness and armaments, and included the Henry Grace a Dieu, launched in 1514. In the same year the Trinity House organisation was inaugurated to develop navigational aids such as lighthouses, buoys and beacons, used in 1588 to signal the invasion of the Spanish Armada. In 1540, Henry built the first naval dock in Britain at Portsmouth, and in 1546 he established the Navy Board, which remained almost unchanged for 300 years, and created the Office of Admiralty, which set up the administrative machinery for the control of the fleet. In the final year of his reign the storehouse which was the foundation of the great naval yard at Chatham (Kent) was built, although its main development was in the eighteenth century. For his achievements Henry VIII is known as the 'Father of the English Navy'.

International and internal ship- and boat-borne mercantile activity, with cloth and other trades ever-more important to England's prosperity, is evidenced not only by such buildings, as the Merchants Adventurers' Hall in York and the large number of medieval storage cellars in Southampton (Hampshire), but also by ever-more archaeological discoveries. Most spectacular have been the timber waterfronts in London, representing phased encroachments onto the Thames foreshore, but similar evidence has been found in many other medieval towns and cities: King's Lynn (Norfolk), for instance.

Long-term climatic and environmental changes had a major impact on the English coast and the maritime infrastructure. Between about 1250 and 1600 the combined effects of a warmer climate, increased storminess (the late thirteenth century experienced what were termed Great Storms, most notably in 1287), higher global sea-levels, and a peak in the incidence of spring tides had a substantive impact on parts of England, and indeed coastal mainland Europe. Especially along the east and south coasts of England the geography was altered, and 173 settlements were lost or severely damaged including the port of Stonor (Kent), lying on the west bank of the River Stour opposite Sandwich. Also as a consequence there were changes in harbour design and location, with the accelerated development of 'merchant ports' (rather than open beach markets).

With harbours there was a continuing need to remove sediment, usually by excavation at low tide or by employing barges towing rakes. Similar problems of channel and harbour maintenance, often ultimately unsuccessful, were encountered elsewhere, with the result that in-filled palaeochannels and harbours survive now on land beneath sediment cover at many locations around the English coast. At Dover (Kent) the original harbour became unusable

due to silting in the fifteenth century, and in 1495 an entirely new harbour was established at the Archcliffe embayment which, with the addition of a breakwater, became known as Paradise Bay. The disused Old Quay, in St Mary's (Isles of Scilly), with two piers forming a partial enclosure at the north-east corner of Old Town Bay, is a rare example of an extant and scheduled medieval harbour facility.

Another response to periodic inundations was improved flood defences – seawalls, their borrow-dykes, counter-walls and estuary embankments (Fig 5). Some were large-scale schemes, often initiated by monasteries or other ecclesiastical owners, but more frequently small parcels of land were reclaimed piecemeal, and these tend not to be well documented. Often, but not invariably, they were sinuous, commonly following pre-existing natural features such as creeks or dune systems (by contrast, post-medieval and modern defences tend to be rectilinear in form). However, dating is frequently a problem.

There is documentary evidence for some defences from the medieval period, (though this often relates to maintenance rather than construction), and at some locations banks can be dated archaeologically where they overlie, or are overlain by, deposits including stratified datable artefacts. Scientific dating techniques, such as OSL (optically stimulated luminescence) which date sandy sediments underlying banks, or radiocarbon or tree-ring dating of timber components, can be applied. One example comes from Foulness (Essex), where the felling date for a complex internal timber framework for a sea-wall has been dated by dendrochronology to

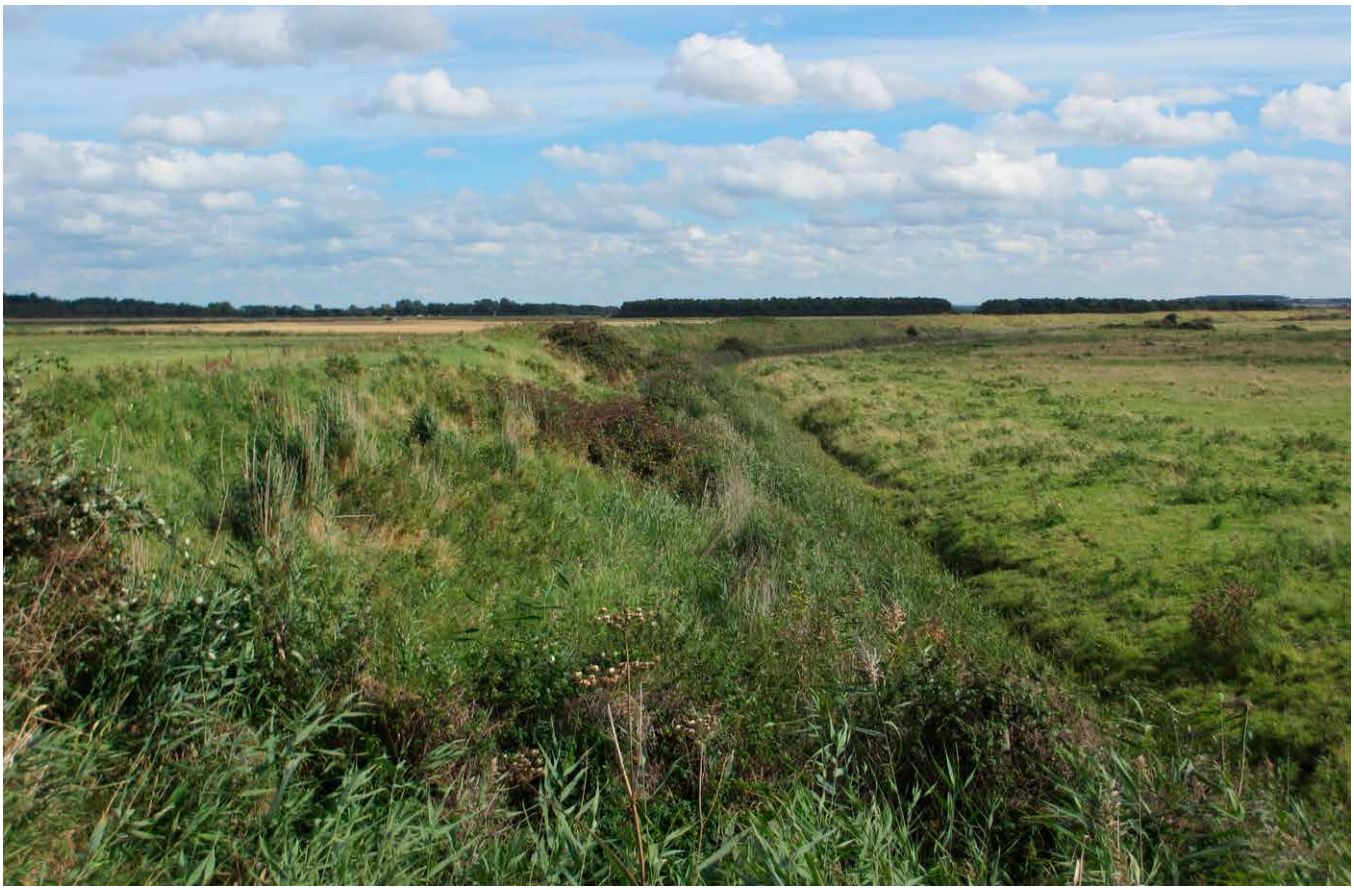


Figure 5
Lady Anne's Drive, near Wells-next-the-Sea, Norfolk. From the seventeenth century renewed attempts were made by north Norfolk landowners to use sea-walls to expand grazing marshes. The current sea defences run further seawards of this probable seventeenth-century predecessor. The sea is to the left.

1483-1489. In places early sea-walls had stone revetments or projecting groynes, but a common practice was to leave a belt of unclaimed salt-marsh at their toes, to absorb wave energy and protect the structure. Sea-walls and flood banks were usually constructed from clay, often dug from a 'back-ditch' or 'borrow-dyke' which itself had a role in land drainage, receiving drainage from field-ditches and channelling water towards sluices which, in the medieval period, were timber structures. Associated works often included straightening or diverting major river channels and dam construction. Maintenance was a continual struggle, particularly since reclaimed land underwent dewatering and compaction, often becoming lower than sea-level. Management was ensured by local customary regulations and, in the thirteenth century, the establishment of the Commissioners of Sewers.

Many sea-walls and other embankments still survive at their original locations and are still functional, though often later enlarged and armoured with rock rubble or concrete blocks. Others, such as the Late Saxon Fenland sea-bank are now well inland, having been superseded by later defences further seawards. In Lincolnshire, especially at Wrangle, on the western shore of the Wash, and in the north-east of the county, lines of late medieval saltern mounds or 'tofts' developed along the contemporary shore, and were subsequently linked together as a tidal defence.

There are few surviving remains of early lighthouses, and much of the evidence used to reconstruct their architecture comes from ecclesiastical records. Medieval lighthouse structures ranged from the use of a simple fire lever, known as a swape, for the elevation of a fire basket, through to masonry towers or 'oratories' supporting a brazier for the burning of coals or faggots, the light from which warned passing shipping. At Tynemouth (Northumberland), for example, a light was burnt on the turret at the east end of the priory church. Other early lighthouses were probably founded on dangerous headlands in combination with chapels. Documentary sources also confirm the existence of medieval 'secular lights', such as those related to the Cinque Ports where local barons had the right to levy dues for the upkeep of the lights.

In general, few medieval examples survive in a recognisable form. Many of the 'ecclesiastical lights' were lost when Henry VIII dissolved the monasteries, although some responsibility for the safety of shipping had by then been passed to the Corporation of Trinity House established in 1514. In the beginning the corporation was charged with safeguarding the coastline simply by providing a supply of efficient pilots. It was much later in its history that its duties included the erection and supervision of lighthouses, the role for which it retains responsibility and remains famous.

The Middle Ages, and notably the Henrician period, saw the construction of innovative coastal fortifications (for which see the Military Sites: Post-1500 scheduling selection guide) to defend important ports and harbours.

1.5 Post-Medieval

Ever-larger ships were commissioned by the Navy in the seventeenth and eighteenth centuries. There were then six Royal Navy dockyards in England, at Deptford, Woolwich, Chatham (Fig 6), Sheerness, Portsmouth and Plymouth, as well as a number of out-ports in England and overseas (Fig 7). The age of wooden warships culminated in the Anglo-French Wars (1793-1815). Thereafter many fighting ships were laid up or scrapped, the work typically outsourced to external contractors' breaking yards on new sites. These were typically active between about 1860 and the earlier twentieth century when the supply of wooden warships came to an end: Liberty's department store in London (listed Grade II*) was built in 1924 using timbers from two nineteenth-century warships, HMS *Hindustan* and HMS *Impregnable*. In other cases the breaking work was done at the yards of small-scale barge or ship builders.

From the mid-nineteenth century iron-plated ships with breech-loading guns rendered the old wooden ships of the line irrevocably obsolete (for a fuller account of developments see the

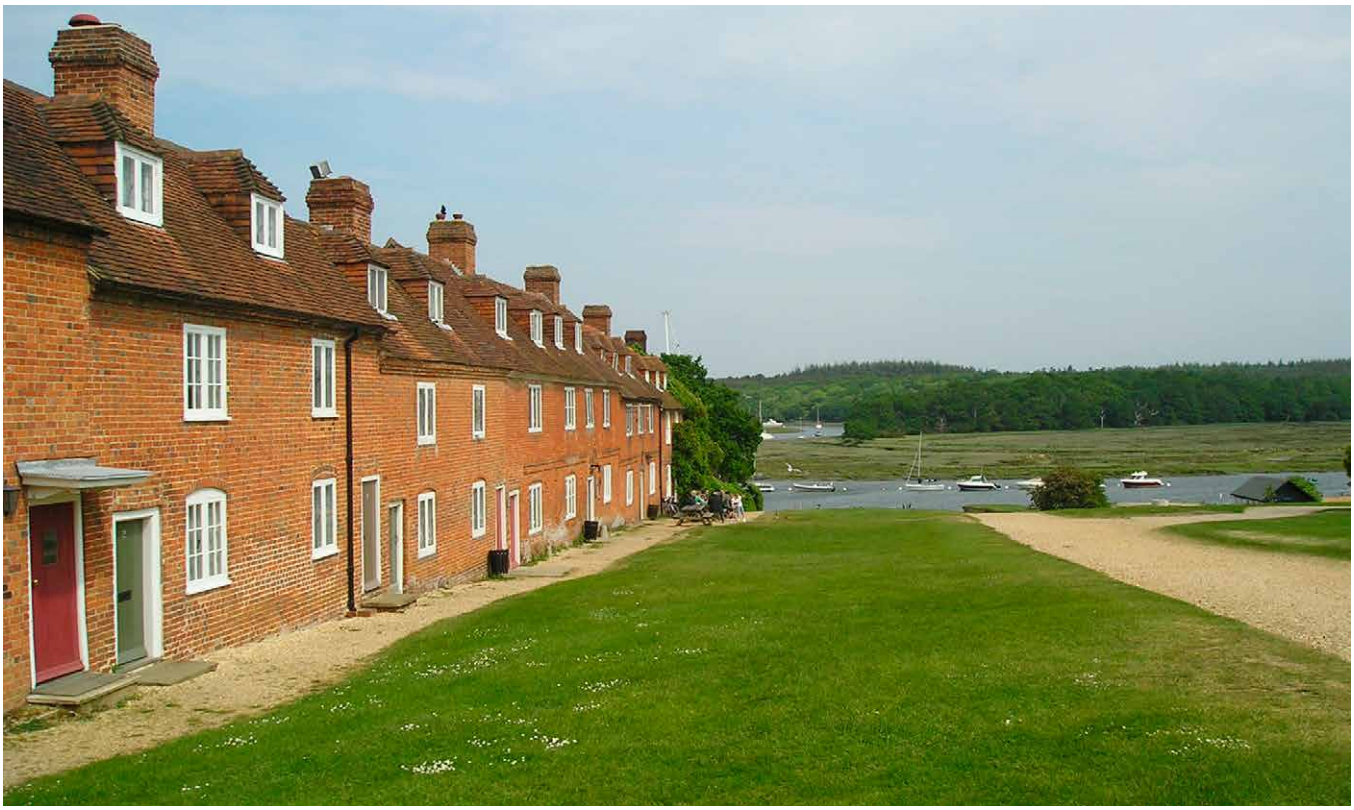


Figure 6 (top)
Chatham Dockyard, showing Dry Dock No 2 (1856), No 3 (1820) and No 4 (1840) alongside the covered slips of 1838-55. Until it closed in 1984, Chatham, on the River Medway in Kent, was one of the Royal Navy's main shipbuilding yards.

Figure 7 (bottom)
Buckler's Hard, Hampshire. Substantial vessels, including HMS *Agamemnon*, were constructed here using New Forest oak, from 1698 to 1827. The slips still survive as earthworks.

Introduction to Heritage Assets, Ships and Boats, 1840-1950). Their construction was often in the hands of private contractors, rather than the naval dockyards. The final step in the development of the 'ironclads' was taken by the Admiralty which ordered the building of the *Warrior* and *Black Prince* in 1859. These were the first large warships with iron hulls and protective iron armour. When they were built, they were the most powerful fighting ships in the world and changed the balance of naval supremacy, but rapid advances in naval technology soon made these two Warrior-class ironclads obsolete. Built at the east London Limmo Peninsula shipyard in 1860, HMS *Warrior* survives as part of the National Historic Fleet in Portsmouth. *The Black Prince* was hulked in 1896 and sold for scrap in 1923. The shipyard itself (in the London Borough of Newham) closed in 1912; part of the site was excavated in 2012.

By the early seventeenth century, and probably for long before, commercial shipbuilding and maintenance yards were concentrated up the Thames and around the East Anglian coast. Yards rarely lay within harbours; rather they were nearby, on a beach or up an estuary. Slipways were cheaper (usually being built of timber rather than stone), and easier to maintain, than dry docks. The earliest large-scale commercial shipyard was probably that constructed at Blackwall on the Thames in the early seventeenth century by the East India Company; that included, in 1614, England's first wet dock. In the eighteenth and nineteenth centuries small boats remained clinker-built while river barges (where still wooden) increasingly utilised carvel techniques.

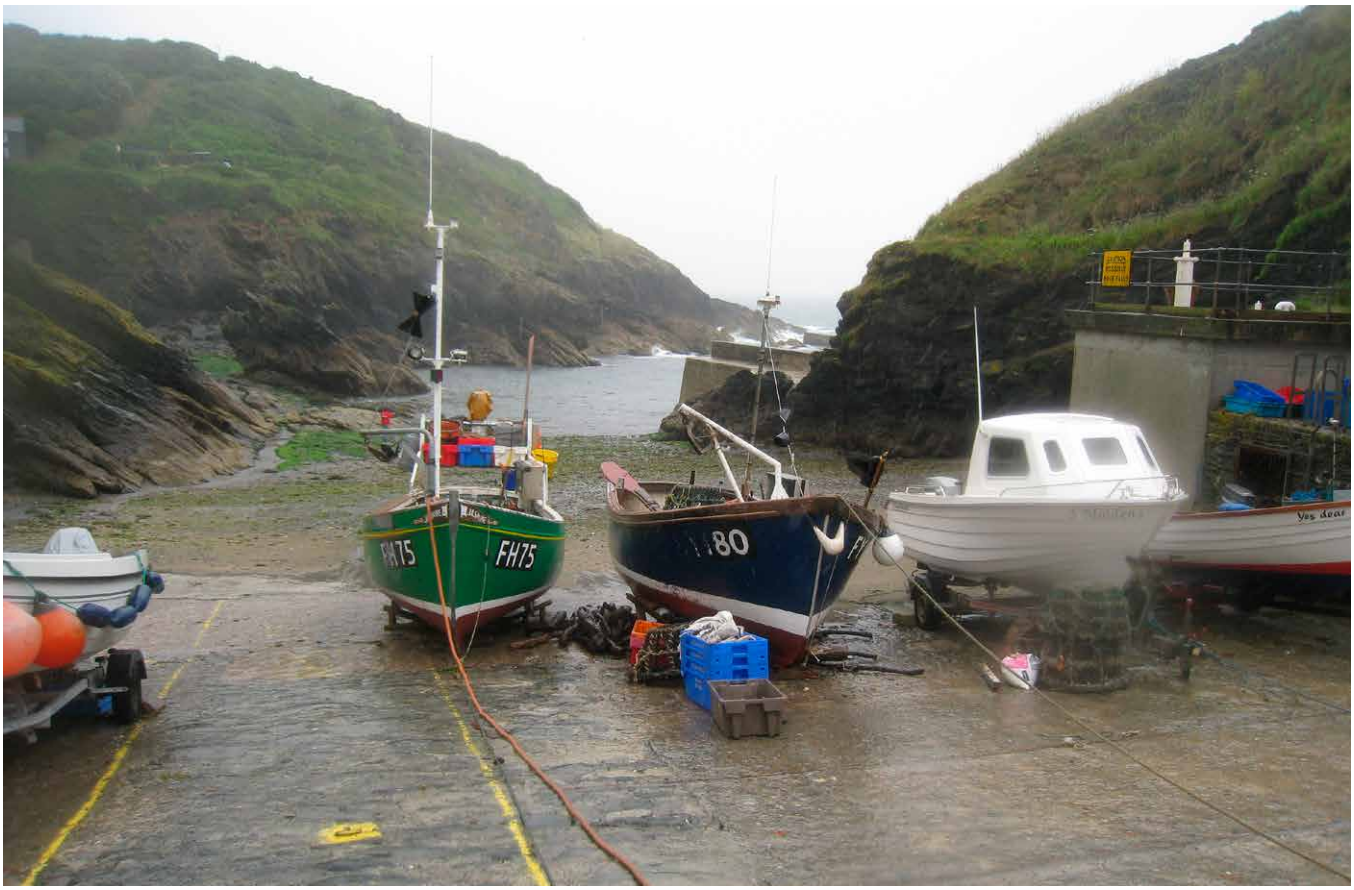


Figure 8
Portloe, Cornwall. Small embayments and inlets on this inhospitable, cliff-edged, coastline provided landings for fishing vessels and, in some places, opportunities for the export of ores.

From around the sixteenth century many of the harbours and wharves that had served relatively shallow-draught shipping could no longer accommodate the largest contemporary ships without considerable (costly) modifications. Over the ensuing centuries ever-larger naval and mercantile vessels required increasingly bigger and deeper harbour facilities, sometimes with new types of building and infrastructure for handling cargoes and passengers. The introduction of the steam dredger in the early nineteenth century was a significant innovation. New types of ships including supertankers, container ships and the latest generation of cruise liners continued to emerge in the later twentieth century, along with platforms for the off-shore oil and gas industries. All demanded additional deep channels and berths.

In the early modern period new small ports and harbours serving specific trades and industries were established, often involving the building of protective piers on coasts that previously lacked natural harbours. Examples include the small Cornish harbours built for landing or the coastal trade in fish (Fig 8); those serving new enterprises to obtain or manufacture minerals (including cliff-face quarries) and chemicals (for instance, processing shale to produce alum, an early chemical used in the dyeing of wool); and those of the north-east coast serving the coal trade to London. These new wharfs and harbours ranged in size from the small-scale rock-cut features on the foreshore at Ravenscar (North Yorkshire) to the new harbour of Charlestown (Cornwall), built in 1801 for china clay. All such facilities may have activity-specific archaeologies as well as buildings.

Figure 9
The footprint of a mid-nineteenth-century lighthouse-builders' operational base on the Island of Rosevear in the Western Rocks of the Isles of Scilly. Providing accommodation, a mess room, and workshop, it served the builders of the Bishop Rock Lighthouse 1847-58.

The fishing industry has already been mentioned. English seamen also engaged in whaling between the seventeenth and nineteenth centuries; it was a major industry in the eighteenth century, and locally in Hull between 1815 and 1830. However, most whales were processed at overseas whaling stations close to where they were caught. Consequently sites in England with archaeological evidence of whale oil, bone and baleen extraction (an example was excavated in Rotherhithe, London) are rare markers of a once nationally significant industry.

Modern-style lighthouses in purpose-built towers began to be built by the early seventeenth century. They were first fuelled by coal or wood, but oil lamps were later introduced. Lighthouses often form groups specifically placed to guide seafarers along a difficult coast (Fig 9). Their numbers varied over time and it is difficult to get a complete picture as many were short-lived or largely unrecorded in documentary sources.

The economic base of some entire coastal communities was smuggling, which was formerly widespread all along the east and south coasts. This was not economically trivial: it has been estimated that in 1743 half the tea consumed in Britain was smuggled, which represented a vast loss of government revenue. The archaeological evidence for this black economy is patchy (and difficult to verify), but tunnels used by smugglers survive, for example at Robin Hood's Bay (North Yorkshire). On the Isles of Scilly smuggling was a significant part of the economy in the later seventeenth and eighteenth centuries, and two recorded 'smugglers' caches' have been found dug into cliff faces.

2 Overarching Considerations

2.1 Scheduling and protection

Archaeological sites and monuments vary greatly in character, and can be protected in many ways: through positive management by owners, through policy, and through designation. In terms of our designation system, this consists of several separate approaches which operate alongside each other, and our aim is to recommend the most appropriate sort of protection for each asset. Our approach towards designation will vary, depending on the asset in question: our selection guides aim to indicate our broad approaches, but are subordinate to Department for Digital, Culture, Media and Sport (DCMS) policy.

Scheduling, through triggering careful control and the involvement of Historic England, ensures that the long-term interests of a site are placed first. It is warranted for sites with real claims to national importance which are the most significant remains in terms of their key place in telling our national story, and the need for close management of their archaeological potential. Scheduled monuments possess a high order of significance: they derive this from their archaeological and historic interest. Our selection guides aim to indicate some of the grounds of importance which may be relevant. Unlike listed buildings, scheduled sites are not generally suited to adaptive re-use.

Scheduling is discretionary: the Secretary of State has a choice as to whether to add a site to the Schedule or not. Scheduling is deliberately selective: given the ever-increasing numbers of archaeological remains which continue to be identified and interpreted, this is unavoidable. The Schedule aims to capture a representative sample of nationally important sites, rather than be an inclusive compendium of all such assets.

Given that archaeological sensitivity is all around us, it is important that all means of protecting archaeological remains are recognised. Other designations such as listing can play an important part here. Other sites may be identified as being of national importance, but not scheduled. Government policy affords them protection through the planning system, and local authorities play a key part in managing them through their archaeological services and Historic Environment Records (HERs).

The Schedule has evolved since it began in 1882, and some entries fall far short of modern standards. We are striving to upgrade these older records as part of our programme of upgrading the National Heritage List for England. Historic England continues to revise and upgrade these entries, which can be consulted on the Historic England website.

2.2 Heritage assets and national importance

Paragraph 194 and footnote 63 of the National Planning Policy Framework (July 2018) states that any harm to, or loss of, the significance of a designated heritage asset should require clear and convincing justification and for assets of the highest significance should be wholly exceptional; 'non-designated heritage assets of archaeological interest that are demonstrably of equivalent significance to scheduled monuments, should be considered subject to the policies for designated heritage assets'. These assets are defined as having National Importance (NI). This is the latest articulation of a principle first raised in PPG16 (1990-2010) and later in PPS5 (2010-2012).

2.3 Selection criteria

The particular considerations used by the Secretary of State when determining whether sites of all types are suitable for statutory designation through scheduling are set out in their Scheduled Monuments Policy Statement.

3 Specific Considerations

Maritime and naval sites, with their coastal locations, pose particular long-term challenges in terms of designation and management, as discussed below.

3.1 Scheduling within territorial waters

Under the legislation it is possible to schedule within territorial waters which extend 12 miles outward from the coast. However, in practice this option has not been widely used and generally scheduling is limited to the intertidal zone above mean low tide. Issues such as the difficulty in managing and monitoring such sites as well as the general focus on terrestrial-based archaeology are the main reasons behind this; however, as our engagement with marine protection develops, the sensitive scheduling of nationally important sites may be pursued in the future.

3.2 Sites threatened by natural causes

Scheduling cannot prevent storm damage or coastal erosion. However, that does not mean that sites so threatened should not be scheduled. Scheduling clearly indicates national importance, and may result in some areas or sites being given greater protection via mitigation such as flood alleviation schemes, or at the very least the assets' preservation by record. Issues of cost and practicality will mean that management of the archaeology of the intertidal zone will always demand that hard and well-founded choices are made about where resources are deployed; scheduling should be mindful of this, and used sparingly.

3.3 Environmental remains

The proven existence of waterlogged deposits associated with structures would be a factor likely to strengthen the case for designation. This would especially be the case if there are good levels of survival of organic materials such as wood and cloth which otherwise rarely survive.

3.4 Harbours

Many harbours, especially early ones, were effectively natural inlets and were not artificial constructions that can be defined as works under the 1979 Act. That said, the presence of structures such as harbours, quays and waterfronts may be known or suspected, often encroaching sequentially outwards from the waterfront. These are often poorly recorded and ill-defined. Such encroachment means that deposits now often lie within an urban context, and are better managed through the planning system. Piers and sea walls are liable to be listed: such structures can conceal earlier fabric within.

3.5 Docks

In contrast to natural harbours, docks can certainly be defined as being works under the 1979 Act. Where these are still in use they are generally more suitable for designation via

listing. Where they have been infilled, and can be identified as discrete structures, they may be candidates for scheduling, especially where they were infilled at an early date, because of their civil engineering interest and the potential for good archaeological deposits. Again, however, such infilled areas often became reclaimed land where, as in any urban area, there will be a question about the appropriateness of scheduling rather than management through the planning system.

3.6 Shipbuilding and shipbreaking yards

One of the surprising aspects of wooden shipbuilding is the light archaeological footprint of the yards. Despite the massive size of vessels built, the surviving evidence for the yards and their infrastructure is often very slight, and vulnerable to loss. In some cases, like Buckler's Hard, Hampshire, management of the resource, where it includes notable above-ground structures, has been via designation as a conservation area.

3.7 Historic interest

One of the non-statutory scheduling criteria noted above is documentation, which can either be contemporary (say, building accounts) or records of modern investigations into the asset. Given the importance of the sea to the history of England, particular value will always be attached to sites which have a notable place in that narrative, especially where it is well-documented. Thus, in any particular case judgment of the suitability of scheduling will require careful consideration, as well as an awareness of the management situation.

4 Protection through Management

As already noted, maritime and naval sites, with their coastal locations, pose particular long-term management challenges. Sea levels have risen by 200mm since 1900, and the UK Climate Change Impacts Project predicts a further rise of 260-860mm by 2080. In addition, extreme high tides and severe storms are likely to become more frequent, bringing the likelihood of flooding and exceptional erosion.

Challenging though the medium- and long-term impacts of those changes are, in terms of current and short-term conservation, long sections of the English coastline enjoy special consideration and often careful management by virtue of lying within Sites of Special Scientific Interest, National Parks, Areas of Outstanding Natural Beauty, the Jurassic Coast World Heritage Site or Natural England's non-statutory designation of Heritage Coast. Much coastline so designated overlaps with the ten per cent of the English coastline owned by the National Trust. Together these do much to ensure heritage assets enjoy appropriate management.

Nevertheless, as this note sets out, designation via scheduling – and similarly via listing – remains an appropriate instrument for identifying particularly significant examples of maritime and naval sites where particular approaches to protection and management are merited.

5 Select Bibliography

5.1 General

Cant, S., *England's Shipwreck Heritage: From Logboats to U-boats* (2013)

Fulford, M., Champion, T. and Long, A. (eds.), *England's Coastal Heritage: A Survey for English Heritage and the RCHME* (1997)

Gale, A., *Britain's Historic Coast* (2000)

Hunt, A., *English Heritage Coastal Estate Risk Assessment* (English Heritage Research Department Report Series No. 68-2011; 2011) available online

Macdougall, P., Royal Dockyards (1982)

Milne, G., *'Maritime Archaeology in Kent, Surrey and Sussex'*, draft for South-East England Research Framework

Murphy, P., *The English Coast: a History and a Prospect* (2009)

Murphy, P., *England's Coastal Heritage: A Review of Progress since 1997* (2014)

Ransley, J. and Sturt, F., *People and the Sea: A Maritime Archaeological Research Agenda for England* (2013)

5.2 Prehistoric

Bradley, R., *The Prehistory of Britain and Ireland* (2007)

Cunliffe, B., *Iron Age Communities in Britain* (4th edn, 2005)

Darvill, T., *Prehistoric Britain* (2nd edn, 2010)

5.3 Roman

Grainge, G., *The Roman Channel Crossing of AD 43: The Constraints on Claudius' Naval Strategy* (2002)

Marsden, P., *Ships of the Port of London. First to Eleventh Centuries* (1994)

Mason, D. J. P., *Roman Britain and the Roman Navy* (2003)

Milne, G., *The Port of Roman London* (1985)

Taylor, J. du P., and Cleere, H. F. (eds), *Roman Shipping and Trade: Britain and the Rhine Provinces* (1978)

5.4 Anglo-Saxon

Hamerow, H., Hinton, D.A. and Crawford, S. (eds.), *The Oxford Handbook of Anglo-Saxon Archaeology* (2011), Part VI (pages 503-723), Trade, Exchange and Urbanization

5.5 Medieval

Milne, G., *The Port of Medieval London* (2003)

Schofield, J., *London 1100-1600* (2011)

6 Where to Get Advice

If you would like to contact the Listing Team in one of our regional offices, please email: customers@HistoricEngland.org.uk noting the subject of your query, or call or write to the local team at:

North Region
37 Tanner Row
York
YO1 6WP
Tel: 01904 601948
Fax: 01904 601999

South Region
4th Floor
Cannon Bridge House
25 Dowgate Hill
London
EC4R 2YA
Tel: 020 7973 3700
Fax: 020 7973 3001

East Region
Brooklands
24 Brooklands Avenue
Cambridge
CB2 8BU
Tel: 01223 582749
Fax: 01223 582701

West Region
29 Queen Square
Bristol
BS1 4ND
Tel: 0117 975 1308
Fax: 0117 975 0701

This page is left blank intentionally

This page is left blank intentionally

This page is left blank intentionally

Acknowledgments

Images

© Historic England

All images except those listed below

© Other

Cover and Figures 1-7: Peter Murphy

Every effort has been made to trace the copyright holders and we apologise in advance for any unintentional omissions, which we would be pleased to correct in any subsequent editions.

Historic England

We are the public body that helps people care for, enjoy and celebrate England's spectacular historic environment.

Please contact
guidance@HistoricEngland.org.uk
with any questions about this document.

HistoricEngland.org.uk

If you would like this document in a different format, please contact our customer services department on:

Tel: 0370 333 0607
Email: customers@HistoricEngland.org.uk

All information and weblinks accurate at the time of publication.

Please consider the environment before printing this document

HEAG248
Publication date: February 2013 © English Heritage
Reissue date: July 2018 © Historic England
Design: Historic England