

Appendix 1:

Theme 5.1 – Maritime Coastal Features



Theme 5.1 – Maritime Coastal Features

Summary

5.1 With Dover being the closest point to continental Europe and commanding the northern shores of the narrow Dover Strait the history of the of the District has been inexorably linked with the maritime use and crossing of the Channel. The District's coastline is rich in heritage assets that reflect these maritime links - from Roman lighthouses to twentieth century coastguard stations; from evidence of medieval fishermen to Faraday and Marconi's experiments at the South Foreland. These varied assets help tell the story of the District's connections with

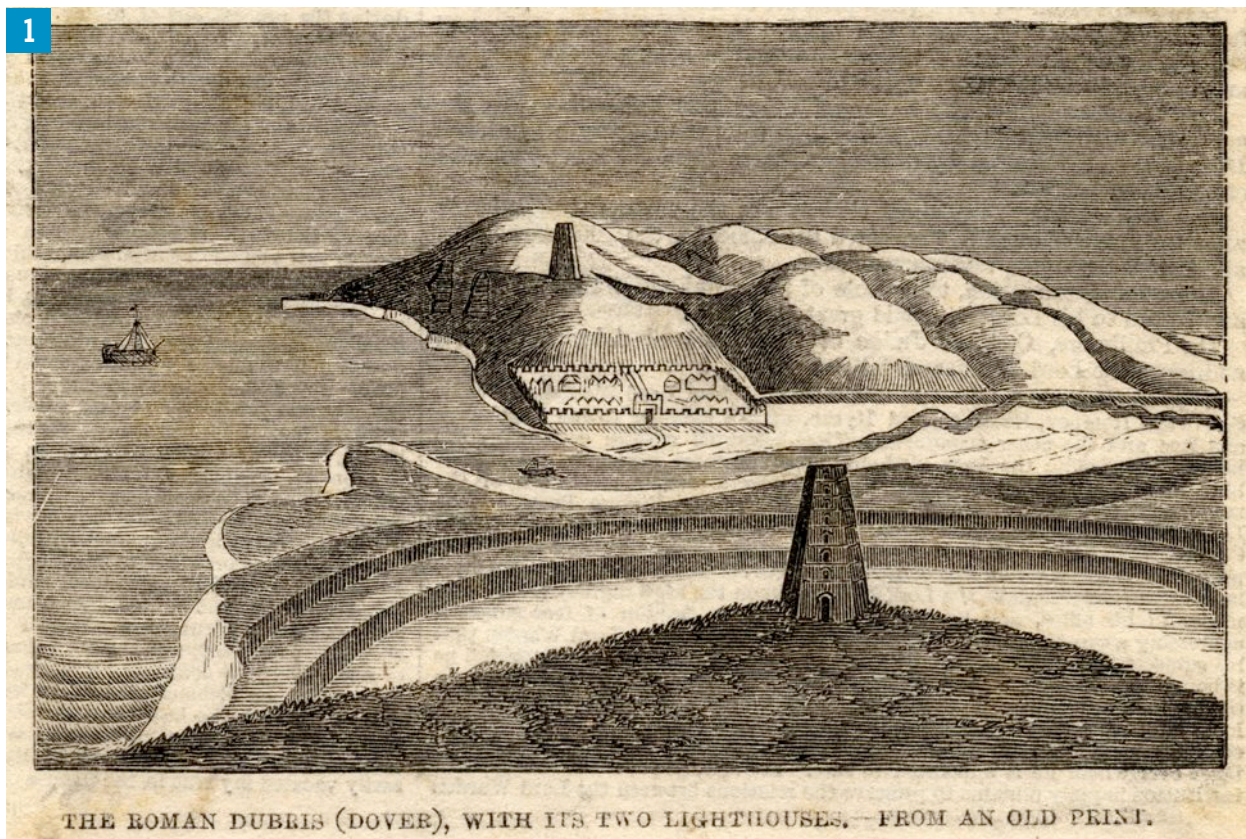
the sea and the hazards that the waters off the coast presented in the past.

Introduction

Maritime importance

5.2 As recent as 15,000 years ago much of the North Sea and the English Channel was part of the continental land mass. As sea levels rose following the last ice age this land mass became submerged beneath the growing Channel and North Sea retreating to a land mass which bridged between Britain and the continent from what is now East Kent and East Anglia. Around 6000 BC the connection with the continental landmass was finally breached creating the Dover Strait and the island we live in today.

5.3 With Dover being the closest point to continental Europe and commanding the southern shores of the narrow Strait, the history of the District has been inexorably linked with the maritime use of the Strait ever since. Forming the link between the North Sea and the English Channel, the Strait



Cover

Prince of Wales Pier Lighthouse

Figure 1

Roman Dubris (Dover) with its two lighthouses and fort of the Classis Britannica from a print adapted from one originally drawn by the noted 18th century antiquarian William Stukeley. © Dover Museum (d05960)

of Dover has become one of the busiest shipping lanes in the world. Vessels passing between the north countries and southern Europe and beyond would often use the sheltered waters of the channel than risk the more hazardous Atlantic passages. As the shortest crossing point between Britain and the continent the Strait has been used for cross channel travel since prehistoric times. Great Roman ports of entry developed at Richborough and Dover and later the ports of Dover, Sandwich and Deal became prominent in the nations maritime and naval history.

5.4 As well as being a conduit, the sea between the District and the continent has also formed a barrier and the first line of defence to invading armies. The coastal waters of Dover District have seen the arrival of invasion forces, many raids on the coast and ports, and numerous naval engagements from Roman times to the Second World War. All of this, coupled with the natural dangers to shipping and the presence of the hazardous Goodwin Sands

off the east coast of Deal have resulted in an immense number of wrecks in the District's coastal waters.

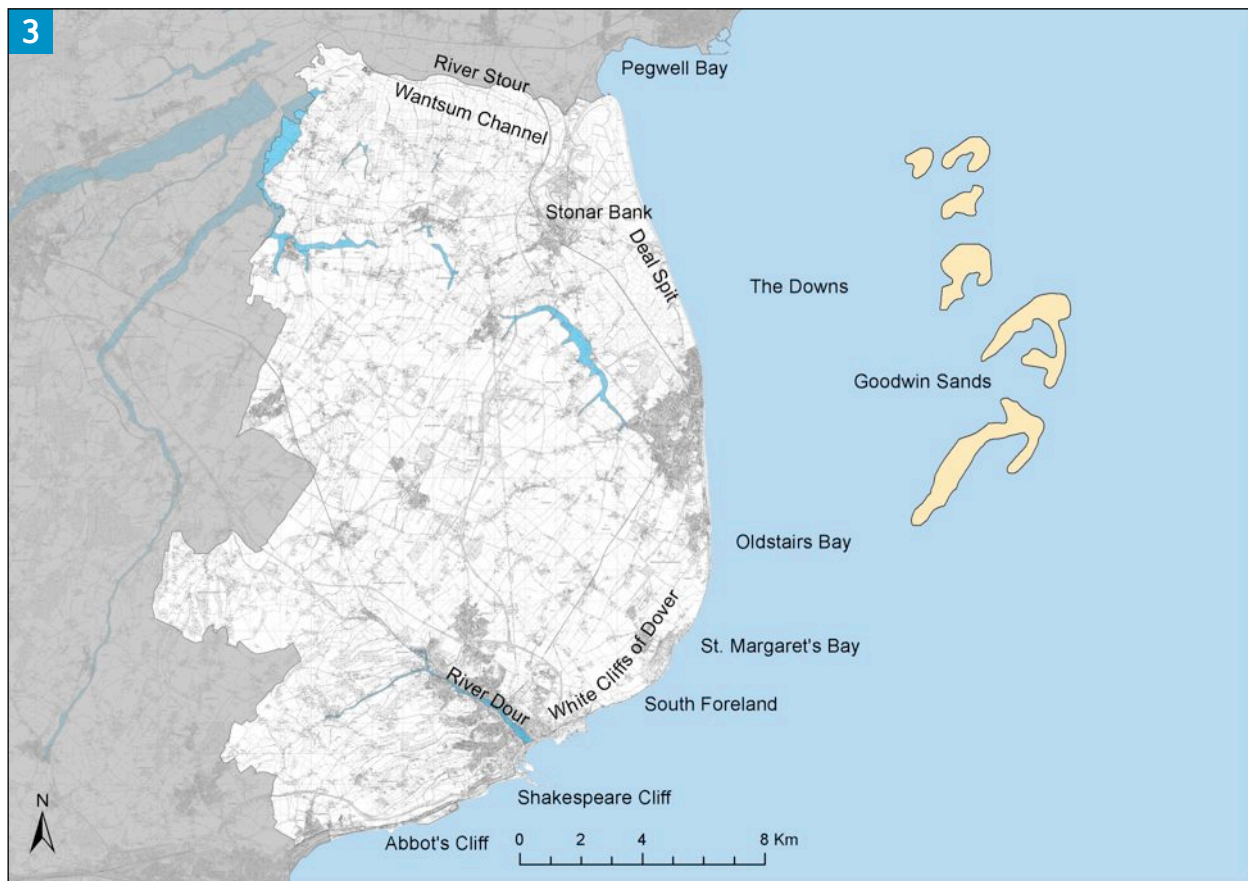
Scope of the theme

5.5 The present theme paper is not concerned with the development of the major ports which are discussed in length in separate papers (Themes 2.1 to 2.3), defence (Themes 3.1 to 3.9), cross channel travel (Theme 4.3) nor indeed the wrecks in the district's coastal waters (Theme 5.2) which all make a significant contribution to the heritage of the coast. The paper discusses the heritage assets on the District's coastline that link with the navigation of the coastal waters, for example the lighthouses and coastguard; industries that grew to exploit the sea such as ship repair, building, fishing, victualling and smuggling; and the role that the District's coastal communities played in helping to preserve life at sea.

5.6 The paper had originally intended to consider the development and use of the coast and sea for leisure which features



Figure 2 Shingle beach south of Sandwich. © Explore Kent



significantly in the District's heritage. It has been realised however that the topic is substantial enough to merit a theme study in its own right, with key assets including the development of promenades and leisure facilities at both Deal and Dover including piers, the golf links at Sandwich and Deal, and estates at Sandwich Bay and St Margaret's Bay. It is hoped that future additional theme papers would include 'coastal leisure'.

Evolution of the coastline

5.7 The evolution of the District's coastline has played a substantial role in the pattern of settlement and landscape development since ancient times. Coastal processes and landscapes are considered in more detail in a separate paper (Theme 1) however the main landscape features of the coastline (modern and historic) are described here (from North to South):

5.8 The northern boundary of the District is marked by the **River Stour** which extends

from various sources in the Greensand Vale north eastward through the North Downs to its present mouth at **Pegwell Bay** on the east coast of Kent. The lower part of the river follows a course which was once the **Wantsum Channel**, an important sea route navigable from prehistoric through to medieval times. The Wantsum Channel once linked the Strait of Dover with the mouth of the Thames and separated the Isle of Thanet from the Kent Mainland. The Stour was navigable into medieval times and was particularly important in bringing trade to Canterbury and the inland port of Fordwich.

5.9 Although much more work is needed to study the form and development of the Wantsum Channel it was probably characterised by an open water channel winding through tracts of salt marsh with numerous small inlets or 'fleets' and islands of higher land surrounded by marsh and water. One particular island of high ground at the mouth of the channel was later occupied by the Roman port of Richborough. The

Figure 3 The main Coastal Features of Dover District



development of sand and shingle spits (**Stonar Bank** and the **Deal Spit**) at the eastern end of the Channel and the deposition of silts from the Stour eventually led to the loss of the channel and its reclamation in medieval times for grazing marsh. The Channel and the Stour played an important part in the maritime role of the district up to the 15th century and again during the First and Second World Wars. Today the River beyond sandwich is only navigable by small craft and mainly for leisure purposes.

5.10 The northern part of the District's coastline is characterised by shingle beaches formed through longshore drift that created the Deal Spit. These shingle beaches extend from the mouth of the River Stour in Pegwell Bay as far south as **Oldstairs Bay**, to the south of Deal. From Oldstairs Bay the coastline is formed by the white chalk cliffs of the truncated North Downs. These chalk cliffs, the world famous '**White Cliffs of Dover**' extend around the south east headland known as **South Foreland** to the

mouth and valley of the River Dour. Eastward from the Dour, the white cliffs, here known as **Shakespeare Cliff** and **Abbots Cliff**, extend to East Wear Bay and Folkestone in Shepway District.

5.11 Beneath the cliffs can be found a number of small mainly inaccessible coves and beaches e.g. Langdon Bay, Fan Bay and Crab Bay. Just to the north of the South Foreland is **St Margaret's Bay** with an accessible shingle beach.

5.12 The **Dour** originally a small chalk stream emerging from the North Downs at Temple Ewell and Alkham has over time cut a steep sided valley through the chalk bedrock to emerge on the south coast of the district as the only significant breach in the white chalk cliffs. Strategically located on the narrowest part of the Dover Strait, the mouth of the Dour, sheltered beneath the high chalk cliffs on either side would have provided a safe haven for boats and ships in the channel. Today most of the estuary is silted and built leaving the Dour as a narrow

Figure 4 *Dover Harbour in the mouth of the Dour Valley with the white chalk cliffs of the South Foreland beyond.*
© Explore Kent



fast flowing river no more that 10 metres wide and a metre deep.

5.13 Offshore another natural coastal feature which has had a significant influence on the history of Dover District are the extensive sand banks which lie off the East Kent coast known as the **Goodwin Sands**. The sand banks which are around four miles offshore and nine miles in length have long been a major navigational hazard to shipping in this narrow historically important sea route and the scene of many a shipwreck. As well as presenting a hazard, the Goodwin Sands also provided a relatively sheltered and strategically important anchorage known as **The Downs** for shipping in times of bad weather or as they waited for the favourable conditions to round the North or South Foreland.

An overview of the development of ports in the District

5.14 This purpose of this paper is not to describe the development of the main ports and harbour features in the District. These are covered in some detail in separate theme papers e.g. Theme 2.1 Sandwich & Stonar, 2.2 Deal Port and The Downs, 2.3 Dover Harbour, 3.1 The Roman Gateway and 3.6 Great War Defences and the supply of the Western Front. The following is a brief overview of the development of ports in the District.



5.15 Dover District's position on the south-east-tip of Britain and the closest point to Europe has meant that the District has long had maritime links with the continent. The District's archaeological record provides considerable evidence for cross channel travel and transport is with people, ideas and goods regularly travelling across the Channel for the past four thousand years. The most obvious indicator of early cross-Channel travel in the District was the discovery of the Dover Bronze Age Boat in 1992. Evidence for cross Channel trade is also revealed in the recovery of 'exotic' goods at archaeological sites in the District. For example amber that originated in the Baltic has been found in Bronze Age contexts within the District. In the neighbouring District of Thanet recent investigations at Cliffs End Farm, overlooking Pegwell Bay, have discovered the skeletons of Bronze Age people that isotope analysis shows came from Scandinavia and the Iberian Peninsula.

5.16 The movement of goods and people across the Channel continued through the Iron Age and Romano-British period. In Roman times, following the invasion of AD 43, initially Richborough (*RVTVPIAE*) and then Dover (*DVBRIS*) were established as major ports of entry into the new Roman province with Dover also being, for a while, a base for the fleet of the *Classis Britannica*. Other than the two major ports, the District's coastline which at the time included the navigable Wantsum Sea Channel and Lydden Sea Valley is likely to have been rich in coastal

Figure 5 Goodwin Sands. © Dover Museum (d33277)

Figure 6 The Dover Boat discovered in 1992. © Canterbury Archaeological Trust



settlement with scattered wharfs and landing places serving these individual communities, many of which probably had their origins in pre-Roman times.

5.17 With the loss of Roman administration Richborough and Dover demised as major ports of entry though there are traces in the archaeological record that they still served a purpose. Richborough indeed saw the arrival of the Christian mission led by St Augustine in AD 597. In Dover the late-Roman period and through the early medieval period the Roman harbour was suffering from continual issues of silting. It is possible that some elements of the Roman harbour installations were usable in the earlier Anglo-Saxon period, although archaeological evidence is scant. By the end of the Anglo-Saxon period the former harbour had probably entirely silted up. The precise location and extent of the harbour in the early medieval period is uncertain.

5.18 The new Anglo-Saxon settlers had strong connections with the sea and made good use of the various inlets, coves and creeks in much the same way as the Roman and Iron Age communities had. The District's archaeological record shows that vessels continued to transport goods and people to and from continental Europe in the early

medieval and medieval periods. Pottery from north-east France has been found in Anglo-Saxon domestic contexts at Church Whitfield, whilst continental jewellery has been recorded from burial sites across the District.

5.19 The gradual loss of the Wantsum as a navigable channel sealed the demise of Richborough and led to the emergence of new twin ports, Sandwich and Stonar on the wide haven at the eastern mouth of the channel where the Stour emerged. The precise date for the foundation of either settlement is uncertain. There is some evidence for early settlement on the sands to the east of Sandwich and Sandwich itself is first mentioned in the early eight century. Evidence for the Anglo-Saxon settlement of Sandwich has proved elusive however and it is not until the early eleventh century that both towns start to flourish.

5.20 Both Dover and Sandwich had emerged as important ports before the Norman Conquest, both being important mustering points for the Saxon Royal fleets or 'Fyrdd'. Dover and Sandwich, along with the ports of Hythe, Romney and Hastings were head ports in the Confederation of the Cinque Ports. The precise origins of the Cinque Ports is not known however it is generally thought that the ports came together during the time of Edward the Confessor (1042-1066). The five ports, assisted by neighbouring towns and villages (known as 'limbs') combined to provide the king with a fleet to protect the important crossing routes of the Channel and the kingdom from attack in return for the grant of privileges.

5.21 The twin ports of Sandwich and Stonar flourished in the early part of the medieval period. Sandwich was always the more important of the two and by the middle to late eleventh century was second only to Canterbury in size among Kent's towns. Both sites developed into important commercial

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ports, having trading links along the Channel coast as well as with northern Europe and the Mediterranean. Sandwich also continued with its role as a royal major military assembly and supply port where troops, provisions and equipment were marshalled before being sent to France.

5.22 In the second half of the fourteenth century disaster struck Stonar. In 1365/6 the town was inundated by the sea and largely destroyed. The town never really recovered from the inundation and was raised during a French raid in 1385.

5.23 Despite French attacks in the 13th century, crop failures and the Black Death in the early 14th century, Sandwich continued to flourish and was one of the most important ports in the country in the 12th and 13th centuries. Its demise came about from the 15th century when the extending Deal shingle spit caused severe silting in the Stour around sandwich and the Haven, causing trade to decline in favour of other more navigable ports. Attempts to cut new

channels failed and by the 17th century Sandwich was no longer viable as a port.

5.24 Although Royal fleets mustered at Dover in the period immediately before the Norman Conquest and it was one of the five original Cinque Ports, it did not flourish as a commercial port until Sandwich's decline in the 15th century. The Dour suffered with its own problems of silting and long-shore drift and medieval harbour facilities were probably minimal with vessels anchored off shore or beached on the shingle banks forming in the river mouth.

5.25 In the late fifteenth/early sixteenth century a new harbour was established at Archcliffe around a sheltered inlet or pool known locally as the 'Paradise Pent'. A new commercial and residential district, known as the 'Pier District' developed around the harbour and the Wyke. Dover became an important entry point to England and Dover Castle regularly housed diplomats, dignitaries and the occasional Royal retinue on their way to or from the continent. The sixteenth

Figure 8 Sandwich Quay

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century painting The Embarkation of Henry VIII shows one such Royal convoy departing Dover in AD 1520.

5.26 New piers and jetties built to protect the new harbour from silting altered the tidal depositional patterns in the river mouth and created a shingle bar across the mouth that enclosed tidal water to the rear. By the mid sixteenth century the harbour at the Paradise had been largely blocked and the tract of tidal water sheltered by the newly formed spit created a natural opportunity for revising the harbour arrangement. Provisions were put in place to reinforce this shingle spit and this tract of water still forms the basis of the Inner Harbour (Wellington Dock, Granville Dock and the Inner Tidal Harbour). In the Elizabethan period this tract of water was known as the Great Pent and sluices to

control the flow of the Dour were installed as part of the Elizabethan works. These sluices allowed the waters of the Dour to be used to flush the harbour basin clear of any shingle or silting.

5.27 Although the sluices were somewhat effective, Dover's harbour continued to suffer from shingle blocking its mouth. This problem was finally solved in the mid nineteenth century with the construction of the Admiralty Pier out into deep water creating by the end of the century the Harbour of Refuge, piers of sufficient length to accommodate cross channel steamers and a station that allowed rail passengers and goods to be delivered directly to the cross channel boats.

5.28 In the late nineteenth century the Admiralty approved the construction of a vast harbour of refuge at Dover. The new Outer Harbour was formed by extending and widening Admiralty Pier, the creation of a new Eastern Arm and construction of the Outer Breakwater. This harbour of refuge was completed in 1909 and enclosed an area of some 270 hectares.

5.29 The Admiralty Harbour played an important military role in both World Wars. The twentieth century also saw a dramatic

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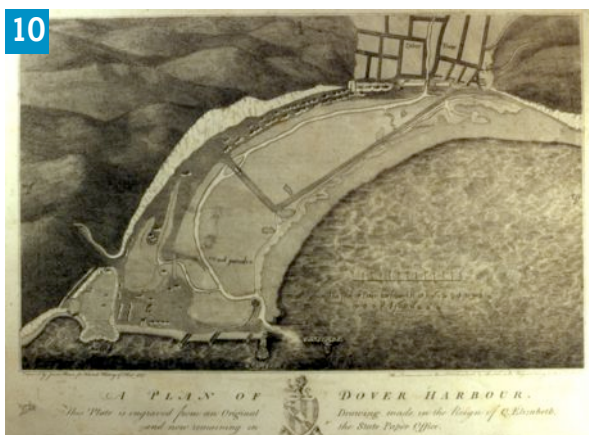


Figure 9 Embarkation of Henry VIII 1520. © Dover Museum (d00690)

Figure 10 Engraving of Elizabethan plan of Dover Harbour. © Dover Museum (d00368)

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increase in the amount of civilian traffic passing through the docks. The Western Docks were developed as a major train ferry port. There had been a station at the docks (known as Dover Town Station) since 1844 with services connecting to cross-Channel steamers, however the rail facilities were substantially improved following the construction of the Admiralty Harbour. A new railway station, Dover Marine, was opened on the pier itself and was opened to civilian traffic in 1920 following the cessation of the First World War. A Train Ferry Dock was added to the Western Harbour in 1936.

5.30 The growth of private motoring in the post-war period led to a new source of traffic for Dover in the form of roll on, roll off car, coach and lorry services. The first cross channel car service from Dover actually began in the interwar period when a Captain Townsend purchased a former mine sweeper that he converted to carry private cars. Captain Townsend's service operated out of

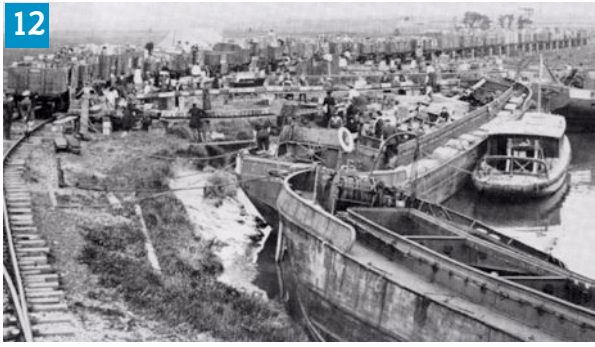
the eastern dock and it is here that the new roll on, roll off car ferry berths were constructed in the 1950s. In the 1960s a hoverport was established at the Eastern Docks, but this was moved to the Western Docks by the 1970s when the Eastern Docks were redeveloped and more ferry berths added.

5.31 By the end of the 19th century, various speculators had turned their attention to Sandwich Haven to create a major new harbour. Various ideas were put forward including a new alternative to rival Dover for cross channel travel and a port that served the emerging East Kent Coalfield. These initiatives were overtaken by the Great War and a need to supply the Western Front through the inland canal system of France and Flanders.

5.32 In 1915 the Royal Engineers identified Sandwich Haven as the site for a massive military port and depot, suitable for loading

Figure 11 Aerial view of the Admiralty Harbour of Refuge. © Skyfotos

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barges that could travel across the channel and navigate the canal system. The depot started as a moderate ambition but grew rapidly in size and strategic importance throughout the war. The massive effort expended on the depot saw the creation of workshops, warehouses, store yards, shipyards, wharves and miles of railway, with a train ferry connection to the continental railway system. By 1918 the port at Richborough had developed into a facility covering some 2,000 acres, capable of handling around 30,000 tonnes of traffic per week and employing in excess of 24,000 people. To serve the port and house its workers and embarking troops a series of hutted camps were constructed

Maritime services and provision

5.33 As well as wharfs and harbouring facilities, the District's ports were also prominent in providing services to shipping. The provisioning of ships with food and water was particularly important. For example many of those vessels anchored in The Downs awaiting the right conditions for onward voyages would have relied upon the town of Deal. Examination of the First Edition of the Ordnance Survey map illustrates this to some extent showing that a considerable number of corn mills lay around the town to service this need. Beer was an important part of naval life; the Royal Navy supplied its seamen with a gallon a day at one time. Successful breweries developed at Dover, Deal and Sandwich to serve not only the populace of the towns but also the

mariners on shore leave and the shipping. The ports also supplied a range of other goods to vessels using the harbours and coastal waters. Ballast was provided to ships from the shingle on the Deal and Walmer beaches, ropes for rigging, timber for spars and repair facilities were also available.

5.34 Administrative services such as agency and marine offices, banks and legal services were found in the ports, for example the East India Company had an agent in Deal. For the shore-going mariners, often returning from long voyages, the ports also provided plenty of facilities to relieve their spirits, and their purses, with many a pub, bawdy house or brothel available. Hotels for sea-going passengers and visiting families of sea going officers were also plentiful.

Navigation - Pilotage

5.35 Shipping making the hazardous passage of the Dover Straits would have long relied on the services of highly skilled seamen,

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Figure 12 Port Richborough during the Great War. © Kent History & Library Centre
Figure 13 The Ship Inn in Middle Street, Deal

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familiar with the waters who acted as pilots. The pilots of the Cinque Ports were hired to conduct shipping through the Straits to ports in Flanders, Holland and France and to London and the Medway towns. From as early as the 13th century an informal brotherhood of the pilots was in place and in 1312, the Lord Warden created four Wardens to ensure that pilots took their turn in conducting ships and divided the profits made between them. A list of rules for Dover's pilots dated 1495 exists in the archives.

5.36 In 1526 a Fellowship of Cinque Port Pilots was officially founded to regulate the activities of the pilots. The pilot's motivation for the fellowship was partly to keep the work to themselves and partly to fend off foreign competition. The Fellowship was supervised by the Court of Lodemenage under the commission of the Lord Warden, had regulations and officers and the pilots, who were self employed, were officially licensed. To achieve a licence Pilots had to be knowledgeable seamen able to guide any ship through the Downs and the notorious Goodwin Sands and navigate to the Thames, Medway and any channel port. It was usually required that a candidate have at least seven years (later five years) at sea as a Master Mariner. In 1526 the enrolment of the Fellowship licenced 14 pilots from Dover and 1 from Deal. In 1716 the roll was set at 50 each for both ports, it was raised to 64 each in 1801 and reduced to 56 each in 1833. These figures reflect the growing importance of the

Figure 14 Dover pilots Watch Tower, 1842 - Watercolour by S. J. Mackie. © Dover Museum (dd00811)

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Downs anchorage and the naval importance of the Strait in the time of the French and Napoleonic Wars. New pilots were admitted into the Fellowship in St James' Church in Dover. From 1616 a Jury of the Court of Lodemenage met in St James' Church. All the pilots had to be churchgoers and attend services. As pilotage could be required at short notice the pilots paid for their own galleries with separate entrances at several of the churches in the District so that they could leave without disturbing the congregation. Pilot's galleries were built at St. Mary's in Dover, St. Leonard's in Upper Deal and St. George's in Deal.

5.37 The pilots took it in turn to guide ships through the Straits. They were required to be constantly at sea waiting for ships that needed their services. By the 18th century the dangers of constantly waiting at sea were realised and watch towers were built on shore. At Dover the original pilot's watch tower was a wooden structure on the south pier head. This was demolished when the railway was built to the pier in 1844 and a new stone Pilot Tower built for them at the pier. This in turn was demolished with the widening of the railway in 1913.

5.38 The pilots hired lookouts on the shore to watch for signals from passing ships requesting their services. They were then taken out in their own boats or by local boatmen to the ships. From 1852 a cruising system was introduced where pilots took

Figure 15 Dover Pilots Watch Tower 1857. The tower was built in 1842 after the demolition of the previous tower to make way for railway construction - Watercolour by William Burgess. © Dover Museum (d00885)

turns stationed at sea cruising in a pilot cutter in the shipping lanes for customers. In later years, with the added manoeuvrability of steam propulsion the cutter was able to anchor at a fixed station off Dungeness and pilots were picked up by passing ships in turn. Other pilots on duty at the shore stations in Dover, Deal and Thanet picked up those ships missed by the cutter to ensure no ships avoided paying the pilotage fees.

5.39 From 1590 the pilots also organised an annual survey of the channel from the South Foreland to The Nore, to chart the ever-changing channels and sand banks of the Goodwins, though irregular surveys had commenced in 1568

5.40 Three other societies of Mariners in England at Deptford Strond, Hull and Newcastle were chartered in the 16th century as Trinity Houses, named after the church of that name in Deptford. In 1566 the Seamarks Act granted Deptford powers to set up “*So many beacons, marks and signs for the sea whereby the dangers may be avoided and escaped and ships the better come into their ports without peril.*” This later developed into Trinity House having sole responsibility for lighthouses and lightships in Britain. The Cinque Port pilots were transferred to the Trinity House of Deptford and the Court of Lodemenage was closed following the death of the then Lord Warden, the Duke of Wellington who had resisted change to the organisation of pilotage. The Deal pilots gradually transferred to the Dover Station from 1858 to 1937. In 1971 the cruising cutter was replaced by the Folkestone Pilot Tower as radio and fast launches meant that pilots no longer had to wait at sea. The Dover pilots moved to Folkestone in the same year. The Fellowship stayed in Dover in offices in Marine Parade. In 1988 the Cinque Port Pilots were disbanded and local pilotage passed to harbour and river authorities.



Navigation – Lighthouses and Lightships

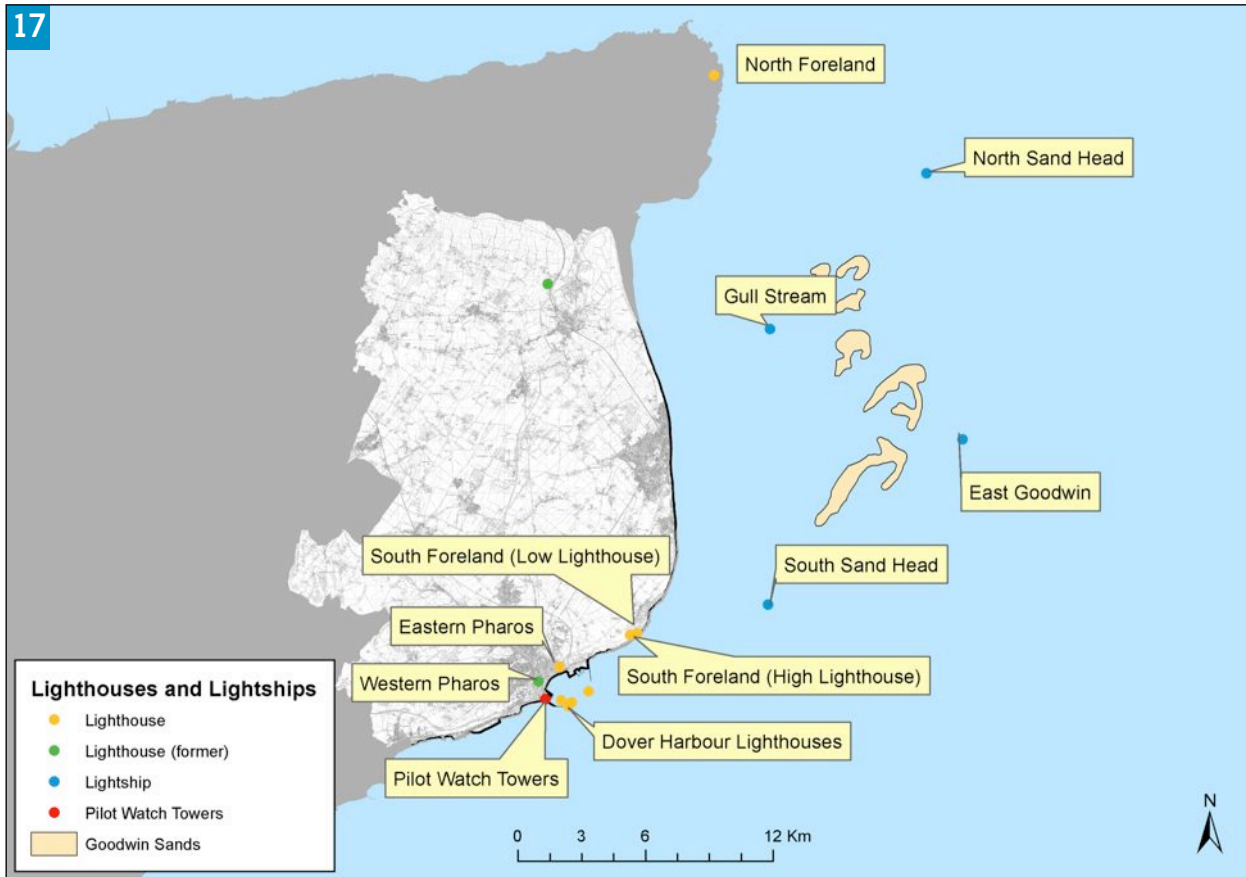
5.41 The District’s coastline has also seen the construction of a number of lighthouses to assist with navigation of the potentially hazardous waters and entry to the ports.

5.42 The Romans built a pair of lighthouses (*‘pharos’*) at Dover probably early in the second century AD, the only confirmed *pharos* in the country and these help to demonstrate the importance of Dover as a port of entry to the Romans. These were built atop the hills flanking either side of the harbour entrance to guide ships into the estuary and perhaps to also serve as watchtowers. Geophysical survey of the amphitheatre at Richborough has identified a pair of towers at the structure which may have served as *pharos* for entry into that port and the Wantsum but no investigation has been undertaken to confirm this.

5.43 In the medieval period, warning beacons were often placed on the top of or in the side of the chalk cliffs by local monks who saw it as their Christian duty to warn ships of peril. There is record of a light at the South Foreland in 1367 which was maintained by a hermit who dwelt in a cave in St Margaret’s Bay.

5.44 Despite the 1566 Seamark Act, before 1836 there was no single organisation of lighthouses and lightships in England. The 17th and 18th centuries saw the construction of

Figure 16 Roman Pharos on Castle Hill Dover



many lighthouses around the country; while a number were owned and operated by Trinity House many were privately owned paying an annual fee either to the Crown or Trinity House. The owners of the private lights were allowed to levy light dues from passing ships on reaching port. The reliability of these private lights left much to be desired and so in 1836 legislation was passed for all lights in England, Wales and the Channel Islands to be compulsory purchased and placed under the management of Trinity House.

5.45 The first record of a permanent lighthouse structure on South Foreland dates to 1636. King Charles I granted licence to Sir John Meldrum to continue and maintain his lighthouses on South Foreland and North Foreland (Thanet). Such structures were likely to have been merely wooden towers to support an iron basket in which or wood was burnt. The structures would have likely been susceptible to catching fire and would have been modified over the subsequent century and a half with brick, flint and glazing of the

structures.

5.46 Between 1793 and 1795 Roger Osbolten built more substantial lighthouses at South Foreland incorporating a copper dome to enclose the light. Two lighthouses were built: the South Foreland Lighthouse (Upper Lighthouse) and the St Margaret's Old lighthouse (Lower Lighthouse). In 1843 the lighthouses were rebuilt in Portland Stone by Trinity House's Chief Engineer James Walker.

5.47 The St Margaret's lighthouse was designed to provide shipping with a bearing on the southern end of the Goodwin Sands.



Figure 17 Lighthouses and Lightships

Figure 18 South Foreland / St Margaret's Low Lighthouse. © Dover Museum (d01719)



With the sands shifting it soon became obsolete and taken out of service in 1910, its role taken over by the Goodwin's Lightships.

5.48 The South Foreland Lighthouse continued in use until 1988 but remains particularly significant for two historical events. Michael Faraday, discoverer of electromagnetic induction in 1831, was scientific advisor to Trinity House. In the 1850s four test towers were built at South Foreland to experiment with different light power sources (including electricity, gas and oil). Electricity proved to be the favoured source and Faraday oversaw the installation of an electric carbon lamp powered by a large electric generator at South Foreland Lighthouse in December 1858. South Foreland became not only the first ever lighthouse to be lit electrically but also the first site where electricity was used practically for power.

5.49 The radio pioneer Guglielmo Marconi used the South Foreland Lighthouse for his

experiments with radio waves. On Christmas Eve 1898 the lighthouse received the first ever ship-to-shore radio transmission from the East Goodwin Lightship nine miles offshore. The lightship later also relayed the first ship-to-shore distress message from South Foreland to Ramsgate to alert the lifeboat there of a grounded steamship. In March 1899 Marconi also sent the first international radio transmission across the Channel from Wimereux, France to the lighthouse.

5.50 The first of four light ships was positioned on the Goodwin Sands at North Sand Head in 1795. This was followed by



Figure 19 Experimental Lights constructed at South Foreland by Faraday in the 1850s. © Dover Museum (d80888)
 Figure 20 Foundering of the South Sand Head Lightship in 1954. © Dover Museum (d44617)

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another at the Gull Stream in 1809, at South Sand Head in 1832 and finally at East Goodwin in 1874. The light ships served two purposes – to warn shipping of the hazardous sands and to alert the lifeboats when a ship grounded. Only the East Goodwin Lightship remains in use with the others being replaced

by beacons. The South Sand Head Lightship foundered on the sands in a storm in 1954 with the loss of seven crew. Other navigational lights can be found on the harbour entrances and breakwater at Dover and are an integral part of the modern working harbour. The lights on the end of the Admiralty Pier and those on the South Breakwater were constructed in 1909 on completion of the extended harbour. That on the Admiralty Pier in fact dates to 1872 and was moved from its position at the end of the original pier once it was extended. The light of on the end of the Prince of Wales pier dates to 1902. Another light formerly lay on the end of North Pier

Preserving life at sea

5.51 The combination of the busiest sea route in the world and the presence of the Goodwin Sands led to the wrecking of numerous ships within the Strait of Dover and the coastal waters of the District. Many souls lost their lives in the waters but there is a long tradition of rescue associated with Deal and Walmer in particular.

5.52 The boatmen of Deal, Walmer and

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Figure 21 South Breakwater Lighthouse, Dover Harbour

Figure 22 Watercolour by J.M.W. Turner in 1825 showing the sea front at Deal in a storm. Deal Boatmen are shown readying a boat for launching with wreck floating nearby. © Dover Museum (d02622)



Kingsdown were renowned for their skills in handling the vessels (known as Deal cutters) in the waters of The Downs and the Goodwin Sands. More than a 1,000 strong during the naval heyday of the anchorage they worked to supply the naval ships in The Downs and ferry personnel to and from the shore. Many of them also earned a living from the salvage of wrecked shipping and at the first sign of a wreck many boats would race out to be the first to board and claim salvage rights. There were four rival groups of boatmen at Deal North End, Deal South End, Walmer and Kingsdown. The boatmen naturally became highly proficient in sailing the hazardous waters in stormy weather and were able to rescue many stricken mariners. Accounts relate that while more than 1500 lives were lost on the Goodwin Sands during the Great Storm of 1703, the boatmen rescued more than 200 mariners.

5.53 Before the 19th century there had been talk about creating official lifeboats but it wasn't until 1809 that any formal arrangements were in place. The Preventive Water Guard was established, an organisation that was the immediate predecessor of the Coastguard. While the Water Guard's primary role was to prevent smuggling it was also responsible for giving assistance to wrecked ships. The Water Guard was based in watch houses along the coast and cutters patrolled the coastal waters at night. Each station was

equipped with Manby's Mortar which fired a shot with a line attached out to stricken vessels.

5.54 The RNLI was founded in March 1824 as the *National Institute for the Preservation of Life from Shipwreck*. Prior to this there were a number of independent lifeboats around the country including one at Ramsgate where a station was opened in 1802 by the Trustees of Ramsgate Harbour. In 1854 the institute changed its name to the Royal National Lifeboat Institution. In its first year the institute added 13 boats to the existing 39 independent boats.

5.55 The RNLI established a lifeboat station at Walmer in 1856. By 1865 additional stations had been established at North Deal and Kingsdown. In 1871 a new boat house was built for the Walmer Lifeboat which remains in use today. Both the North Deal and Kingsdown lifeboats have since gone out of service. A lifeboat was first provided for Dover by the 'Dover Humane Society' in 1837. The boat was kept in a boathouse on the sea front and was crewed by volunteers. In 1855 the boat came under the control of the RNLI and a station built in 1866 on Northwall Quay. The Dover Lifeboat still operates today from a station on Crosswall Quay.

Coastguard, customs and smuggling

5.56 Originally the term 'customs' referred to any customary or dues of any kind paid to such as the King, Bishop or Church. The term later became restricted to duties paid to the Crown on the import or export of goods. A centralised English customs system where dues were to be collected and paid into the state treasury can be traced to the Winchester Assize of 1203-4 in the reign of King John. Legislation was passed concerning customs in the reign of Edward I. The '*nova custuma*' in 1275 enabled the appointment of Collectors of Customs by the Crown. In

Figure 23 *Heroes of the Goodwins in 1892. Photograph of the three local lifeboat coxwains in Deal - J. Laming of Kingsdown, R. Roberts of Deal and J. Mackins of Walmer. © Dover Museum (d02543)*

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1298 *custodes custumae* were appointed in several ports to collect customs for the Crown. The first Customs Officers were appointed in 1294. A Board of Customs was created in 1643 which entrusted the regulation of the collection of customs to a parliamentary committee.

5.57 Given the narrow crossing to the continental mainland, smuggling was rife along the Kent and Channel coastlines. Deal in particular was notorious for smuggling which is first mentioned in 1617. It became a predominant trade in the town's economy in the 18th century and at its peak between 1730 and 1780 more than half the town's male population gained their livelihood from it. By 1781, the notoriety of the town was such that the authorities decided to act against the Deal smugglers. They sent a thousand troops into the town expecting to find a £100,000 worth of contraband there. The smugglers were tipped off by an informer and the troops left with around a tenth of

what they expected. In 1784, the government of William Pitt ordered troops in to the town again. Forewarned, the town's people turned out in numbers to resist the raid but were unable to prevent the troops from destroying the Deal boatmen's boats on the shore in an effort to control the smuggling. This was unsuccessful and the practice continued throughout the French wars. When the government again clamped down on smuggling at the end of the Napoleonic War, mounting a coastal blockade many people were reduced to poverty forcing a high proportion to the workhouse. Dover was less involved in smuggling as a local centre for preventive forces and the presence of a garrison at the castle was a deterrent to most

5.58 In 1690 Charles II formed a body of mounted customs officers known as 'Riding Officers'. The initial force, established on the south coast was totally inadequate to the job. Only eight officers were employed to patrol the entire Kent coast. In 1698 the numbers of the force, known as the Land Guard was increased. Kent initially had fifty officers which eventually grew to three hundred. The main duty of the Riding Officers was to patrol a predefined area of the coast and gather intelligence about and seize smuggled goods. The Riding Officers were hampered by being land based and were in the main ineffective against the smugglers. The officers were usually outnumbered by the smugglers and generally lost any confrontation. Many were employed part time and carried out their duties to their own convenience, prosecutions were notoriously difficult to achieve and often not pursued by the officers who needed to fund them out of their own purse.

5.59 To support the Land Guard, the Preventive Water Guard was established in 1809 to patrol the coastal waters. The Water Guard was under Admiralty control from

Figure 24 *A Preventive Service Coastal Blockademan c.1822. The officer is probably standing at the foot of the Langdon Stairs that connected the shore with the Coastguard station above. The capstan was used to haul Service cutters into the cave above the high water mark. © Parker Gallery*

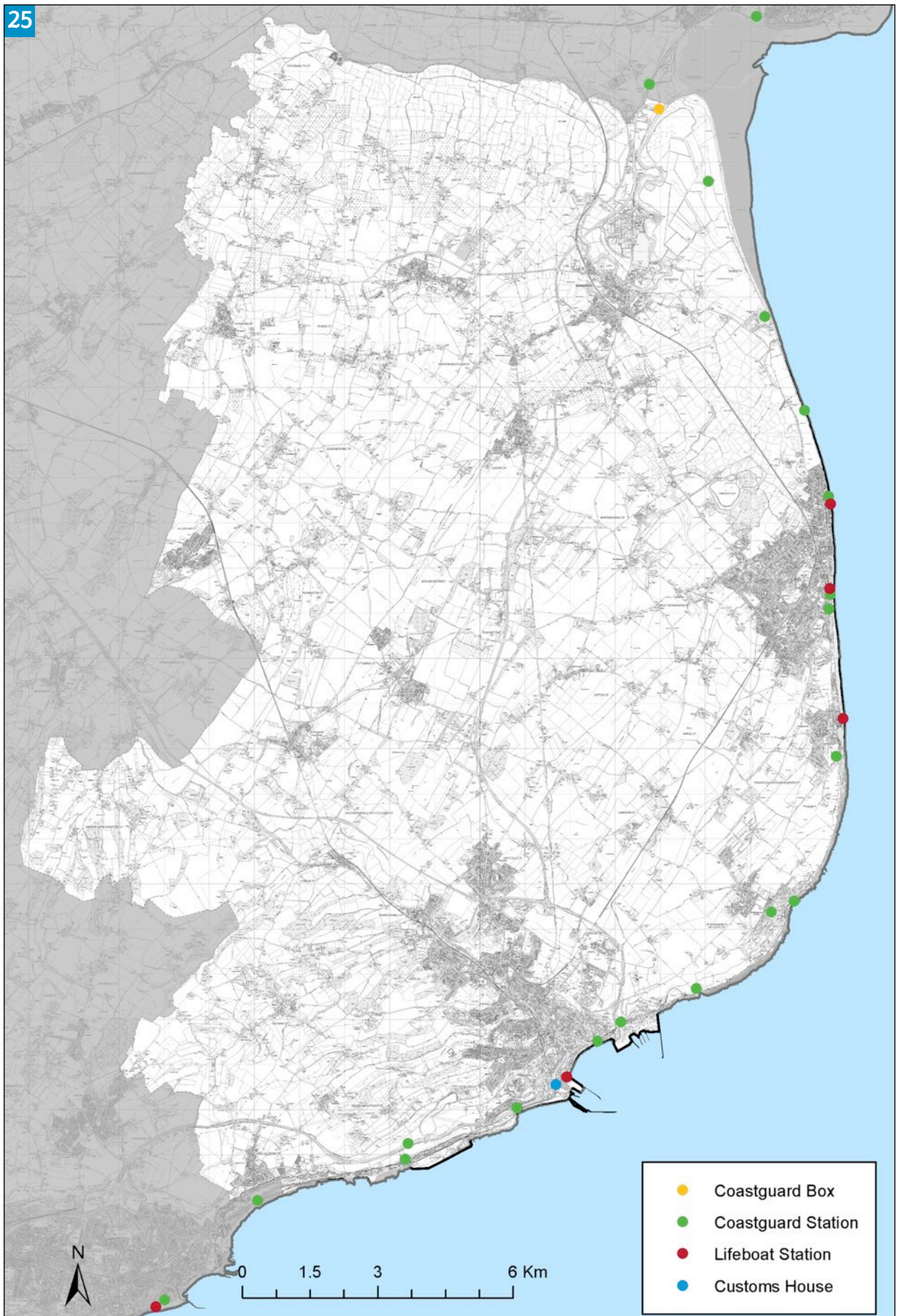
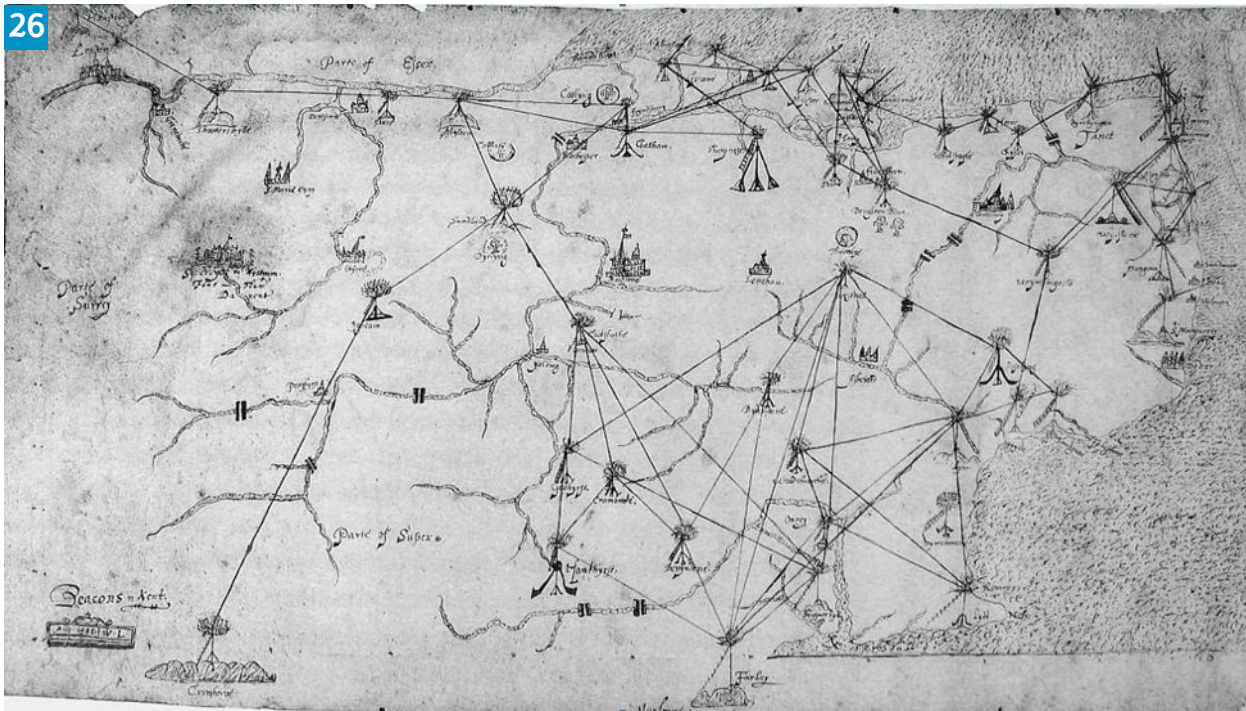


Figure 25 Coastguard, Customs and Lifeboats

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1816 to 1822. During this time, immediately following the French Wars, a rigorous blockade was mounted of the Kent and Sussex coasts. HMS *Ramilles* was assigned the task in The Downs. Later the crews were landed and quartered in the barracks in Deal. The Coast Blockade as it was known functioned until handed over to the Coastguard in 1831.

5.60 In 1822 the Preventive Water Guard and the Land Guard were placed under the authority of the Board of Customs and the Coast Guard was formed. In 1829 the first Coast Guard instructions were published and dealt with discipline and directions for carrying out preventative duties. They also stipulated that when a wreck took place, the Coast Guard was responsible for taking all possible action to save lives, to take charge of the vessel and to protect property. The Coast Guards were often recruited from the Royal Navy. At first the Coast Guards and their families were housed in the villages near to their watch houses. Later in the 19th century more formal stations were developed and a chain of these can be traced around the District coastline. Given their duties the Coast Guards were not encouraged to

become too familiar with the local populations and were often moved around from station to station and provided accommodation on or near their stations.

5.61 A third branch of the Customs service was the Landing Service who were responsible for the examination of imported cargoes and collecting the required duty. Customs Officers from the Landing Service would be stationed in the major ports and landing places and distinct from the Waterguard. In lesser ports the duties crossed over between the branches. The Landing Service and Waterguard were amalgamated in 1860 but separated a few years later. 1908 saw the transfer of the excise duties of Inland Revenue to the Board of Customs to create the Board of Customs and Excise. In 1923 the preventative duties completely passed from the Coastguard to the Water Guard service within Customs and Excise. Customs Houses are recorded in each of the three major ports in the District. At Sandwich a medieval Customs House stood in Quay Lane and later in Upper Strand Street. In Deal historic maps indicate the 'Old Custom House' on the High Street. In Dover the original Customs House was located on

Figure 26 William Lambarde's map of the Kent Beacon System 1585 (*Perambulation of Kent*)

Custom House Quay to the north of Granville Dock and is shown in an engraving of 1660. A new Customs House was built on the South Pier in 1909 and still stands today.

Navy signalling and beacons

5.62 Beacons (prepared fires) have been lit at prominent locations on the coast and on hills or high places to warn the countryside and defences of approaching enemies since early times. Perhaps the most famous example of a beacon system was that used to warn Elizabethan England of the approach of the Spanish Armada. Many hills across the country are known as Beacon Hill due to the presence of a beacon site and within the District there are examples at Ripple and Woodnesborough. In 1585, three years before the Spanish Armada, the beacon system in Kent was mapped by William Lambarde and published in his 'The Perambulation of Kent'. He published the map to draw public attention to the state of the nation's military communication system and as a result the system was improved before the arrival of the Armada. Within the district the map illustrates a system of beacons extending northwards from St Margaret's to Thanet and along the north Kent Coastline. Beacons were still in use as a means of raising the alarm into the 19th century. In 1803 The Times (8th October) describes the Kent beacons as

"stakes of wood, and other materials, with a pole passing through them, in the top of which is a small white flag, to make their situation more visible ... means will be taken to make a great smoke, accompanied by fire".

5.63 The late 18th and early 19th centuries saw the development of semaphore systems of communication particularly by the Admiralty. Through a line of relay stations, messages could be transmitted over long distances, much faster than through the use of post riders. Though first use of semaphore

extends back in to classical times a formal system was not developed in Britain until the late 19th century. The French engineer Claude Chappe had introduced a system in France in 1792 which evolved into network of 556 stations across that country and lasted until the 1850s. The Chappe system employed a pair of angled rods on a mast atop a semaphore house. Motivated by the success of the Chappe system, Lord George Murray devised a system for the Admiralty in 1795. This involved six octagonal shutters in a rectangular frame with each shutter being able to be positioned in a horizontal or vertical position. The system was quickly adopted and the first chain of fifteen sites was constructed between the Admiralty in London and Deal (with a branch to Sheerness). The sites in the chain (Dover District sites highlighted) were:

The Admiralty (London) – West Square (Southwark) – New Cross – Shooters Hill – Swanscombe – Gad's Hill – Callum Hill – Beacon Hill (Faversham – a branch point) – Shottenden – Barham Downs – **Betteshanger** – Deal. The branch ran from Beacon Hill – Tonge – Barrow Hill – Sheerness.

5.64 A message could be relayed from London to Deal in sixty seconds. In 1816 the shutter system was replaced by a simpler one employing a pole with two movable arms invented by Sir Home Popham.

5.65 In addition to the shutter system, the Admiralty also developed a system of signal stations around the coast to help them monitor and convey information between the ports and naval vessels about enemy shipping movements. A chain was first built between Lands End and Poole in 1794. In 1795 this was extended along the whole south coast to North Foreland. The Kent stations (again Dover District sites highlighted) were:

North Foreland – **East Hill (Kingsdown)** –

¹ Kitchen, F., 1990: 'The Napoleonic War Coast Signal Stations', in *Bygone Kent Vol 11 No 2*, pp 111-114.

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Little Cornhill (South Foreland) – East Wear Bay (Folkestone) – Dungeness Point¹

5.66 The stations comprised little more than a wooden hut, a mast and an arm from which balls were hung. The balls in combination with flags would be used to relay a coded signal. The stations together with the shutter semaphore stations were expensive to man and were closed at the end of the Napoleonic war. The shutter telegraph system closed at Deal in 1814 and the tower was used as a semaphore between ships at anchor in The Downs and the shore. Between 1821 and 1831 the tower was used by the Coast Blockade to suppress smuggling along the east Kent coast.

5.67 Time accuracy was important to the navy particularly for navigation. Time Ball stations were developed to allow an accurate time to be signaled to shipping. At 1pm GMT the ball would be dropped to signal the accurate time and observers would reset their local clocks. The first was erected in

1929 at Portsmouth by its inventor naval captain Robert Wauchope and another followed at Greenwich Royal Observatory in 1833. The first Time Balls relied on being close to observatories which would observe transit positions of the sun and stars to set their times. With the development of the electric telegraph in the 1850s the Time Balls could be operated remotely from the observatories. A Time Ball was erected at Deal in 1855 on the roof of the four storey tower that formerly carried the Deal semaphore. The Time Ball was triggered by an electric signal direct from the Royal Observatory. With the development of radio time signals in Britain from 1924 the Time Balls became obsolete and many closed and were demolished in the late 1920s. The Deal Time Ball operated until 1927 but survives as a museum building today.

Shipbuilding & Repair

5.68 Archaeological evidence for medieval ship building within the District is limited but given the widespread use of boats and small ships around the coastline local building and repair must have taken place. The requirement for the Cinque Ports to provide ship service to the Crown of a number of vessels including some of considerable size suggests that these ports at least had some capacity for building and repair. Documentary evidence for Sandwich indicates the repair and maintenance of Royal vessels during the Hundred Years War². In 1358 a timber lined dyke was dug specifically to enable the royal vessel 'Le George' to be repaired. The 14th century cog which lies buried in a channel outside the town walls was probably built in the town or its vicinity.

5.69 The capacity for major ship building in the District's coastal ports and creeks was likely to have been limited by the supply of local sources. Ports such as Small Hythe with readily accessible iron and timber from the weald had natural advantages over the east

Figure 27 Deal Time Ball. © Dover Museum (d00480)

² Clarke, H. et al, 2010: *Sandwich: A study of the town and port from its origins to 1600*, p68.

³ Sweetingburgh, S. (ed), 2010: *Later Medieval Kent 1220-1540*



Kent ports. Rolls of names and professions also provide a good indication. The occupation 'carpenter' was seen to be prolific in areas close to river and coastal areas in Kent in a lay subsidy of 1334³ and is associated with shipbuilding rather than house building. Carpenters were found at Deal and in their hundreds near Dover and also in Wingham on the Stour.

5.70 The naval presence in Deal stimulated maritime activities both in the town and the naval yard. The most important of these were boat building and there were boat yards in Deal until the end of the nineteenth century. The navy adopted the Deal cutter as its official lighter in 1740 and for the next 50 years these were all built in the town. Other small craft such as luggers, yachts and ten oared galleys for smugglers were also built. At its height there were more than a dozen boat yards in Deal and as late as 1847, there were still six boat yards in the town despite the general decline of the trade. The last boat was built in 1896 in Nicholas' Yard at the north end of the town. As Deal had only a shelving beach and no harbour facilities the yards

would have been situated close to the shore and employed slipways across the beach. The site of one yard is known on the west side of South Street. The central strip of the street was cobbled to act as a slipway and finished vessels were hauled along it from the yard to the sea. Many of the east west streets may have served the same purpose.

5.71 At the beginning of the 19th century merchant ships and fishing boats were being built at Sandwich, Deal and Dover. Sandwich ceased ship building in 1830 but Deal and Dover continued through the century. In Dover small wooden vessels of up to 300 tons, barges and hoys were being built for mainly a local market⁴.

5.72 The Admiralty began to dismantle ships in their Dover dockyard during the First World War. In 1920 commercial ship breakers the Stanlee Shipbreaking & Salvage Company took over. A short lived rival The Dover Shipbreaking Company was established on the Esplanade in 1922 but lasted until its sale to Stanlee in 1925. Stanlee was taken over by Austin Hill in 1926. The breakers yard became

Figure 28 Phillips Boatyard photographed c.1900 - Workshop of John Phillips, Boatbuilder and Shipwright possibly in the Sandwich area. © Dover Museum (d02492)

⁴ Killingray, D. & Crompton, G., 2004: 'Maritime Kent 1700-2000', in *An Historical Atlas of Kent*, p130

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massive occupying a large part of the seafront. A large part of its business was the dismantling of naval ships of the First World War. In 1921 the yard won a contract from the Admiralty to dismantle 120,000 tonnes of the Royal Fleet Reserve. After the Second World War the business became more general scrap and declined and parts of the yard were taken over by others. The business closed in 1964 when the land became needed for the car ferry terminal at the Eastern Docks.

5.73 During the First World War the great military supply port was built at Richborough. The original purpose of the port was to serve as a base for the barge service supplying the frontline trenches in France and Flanders through the canal system there. At first standard French canal barges were used but these were not practical for the Channel crossing. New steel barges were developed and ship yards established at Richborough for their construction. Shipyard No 1 opened in 1916 and at first built barges from sections

fabricated at inland steelworks but by the end of the year was fabricating on site. By the end of the war more than 160 barges had been built in the yard. In 1918, Shipyard No 2 was opened to build high speed lighters to carry flying boats towed behind destroyers. 36 were built by the end of the war. In addition to the ship building a large number of small craft repairs were carried out at the Richborough shipyards.

Fishing

5.74 Without little doubt, fishing was an important occupation to the inhabitants of the District from early times. Domesday records Sandwich's obligation to supply Christ Church Priory with 40,000 herrings each year and an entry for Dover suggests that much of the town was away fishing during the North Sea fishing herring season⁵. From the privileges granted to the Cinque Port towns, individually and as a federation it is clear that herring fishing was important to the medieval ports of the District. In 1278 the Cinque Ports were granted the right to 'den and strand', the right to land their catch at Yarmouth and dry their nets there. They were also given the rights to provide bailiffs and administer justice at the important annual herring fair there, thereby controlling the market. As well as deep sea fishing for herring and cod, documentary sources illustrate that fishing of the shallow coastal waters was widespread and included dredging for shell fish. Fishing was generally separated in to four or five seasons or 'Fares' when particular fish were caught and marketed at

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Figure 29 Stanlee Ship Breaking Yard, Dover 1921. © Dover Museum

Figure 30 Fishing Boats, Deal. © Explore Kent

⁵ Sweetinburgh, S. 2006: 'The site and Dover's medieval fishing industry', in Parfitt, K. et al, *Townwall Street Dover Excavations 1996*

the 'fares' for distribution around the country. The remainder of catches were landed at local ports for sale in the fish markets. Salt would have been needed to preserve and transport fish even to local markets and this may have been obtained from local sources or possibly from the coast of France.

5.75 Documentary records and place name evidence identifies the location of the fishmarket in medieval Sandwich. Catches were landed on the town quay, taken through the 'Fisher Gate' which is considered to date to the late 14th century. The location of the medieval fish market in Dover is not known though a market is recorded in the town in 14th and 15th century documents.

5.76 In early post medieval times, possibly as far back as the late 15th century Dover's fish market was situated on the River Dour by the Butchery Gate of the Town Wall. It may be that the earlier fish market was in the same area.

5.77 The post medieval saw smaller scale fishing from Deal, Dover and Sandwich, primarily from local waters but occasionally from deeper North Sea fishing grounds. The French and Napoleonic Wars saw a slump in fishing that did not recover until the 1850s when the arrival of the railways enabled catches to be transported quickly to markets. In the 19th century fishing was a marginal activity for the Deal Boatmen as it was not as profitable as hovelling, the fishing seasons were unreliable, nets were at risk of snagging on the wrecks of the local waters and their vessels were not well suited to fishing. Inshore fishing became increasingly important through the 19th and 20th centuries to the District's fishermen. Sole became an important catch for the fishing fleet in Dover. Today the district's commercial fishing is mainly based around sea angling from Dover and Deal.

Description of the Heritage Assets

5.78 The heritage assets connected with the evolution of the District's coastline and the District's ports and harbours are described separately in other theme papers for this Heritage Strategy (see Themes 1, 2.1, 2.2, 2.3, 3.1 and 3.6) and are not repeated here.

Landing places and wharfs

5.79 Around the Districts present and former coastline there are likely to be traces, mainly in the archaeological record, of former **wharfs and landing places** that once served the many coastal settlements from pre-Roman times onwards. The coincidence of Iron Age and Roman settlement on many of the inlets of the former Wantsum Channel suggests that such locations would have been served by local landing places. Villas such as those at Wingham and Sholden would have made use of the nearby water courses to transport goods from their estates. The Saxons would have likewise made use of the creeks of the District. The royal estate centre at Eastry is located on what was probably once a navigable stream.

5.80 Later wharfs appeared on the Stour, for example recent excavation at **Richborough** suggests the presence of a small medieval wharf possibly used by those demolishing and removing stone from the old Roman ruins. In the late 19th century a wharf was built on the Stour east of Sandwich Haven to bring in materials for the construction of the Sandwich Bay Estate. Remains of **Guilford Wharf** where materials for the construction of the estate were transhipped from boat to rail still survive on the banks of the River Stour. There are a number of boatyards and wharfs on the banks of the Stour from Sandwich to the sea today.

5.81 To the south of the District, settlements developed close to breaks in the



white chalk cliffs at Oldstairs Bay (Kingsdown) and St Margaret's Bay. Landing places in these bays are likely to have been used since prehistoric times and slipways still exist to the beaches in these bays.

Maritime services and provision

5.82 One only has to walk through the narrow streets of Deal to see many historic buildings that once serviced and supplied the needs of the mariners visiting the port and the ships anchoring in The Downs. While many have been converted from their original use, many shops, pubs and hotels survive from the port's heyday. The original function of other buildings can be detected from their names or features integrated into their fabric. Further study of the historic fabric of Deal's old town areas together with documentary research would provide a significant contribution to understanding the way in which the 18th and 19th century port town functioned. Further evidence is likely to be present in the archaeological record of the town.

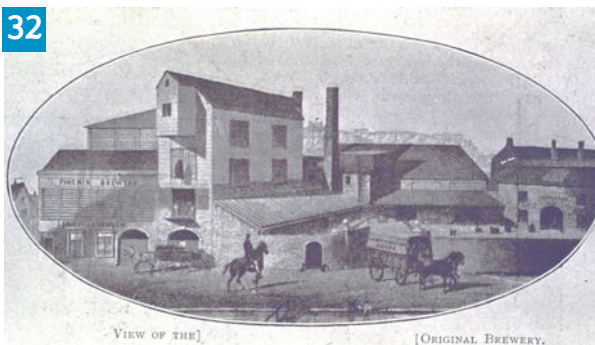


Figure 31 Middle Street, Oak Street Deal, view of bread ovens

Figure 32 Phoenix Brewery Dolphin Lane c1800. © Dover Museum (d07335)

5.83 A number of breweries were established in each of the port towns to meet the needs of the numerous public houses and to supply the Navy with beer for their 'grog' which was part of the daily ration of the naval sailor. In Sandwich, historic maps show the East Kent Brewery developed just to the east of Guestling Mill on Strand Street. This brewery has been since demolished and is occupied by open space and a car park. In Deal a substantial brewery was operated at Beach Street / North Street by Thomas Hight. Whether evidence of this brewery survives amongst the historic buildings has not been established. A substantial brewery was established in Walmer in the early 19th century which lasted until its demolition in 1978. A number of mainly administration buildings of the brewery have survived demolition and are in residential use. In Dover the Phoenix Brewery dominated Castle Street and Dolphin Lane. Established in the mid 18th century this brewery is mainly demolished though a few office buildings survive on Castle Street. Ruined walls to the north of Dolphin Lane may be associated with the brewery. The east Kent Brewery also had a substantial brewery at Archcliffe since demolished.

Navigation - Pilotage

5.84 Heritage assets associated with pilotage of the district's coastal waters are limited. Archives provide evidence for the Cinque port pilots including a list of rules dated to 1495. The meeting place (from 1616) of the Court of Lodemanage, which supervised the licencing of pilots, was **St James' Church** in Dover. This church was badly damaged through shelling in both world wars and now survives as a monumental ruin dedicated to the people of Dover who had similarly suffered in the war. It is designated as a Grade II Listed Building.

5.85 Pilot galleries were built in at least three of the District's churches: St Leonard's

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in Upper Deal, St George's in Deal and St Mary's in Dover. The study has not established whether remains of the galleries survive at St George's or St Marys, however the gallery at **St Leonard's** does survive as an important feature of the Grade II* Listed church. The gallery dates from 1705 having been built following the loss of the original when the tower collapsed in that year. The decoration of the gallery includes carvings of pilots around a globe and a painting of the Great Storm of 1703.

5.86 None of the **pilot watch towers** or stations have survived in the district. The original tower at Dover was lost through the construction of the railway to the South Pier in 1844 and its stone replacement demolished in 1913 to widen the railway. The pilot station in Deal was located on the eastern side of Beach Street and has been lost to remodelling of the sea front and promenade in the early 20th century. Whether archaeological remains survive of any of these three towers has not been established in the present study.

Navigation – Lighthouses and Lightships

5.87 Overlooking the harbour on the western and eastern heights flanking the harbour were two **pharos** (lighthouses). The two **pharos** are the only known with any certainty in Roman Britain although there is some speculation that possible towers on the amphitheatre site at Richborough may have

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had a similar purpose. The two **pharos** were designed to overlook the harbour and it seems likely, though has not been confirmed that they were contemporary and intended to guide ships between them. Their exact date of construction has not been established but it seems likely they would have been associated with the *Classis Britannica* presence at Dover.

5.88 The **western pharos** has been demolished to its foundations which survive and are visible within the walls of the officer's quarters of the Western Heights Drop Redoubt. A displaced piece of the foundations has been used to mark the site and is placed on top of the quarters. This lump of masonry has since its discovery in the 17th century been known as the 'Brendenstone' or 'The Devil's Drop of Mortar' from which the Drop Redoubt takes its name.

5.89 The **eastern pharos** still stands to an impressive height today within the grounds of Dover Castle. At 13m tall the ashlar built **pharos** at Dover is the tallest surviving Roman building in this country. Externally the building is octagonal in section although square internally and was built in stepped stages to an estimated height of around 25m originally. A fire platform or chamber would have provided the light on the top of the **pharos** though this has not survived. The tower was later adapted as a bell tower for the nearby church of St Mary in Castro. Both **pharos** are protected as elements of Scheduled Monuments and the eastern pharos

Figure 33 War Damage Old St James' Church Dover. © Dover Museum (d25678)

Figure 34 Remains of the Western Pharos in the Drop redoubt on the Dover Western Heights. © Explore Kent

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additionally as a Listed Building.

5.90 The possible towers at the amphitheatre at **Richborough** have only been identified through geophysical survey and are not confirmed by excavation. If they are the remains of *pharos* then they are likely to only survive at foundation level within the present earthworks. The site is protected as a Scheduled Monument.

5.91 The early beacons and light house structures at **South Foreland** may have left traces in the archaeological record though nothing has been confirmed through investigation. The position of 'Lights' referring to the location of the pre-Trinity house structures are recorded on Ordnance Survey drawings from the early 19th century approximately located close to where the Trinity House structures were constructed in 1843.

5.92 The two lighthouses built by Trinity House at South Foreland survive today though neither remains in use. The **South Foreland Lighthouse** (also known as the 'Upper' or 'High' Lighthouse) survives in much of its original form and is a popular visitor attraction managed by the National Trust. At 69 feet high and atop a 300 foot cliff it boasts the title of the highest lighthouse in England and Wales. It contains many features that illustrate the development of lighthouse development since its construction. As well as the lighthouse itself a number of ancillary buildings survive on the site that are illustrated on 18th century maps. The site is protected as a Listed Building though only at Grade II.

5.93 The **St Margaret's Old Lighthouse** (also known as the 'Low' Lighthouse) also survives to its original height though many of the associated buildings have been demolished or lost to cliff erosion which

Figure 35 South Foreland Lighthouse. © Explore Kent

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threatens the site. The lighthouse, which was closed in the early twentieth century, was taken over for a private residence and its grounds landscaped to a design by the renowned landscape architect Gertrude Jekyll in 1925. It presently lies within the grounds of

a private house and is not open to the public. It is also protected as a Grade II Listed Building.

5.94 Nineteenth century Ordnance Survey maps illustrate that the two lighthouses sat within their own defined curtilage but were connected by a trackway. This trackway survives as a feature today. The lighthouses were notable for the experimentation with different forms of generating light. The **experimental towers** of the 1850s have been demolished but may have left traces as below ground archaeological remains. In 1872 a separate **engine house** was built between the two lighthouses that housed a steam powered generator. This has since been demolished though it is unclear whether any remains survive at the present residential property on the site. Early maps also show a gasometer on land close to the South Foreland Lighthouse that may have served a role in fuelling the lights.

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5.95 Four lighthouses survive at Dover Harbour. The largest and earliest, though not in its original position is the stone and cast iron light at the end of the **Admiralty Pier**. It was constructed at the end of the original

Figure 36 Engine House built in 1872 to power the electric lights at South Forland's two lighthouses. © Dover Museum (d80521)

Figure 37 Light at end of admiralty pier

Admiralty Pier in 1872 and moved to its present location when the pier was extended to create the harbour of refuge in 1909. The original position is now occupied by the Scheduled gun turret and it is not known if traces of the original installation survive. It is a Grade II Listed Building. Two lights sit on the South Breakwater. The **Knuckle Light** sits on top of a building in the centre of the breakwater while the cast iron tower of the **South Breakwater Lighthouse** lies on the end of the breakwater at the western entrance to the harbour. The breakwater and lighthouses are Grade II Listed Buildings. The fourth light is found at the end of the **Prince of Wales Pier**. A cast iron lighthouse, it was built in 1902 and is also protected as a Grade II Listed Building. Whether traces of other lighthouses that guided ships into the earlier manifestations of the harbour survive as archaeological remains has not been established

5.96 A lightship still operates at East Goodwin while beacons have replaced the lightships at other locations around the Goodwin Sands. It has not been established whether any remains of the wrecked South Sand Head Lightship survive on the sands.

Preserving life at sea

5.97 The study has not established the location of any of the watch houses of the Water Guard in the District or if anything survives of their presence. Any remains that have survived are likely to be in the form of buried archaeology or possibly structural

remains where buildings have been incorporated into later Coastguard stations.

5.98 The lifeboat stations in the District have fared better and all three on the Deal, Walmer and Kingsdown coastline survive. The original stations mainly comprised a lifeboat built on the beach until the mid to late 19th century when boat houses were built. The **Walmer Lifeboat Station** is still operating for inshore rescue from the boat house built



Figure 38

Walmer Lifeboat station

Figure 39 & 40

The former North Deal Lifeboat station & RNLBI plaque

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in 1871. The impressive and attractive stone building is not Listed.

5.99 The **North Deal Lifeboat** was originally stationed on the beach south of Sandown Castle and opposite a public house known as The Good Intent. A boat house was later built further south and survives as a non Listed Building used by the Deal Angling club. A plaque on the façade of the building indicates that the boat house was built in 1883.

5.100 The **Kingsdown Lifeboat** was established on the beach in 1865 and a boat house built on the shingle brow in 1866. The station was closed in 1927 though the boat house survives as a private house 'The Old Lifeboat House' on the sea front near Wellington Parade. Like the Deal and Walmer buildings it is also not Listed. Jarvis Place in Kingsdown is named in honour of one of the lifeboat's coxwains.

5.101 The original lifeboat house built for

Figure 41 The old Dover Lifeboat station

Figure 42 Today's Dover Lifeboat on Crosswall Quay

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the RNLI at **Dover Harbour** survives and is protected as a Grade II Listed Building. Situated on North Quay it was built in 1866 and extended in the 1870s to accommodate a larger boat. A clock tower designed by architect George Devey was added to the east in 1876. With the building of the Prince of Wales Pier in 1892, the two buildings were slightly repositioned. The Dover Lifeboat today operates from a station on Crosswall Quay.

Coastguard, customs and smuggling

5.102 As stated above, evidence for the Land Guard and the Preventative Water Guard is likely to be very limited. Traces of the watch houses used by the Guard may survive in the District's archaeology or reused in later Coast Guard stations. The 19th century chain of Coast Guard stations around the Dover coast line is far better understood and a number of key heritage assets survive.

5.103 A useful list of the 19th century coastguard stations in the District has been sourced from the website: <http://www.genuki.org.uk/big/Coastguards/Table.html>. This details census records for coast guards and their families thereby giving an idea of the period of occupation of each of the stations. In addition examination of the 19th century Ordnance Survey maps has identified the location of a number of stations. In all 15 stations are identified within the District with additional stations at



Minster (North Shore Coast Guard Station) and at Wear Bay, Folkestone operating close to the District boundary as part of the chain. From north to south the stations around the District's coastline are:

5.104 **Sandwich St Clements:** A station is recorded in the 1841 to 1861 census records



but has not been located in the present study.

5.105 **Shingle End Coastguard Station, Worth:** The Shingle End Coastguard Station is recorded in all censuses from 1841 through to 1901 and is illustrated on the northern reaches of the shingle Deal Spit on the First to Third Edition maps of the Ordnance Survey. A Watch Vessel is recorded at this station for the 1861 census. By the time of the Fourth Edition of the Ordnance Survey the site had been taken over by the Princes Golf Links and the site of the coastguard station is presently occupied by the golf club house and car park.

5.106 **Worth No 2 Battery Coastguard Station:** A coastguard station was established on the site of the Sandwich No 2 Battery and is recorded on every census from 1841 to 1901 except 1861. The First Edition Ordnance Survey map shows the station as comprising three principle buildings and a number of smaller ones. The main station building appears to lie on the rear, landward side of the battery and two towers, the 'North Tower' and 'South Tower', flank the battery earthworks. This layout, with a look out being established on the battery itself appears to survive through the life of the station.

5.107 The general layout of the battery and the coast guard station is well preserved and can be easily recognised at the site in Sandwich Bay today. At least three of the original coastguard station buildings, the main building and the towers appear to survive and



Figure 43 Shingle End Coastguard Station (2nd Edition Ordnance Survey map)

Figure 44 Aerial view of No 2 Battery Coastguard Station

Figure 45 Worth No. 2 Battery - left to right 1st Edition, 4th Edition & modern Ordnance Survey maps

are presently residential properties. The open aspect of the parade ground of the battery and station remains preserved as are the battery ramparts. Neither the site nor the buildings is protected by designation.

5.108 Sholden No 1 Battery Coastguard Station: A short-lived coastguard station was established on the site of the Sandwich No 1 Battery near Sholden. It is recorded on the 1851 and 1861 censuses. The site had been lost to the sea by the time of the First Edition Ordnance Survey.

5.109 Deal Coastguard Station: The census records a coastguard station in Deal from at least 1841 and the Coastguard still operate on the site it occupied at the north end of The Marina since the late 19th century. The location of the original station at Deal has not been located in the present study; however the Second Edition Ordnance Survey map illustrates a new station built with a watch tower, accommodation for the senior officer in a detached house and twelve cottages to accommodate the Coastguard personnel and their families. All buildings survive on the site though are now in private residential use. The station's open parade ground survives as gardens although part is occupied by a modern Coastguard lookout tower.

5.110 Walmer Coastguard Station: The census records a station at Walmer up to 1891 and it is illustrated on the Second to Fourth Edition Ordnance Survey maps on The Strand. The station has been mostly demolished and replaced by grassed areas. A small brick building, presently used as a café, may be the remains of the rocket apparatus shed used by the Coastguard and identified on the historic maps. The building is not Listed but falls within a Conservation Area.

5.111 Kingsdown (Oldstairs) Coastguard Station: Census records suggest a coastguard station at Kingsdown since at least 1841. A

'Watch House' and cottages to accommodate the Coastguard personnel are illustrated in Oldstairs Bay on Undercliffe Road on the first edition OS map. An iron hut, which possibly accommodated rocket apparatus is noted on the beach. Later, paths are extended across the shingle from the station to a latrine and a winch. The former watch house and cottages survive although none are Listed.

5.112 St Margaret-at-Cliffe Coastguard Station: The station is illustrated on the shoreline in St Margaret's Bay on the First Edition OS map. Officer's quarters, coastguard cottages and windlasses are depicted. A few of the cottages and the officer's quarters are shown on the Second Edition as well as a rocket post on the shore to the north. Nothing appears to survive of the station though remains may be found buried on the sea front.

5.113 Dover Cornhill Coastguard Station: This station was sited on the White Cliffs close to the Langdon Stairs, a cliff path favoured by smugglers. Officers from the station would have patrolled the cliff tops between St Margaret's Bay and Dover. The station began life as a naval signal station (Little Cornhill 1795) in the 18th century before it became a station of the Preventative Water Guard. It is depicted on the tithe Map and the first three editions of the Ordnance Survey as a rectangular terrace of buildings to quarter the officers with the senior officer's dwelling, watch house and signal shed at the east end. The whole site was enclosed within a perimeter wall. The site was demolished by the Second World War to accommodate an anti-aircraft gun position and nothing remains visible today.

5.114 Dover East Cliff Coastguard Station: Although not marked on early OS maps, according to census records a coastguard station was located on the Dover East Cliff since at least 1841. A coastguard station is illustrated on the Third Edition map

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showing a terrace of cottages and other buildings. The late Victorian station survives as private cottages though unlisted. The present HM Coastguard Station controlling the Dover Strait is located almost a kilometer to the east overlooking Langdon Bay.

5.115 Dover (St James, St Mary's & Charlton): A coastguard station in Dover is recorded on the 1841 and 1851 census records but has not been located as part of the present study.

5.116 Dover Townshend Coastguard Station, Aycliffe: Located on the cliffs overlooking the western end of Shakespeare Beach, the station, which is depicted on the First to Fourth Editions of the Ordnance Survey consisted of a single seaward facing terrace of six cottages and a watch house. The site has been lost beneath the A20 dual carriageway.

5.117 Lydden Spout Coastguard Station, Hougham: Now disappeared, this coastguard station is illustrated on early Ordnance Survey maps atop Shakespeare Cliffs at Lydden Spout. The site was later used for coastal artillery, a use which may have contributed to clearance of the coastguard buildings.

5.118 A number of key sites related to the Customs service have been identified by the present study within the District at Dover, Deal and Sandwich:

5.119 An engraving of 1660 illustrates that

the **Dover Customs House** once stood on Customs House Quay on the northern side of the harbour at least from the 17th century. Whether a medieval customs house was located in Dover and its whereabouts has not been identified within the present study. The Dover Customs House was demolished sometime after the construction of a new watch house on South Pier in 1909. The name '**Custom House Quay**' survives to the north of Granville Dock but is now solely a concrete apron. Archaeological remains of the foundations of Dover Custom House may survive. The **Custom Watch House** built in 1909 is a two storey building designed by architect Arthur Beresford Pote and includes a domed topped lantern on its roof. It is a Grade II Listed Building that is presently used as an office building for the aggregates company that operates in that area of the harbour. To the north are the remains of a large Customs Transit Shed that accompanied the watch house.

5.120 Early Ordnance Survey maps dated to the late 19th century indicate that a Custom House was located at **38 to 42, High Street** in Deal. The origins of this Customs House and what has survived has not been established through the present study. In medieval times, a Customs House is thought to have stood on Quay Lane in Sandwich. Later the Custom House was possibly located at 19-21 Upper Strand Street, the present building now called '**The Old Custom House**'. This is a Grade II Listed Building dating as early as 1500.

5.121 Evidence for **smuggling** in the District is likely to survive within the historic towns and villages along the coast, in particular in and around Deal. The rabbit warren of streets close to the beach would have been ideal for smugglers to land and quickly evade the preventive forces. Many of the public houses in Deal were involved in the trade, selling contraband spirits. Post

Figure 46 Dover Custom Watch House in aggregates yard

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medieval buildings may contain cellars and vaults, hidden rooms and boxes where contraband goods would have been hidden from the eyes of the authorities. So good were the smugglers in concealing contraband that items are still being found hidden in buildings today. More research is needed to identify specific evidence though there is anecdotal evidence of key buildings and individuals involved in smuggling in Deal and other locations on the coast. One of the most successful persons in preventing smuggling was **Captain William McCulloch**, commander of the Coastal Blockade. He is buried at St Leonard's Church in Upper Deal and is marked by a memorial there.

Navy signalling and beacons

5.122 Given the very ephemeral nature of early beacons, evidence for these is likely to only survive in place-name evidence. Within the District two places are named '**Beacon**

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Hill', at Ripple and at Woodnesborough. The Lambarde Map is a useful source for identifying the approximate location of beacons within the district just prior to the Spanish Armada.

5.123 The most substantial evidence for the late 18th century **Admiralty semaphore line** between London and Deal is the tower of the former Deal semaphore station that was converted to the **Deal Time Ball Tower**. This is presently preserved as a museum and visitor attraction that presents a history of semaphore and signalling. It is a Grade II Listed Building.

5.124 Whether any archaeological remains of the semaphore station that once lay at **Betteshanger** or the Admiralty coastal signal stations at **East Hill**, **Kingsdown** or **Little Cornhill** survive has not been established in the present study. Given that the coastal signal system comprised only a hut and mast these are unlikely to have survived even

Figure 47 *Captain William McCulloch known locally as 'Flogging Joey' was a Captain of the HMS Ramillies, serving as part of the Coast Blockade. © Dover Museum (d00731)*

Figure 48 *Deal Time Ball Tower Museum*

within the archaeological record.

Shipbuilding & Repair

5.125 Further study is needed to establish how much evidence for historic boat and ship building and repair can be traced in the District. Archaeological evidence for the industry is likely to survive in and surrounding the District's ports and along the banks and adjoining creeks of the Stour and the former Wantsum Channel.

5.126 Traces of the former **Deal boatyards** should be found amongst the historic buildings in Deal. Further study is needed to establish what remains but until recently a house and workshop survived from Hayward's Yard at the junction of Wellington Road and the High Street. The cross streets in the older parts of Deal once served the boat yards as slips to the beach. A cobbled central strip in South Street was used to haul boats along. This may survive in traces beneath the present road tarmac surfaces.

5.127 The **Dover ship breaking yards** have been lost through the redevelopment of the harbour with the Eastern Docks in 1964. Evidence for ship building and repair may survive within the archaeology of the Western Docks areas.

5.128 The surviving remains of the military supply port at **Richborough** are associated with the military camps, the wharfs and the train ferry dock rather than the shipbuilding yards. Yard 1 is now occupied by the Pfizer site while the site of Yard 2 is now agricultural land on the east side of the River Stour. Faint traces of the boundaries of the yard can be seen as cropmarks on aerial photography but it is unclear whether other buried remains survive of the yard.

Fishing

5.129 Evidence for the historic fishing industry in the District is mainly contained to



the archaeological record and a number of archaeological sites have produced fish remains. A site of particular note was excavated by the Canterbury Archaeological Trust at Townwall Street in Dover. On this site was discovered the remains of a number of twelfth and thirteenth century dwellings. Findings on the site included large numbers of fish bones, fish hooks and other fishing equipment which illustrated the importance of fishing to the people who lived there. These were probably the houses of the town's poorer fishermen and their families.

5.130 Place and building names such as the Fisher Gate and Fisher Street in Sandwich are a reference back to the medieval occupation and trade in fishing. Historic buildings in Deal may have had a connection with the post medieval fishing from the port town.

Statement of Significance

5.131 With the District being the closest point to continental Europe and commanding the northern shores of the narrow Dover Strait the history of the District has been inexorably linked with the sea. The prolonged importance of the area for maritime trade, transport and defence and the long history of navigation through and across the Strait of Dover is nationally and internationally significant.

5.132 The District's coastline is rich in heritage assets that reflect these maritime links - from Roman lighthouses to twentieth century coastguard stations; from evidence of

Figure 49 Excavations at Townwall Street revealed remains of the dwellings of Dover's medieval fishermen. © Canterbury Archaeological Trust

medieval fishermen to Faraday and Marconi's experiments at the South Foreland Lighthouse. These varied assets help tell the story of the District's connections with the sea and the hazards that the waters off the coast presented in the past. The maritime coastal features in the District are of **considerable to outstanding significance**.

Evidential Value

5.133 The District's maritime coastal features have considerable potential for archaeological and structural evidence that can provide in particular a better understanding of:

- the area's historic maritime and trade connections;
- the lives of the mariners who operated from or visited the District's coast and ports;
- the development of navigational aids along the coastline, in particular the development of pharos and light houses;
- the role of fishing in the District's past economy;
- historic boat building and repair and the development of craft;
- the practice of smuggling and the development of revenue protection services such as the Coastguard to counter this.

5.134 The port towns of the District have numerous buildings which developed to accommodate the mariners of the area, their families and to service the needs of the visiting ships and seamen. Within the fabric of these buildings and the archaeology of the towns lies important evidence for how these people lived and worked and the provisions, industries and entertainments needed to satisfy the needs of ships using the ports. In particular with such well preserved port

towns as Sandwich (medieval), Deal (17th to 19th centuries) and Richborough (Roman) and to a slightly lesser extent in terms of preservation, Dover (Roman to post medieval) and Stonar (medieval) the District has an outstanding archaeological resource to better understand port life during these periods. The archaeological resource in each of these ports, sitting on one of the world's busiest straits and at the gateway to England also has considerable potential to provide important evidence of the nation's trading links and maritime connections.

5.135 Containing the only known Roman *pharos* in Britain at Dover and the potential for additional structures at the other great Roman port of entry, Richborough, the District's heritage assets can play a very important role in further understanding of the development and role of lighthouses in the Roman province. South Foreland has considerable potential to provide archaeological evidence for the development of light houses prior to the construction of the two surviving Trinity house light houses. The South Foreland Lighthouse was at the forefront of the technological development of lighthouses during the 19th century. Evidence for experimentation with different forms of light and powering light houses may survive in the archaeology of the site and its surroundings and within the structure of the lighthouse, the St Margaret's Lighthouse and potentially the site of the former engine house. Evidence for the experimental use of fog warning horns may also survive.

5.136 Fishing would have played a significant role in the daily lives of the District's past communities and was a major concern for the economy of the Cinque Ports. Though little is understood about the industry, sites such as that excavated at Townwall Street in Dover illustrate the considerable potential for important archaeological evidence that sheds light on the living conditions of the

town's fishermen, their fishing practices and the fishing areas and species that were exploited.

5.137 The potential and significance of archaeological remains associated with historic shipbuilding and repair in the District is poorly understood. The important small boat building industry in Deal may be traceable through the surviving elements of the former boatyards and would be significant given the role that the Deal cutters in particular played in the 18th and 19th century and the lives of the boatmen who played a key role in the maritime history of the area.

5.138 The south east coast and Deal in particular was infamous for smuggling in the 18th and 19th centuries. Important evidence of the contraband that was smuggled continues to be found hidden in historic properties; structural evidence is likely to survive of the attempts to conceal the contraband, particularly in Deal. The chain of former coast guard stations along the coast may contain archaeological evidence of the lives, work and organisation of the early preventative services.

5.139 There is limited potential for new evidence of the early signal stations, semaphore station and beacons given the ephemeral nature of the resource.

Historical Illustrative Value.

5.140 The District's maritime coastal features have considerable potential to illustrate a number of important themes:

5.141 Nowhere else in the country can be seen a collection of lighthouses that cover the period from Roman times to the twentieth century. Collectively the lighthouses have a nationally significant illustrative value to show the development of the lighthouse at various stages of history. The *pharoi* illustrate the importance of Dover

and possibly Richborough as important gateways to the Roman province. The lighthouses at South Foreland are particularly important in the way in which they can help to demonstrate the development of new technologies, particularly in the 19th century that would be adopted by lighthouses around the country. They also have a key role in illustrating the history of electrical generation and radio transmission.

5.142 The historic ports are each prime examples of their period and have an important role to play in illustrating the development and use of ports in Roman (Richborough and Dover), medieval (Sandwich, Stonar and Dover), 18th and 19th century (Deal and Dover) and 20th century (Dover). The archaeological remains and surviving fabric buildings, structures, street patterns, names and documentary evidence of the ports can help to illustrate the lives and work of the seamen of those periods, the development of the navy and naval warfare and the historical development of maritime and trading contact between Britain and Europe and later between the European powers and their developing overseas empires.

5.143 The Deal Time Ball Tower, through its museum plays an important role in illustrating the development of naval signalling, semaphore and time keeping.

5.144 The important but infamous role that smuggling played in the history of the area can be illustrated through the network of narrow streets in the old town area of Deal. The features that can be found in the surviving historic buildings, the archaeological finds of contraband concealed in them, the anecdotal stories and documentary record of the smugglers, and the impressive chain of coast guard stations along the coast and the customs houses within the ports all help to tell the story.

5.145 The four historic lifeboat stations, the coast guard stations and the rocket apparatus shed in Walmer are important local illustration of the development of the lifeboat service and provide a focus in an area that has long been associated with the loss of shipping on the Goodwin Sands and the efforts to preserve life at sea.

Historical Associative Value

5.146 The history of the District is strongly associated with the history of the nation's maritime past. Unsurprisingly the maritime heritage assets of the District have played a significant role in many important events. Richborough's role in the arrival and abandonment of Roman rule; Deal's role in the stories of the 17th and 18th century Navy; embarkations of kings from Sandwich and Dover; and the role of Richborough in the supply of the Western Front are just a few of the stories that can be told of the history of the ports.

5.147 The story of the hazardous Goodwin Sands and famous acts of courage and saving the lives of stricken mariners can be associated with the Lifeboat stations. The area, with Deal in particular is famous for smuggling during the 18th and 19th centuries and is associated with notable actions to prevent the practice on the orders of William Pitt in the 1780s and a focus of the Coast Blockade from 1816 whose commander, Captain William McCulloch is buried and commemorated at St Leonard's Church in Upper Deal.

5.148 The South Foreland Lighthouse in particular has very strong historical associations. As well as playing a pioneering role in the development of lighthouse technology it played a significant role in the development of technology and science which have shaped the world today. Scientist Michael Faraday, discoverer of electro-magnetic induction and radio pioneer

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Guglielmo Marconi both used the lighthouse for experiments. The lighthouse became the site of a number of world firsts: the first lighthouse to use electric light and one of the first practical uses of generated power; the first ever ship to shore radio transmission, the first ship to shore distress message and the first international radio transmission.

Aesthetic Value

5.149 Considerable aesthetic value of the maritime heritage assets on the District's coastline derives from the close relationship with the sea for many, the iconic chalk cliffs in a number of cases and the need to either see out to sea or be prominent in views from it.

5.150 The South Foreland Lighthouse stands prominent on the high white chalk cliffs, the white painted structure contrasting starkly with the surrounding green chalk grasslands. The lighthouse itself provides stunning views of the sea and coast for the thousands of visitors who ascend its tower. The white painted harbour lighthouses at Dover are prominent and attractive features of the functional harbour works and an important element of Dover's seascape. The Roman pharos on the Dover eastern heights is a distinctive feature on the town's skyline and an important element of its spectacular backdrop.

5.151 The historic ports have a distinct character and the historic environment

Figure 50 View of South Foreland lighthouse and the Marconi rotating beam structure installed in 1923 and dismantled 1932. © Dover Museum (d80256)

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makes a major contribution to the aesthetic value and character of each. The network of narrow streets of Deal, rich in an assortment of historic buildings, provides a strong sense of being in a historic place, and an attractive and interesting streetscape. Sandwich has the charm of a quiet historic town; its medieval streets, town walls and quayside have a high aesthetic quality. While large parts of Dover Harbour are dominated by the modern industrial nature of the working port, the older dock areas retain their historic charm and visual interest as the port is viewed from the flanking heights. Nestled in the valley break of the iconic White Cliffs, users of the harbour are provided with a strong visual reference as the approach from the sea.

5.152 Individual maritime heritage buildings have their own distinctiveness and aesthetic qualities: The Walmer Lifeboat Station is an attractive building and its aesthetic quality is considerably enhanced by the location on

Walmer Green and the top of the shingle beach, flanked by the boats of the modern day fishermen of Deal; The former lifeboat station on Beach Street is an attractive and distinctive building on that sea front; the former No 2 Battery Coastguard Station at Worth sits in an attractive landscaped setting within the former battery defences; In Dover Harbour the attractiveness of the North Quay Lifeboat Station is enhanced by the addition of Devey's clock tower and the Custom Watch House by its distinctive dome topped lantern. The Deal Time Ball Tower stands as a tall, prominent, visually attractive and interesting building on the Deal sea front.

Communal Value

5.153 The connection of the District's coastal communities with their maritime heritage is strong. The port towns' historic 'sense of place' is highly valued by those who live in them and they are important visitor

Figure 51 Aerial View of Dover's inner harbour

destinations in their own right providing open access to sea and river frontages, hubs for waterborne activities and visitor attractions.

5.154 The role that Deal Boatmen and the lifeboats at Deal and Walmer played in saving numerous lives at sea is a point of local pride. The Lifeboat stations are a reminder of that role and Walmer Lifeboat still rescues mariners from these waters. The District's lighthouses can play a key role in telling the story of sea navigation and are important landmarks.

5.155 The naval life, particularly at the time of the French and Napoleonic Wars generates a significant level of public interest particularly through popular fiction by Forester, O'Brian and others. Similarly tales of the smugglers of Deal and the measures taken to prevent the practice are evocative. The District's heritage assets can help to illuminate the life of the Navy and the communities who depended on the sea for their livelihoods.

5.156 The maritime coastal heritage assets have considerable interpretative potential. A number are already important visitor attractions: the Deal Time Ball Tower is a museum dedicated to interpretation of the building and Navy signalling and timekeeping; the South Foreland Lighthouse is a National Trust visitor site and part of a trail of assets on the South Foreland coast line. The Walmer Lifeboat Station can be visited on Walmer Green and is a focus for RNLI activities; the Roman Pharos at Dover is part of the Dover Castle visitor site. Many other features lie on or close to coastal walking trails and provide added interest to these walks.

Vulnerabilities

5.157 The maritime coastal assets are vulnerable to the natural processes of coastal erosion and flooding that their locations present. The erosion of the chalk cliffs is a

significant threat to sites such as the St Margaret's Lighthouse which has seen parts of its grounds lost to the retreating cliff line. Many of the now demolished historic Coastguard stations were constructed on the cliff tops to provide views over the sea and landing places at the cliff foot. Archaeological remains of these stations are likely to be lost to cliff erosion. Other coastal assets are vulnerable to sea level rise, flooding and erosion of the banks of the Stour though for many of the key assets sea and river defences are countering this threat for the present.

5.158 As maritime practices, technologies and organisation change many of the key heritage assets are not required for their original use and are vulnerable to alteration as new uses are found for them. Some have been retained as heritage features in their own right such as at the Lighthouses and Time Ball Tower. Many have been converted into residential properties (e.g. St Margaret's Lighthouse as a garden feature, Kingsdown Lifeboat station, No 2 Battery Coastguard Station) others into offices (e.g. Customs Watch House and North Quay Lifeboat Station, Dover), a café (Walmer Rocket Apparatus shed). Many of the historic buildings are not protected through Listed Building status and remain vulnerable to alterations that may not take full account of their historic features.

5.159 Development and alterations of properties in the historic port towns can potentially impact on important archaeological remains associated with the maritime aspects of the ports and the use of the properties by the district's maritime communities, the trades and occupations that serviced the visiting ships and seamen.

5.160 Proposals for change at the Western Docks in Dover Harbour to accommodate new ferry berths, marina and vehicle holding areas will result in significant change to the harbour area. Historic buildings and

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structures, both Listed and unlisted, are vulnerable to demolition or relocation. In particular the proposals will involve the relocation of the former Lifeboat Station and Clock Tower, the Customs Watch house, the Prince of Wales Pier Lighthouse and the Admiralty Pier Lighthouse. The Admiralty Pier will be extended and the Prince of Wales Pier shortened. The Customs Transit Shed will be demolished. In addition the proposals involve the infilling and reclamation of Granville Dock and the Tidal basin altering the aesthetic qualities of the historic docks area.

Opportunities

5.161 The maritime history of the District connects with those who live in the area and provides a source of many stories and points of interest that can engage with visitors. Opportunities should be taken to promote the District's maritime heritage assets as a theme. Many of the assets are located close to coastal footpaths providing opportunities for linked trails and interpretation.

5.162 The port of Deal has a particularly strong potential to explain the role of the sea in the history of the District, the role of life saving and the hazardous Goodwin Sands, the practice of smuggling and the measures taken to prevent it, naval signalling and timekeeping and the everyday life of mariners in an 18th / 19th century port town. A comprehensive study of the documentary records and historic fabric of the old town of Deal could provide an enhanced understanding and identify opportunities for linked interpretation that can enhance the good level of interpretation that already exists there. The reopening and promotion of the Deal Maritime Museum as a visitor hub linking to other key assets would help to promote this theme.

5.163 The redevelopment of the Dover Western Docks should be used to enhance and make more accessible the key heritage assets and provide additional interpretation of the harbour and its historic development. The creation of the new marina could act as a focus for interpretation and better links to the town and to the cruise terminal may assist towards the town's regeneration aspirations.

5.164 Many of the key heritage assets are not protected through designation. The use of a local list would help to identify the heritage value of these sites and ensure that their significance is not lost through development and alteration.

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Figure 52 Customs Transit Shed at Dover Harbour

Figure 53 Waymarker on footpath at South Foreland. © Explore Kent

Figure 54 Former Coastguard Station at St Margaret's now used as a tea room

5.165 The significance of the Dover Strait is international and of interest to communities on both side of the Channel. Opportunities should be examined for linked interpretation and promotion. Projects such as the Interreg funded C.A.S.T (Coastal Action for Sustainable Tourism) a joint project initiative between Kent, Pas de Calais and West Flanders and Nostra (Network of Straits – part of the European Straits Initiative funded by Interreg and the European Regional Development Fund) demonstrate the potential for co-operative working and access to European funding. The maritime heritage assets of the District should be considered in both projects.

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Key Heritage Assets

Asset	Form	Designation & Protection	Accessibility	Interpretation
Wharfs and landing places	Archaeology	None	Various	None
Richborough Medieval Wharf	Archaeology and Ruined Structure	None	Public footpath	None
Guilford Wharf	Archaeology and Historic Structure	None	Riverside	None
Buildings serving maritime and mariners needs	Historic Buildings, Structures and Archaeology	Listed Buildings, Conservation Areas	Various though mostly private	Panels in historic port towns
East Kent Brewery, Sandwich	Archaeology	Conservation Area	Car Park and Open Space	None
North End Brewery, Deal	Archaeology and possibly Historic Structures / Buildings	Conservation Area	Private	None
Walmer Brewery	Historic Buildings, and Archaeology	None	Private	None
Phoenix Brewery, Dover	Historic Buildings, Structures and Archaeology	None	Private and Public Space	None
St James' Church, Dover	Ruined Historic Structure	Scheduled Monument, Listed Building	Public area	Public Monument
St Leonard's Church Pilot Gallery	Historic Structure	Listed Building	Community Building	Church website
Pilot Watch Towers	Possible Archaeology	None	Public Space and port area	Dover Museum website
Dover Western Pharos	Ruinous Structure	Scheduled Monument, Conservation Area	Limited access in Drop Redoubt	Drop Redoubt interpretation?
Dover Eastern Pharos	Historic Building	Scheduled Monument, Listed	Managed visitor attraction	English Heritage site
Possible Pharos towers at Richborough	Archaeology	Scheduled Monument	Managed visitor attraction	None specific
Early beacons and lights at South Foreland	Archaeology?	None	Managed visitor site, public open space, private land	South Foreland Lighthouse and trail guides
South Foreland Lighthouse	Historic Building	Listed Building	Managed visitor attraction	National Trust site – interpretation on site

Asset	Form	Designation & Protection	Accessibility	Interpretation
St Margaret's Old Lighthouse	Historic Building	Listed Building	Private developed land	None
Experimental lighthouses, South Foreland	Archaeology	None	Private open land	None
South Foreland Engine House	Archaeology & possible structural evidence	None	Private Dwelling	None
Admiralty Pier Harbour Lighthouse	Historic Building	Listed Building	Restricted Harbour land	None
Knuckle Light	Historic Building	Listed Building	Restricted Harbour land	None
Prince of Wales Pier Lighthouse	Historic Building	Listed Building	Accessible Harbour land	None
Walmer Lifeboat Station	Historic Building	Conservation Area	Accessible	RNLI website, some on site
North Deal Lifeboat Station	Historic Building	None	Community used building	Plaques on facade
Kingsdown Lifeboat Station	Historic Building	None	Private dwelling	Name only
Dover Lifeboat House (1866)	Historic Building	Listed Building	Accessible Harbour land	None
Water Guard watch houses	?Archaeology	None	Various	None
Sandwich St Clements Coastguard Station (CGS)	Not located	Unknown	Unknown	None
Shingle End CGS	Archaeology	None	Golf Club	None
Worth No 2 Battery CGS	Historic Buildings	None	Private	None
Sholden No 1 Battery CGS	Lost to sea	Lost	Seashore	None
Deal CGS	Historic Buildings	None	CGS and Private dwelling	None
Walmer CGS and Rocket Apparatus Shed	Archaeology, Historic Building	Conservation Area	Open space and Public building	None
Kingsdown CGS	Historic Buildings	None	Private Dwellings	None
St Margaret at Cliffe CGS	Archaeology?	Conservation Area	Open land	None

Asset	Form	Designation & Protection	Accessibility	Interpretation
Dover Cornhill CGS	Archaeology	None	Open land	None
Dover East Cliff CGS	Historic Buildings	None	Private Dwellings	None
Dover CGS	Not located	Unknown	Unknown	None
Dover Townshend CGS	Lost to A20	None	Public	None
Lydden Spout CGS	Archaeology	None	Open space	None
Dover Customs House	Archaeology	None	Limited access Harbour land	Name – Custom House Quay
Custom Watch House	Historic Building	Listed Building	Private Office	None
Deal Custom House	Historic Building	Conservation Area	Private	None
Sandwich Custom Houses	Archaeology, Historic Building	Listed Building	Private	Name – Old Custom House
Smuggling	Historic Buildings and Structures	Conservation Area, Listed Buildings	Mainly Private Developed land	Interpretation panels
Beacons	Place Name	None	Various	Place names – Ripple and Woodnesborough
Deal Time Ball Tower & Semaphore / Signal Tower	Historic Building	Listed Building, Conservation Area	Managed Visitor Attraction	On site and internet interpretation.
Betteshanger Semaphore Station	Location not established	Unknown	Unknown	None
East Hill, Kingsdown, Little Cornhill Signal Stations	Archaeology	None	Unknown	None
Shipbuilding & Repair	Archaeology	None	Various	None
Deal Boatyards	Historic Building Archaeology	Listed Buildings, Conservation Area	Private and cross streets	None
Dover Ship Breaking Yards	Lost to Eastern Docks development	Conservation Area	Restricted Harbour land	Dover Museum website
Richborough Shipbuilding Yards	Archaeology	None	None Private land	None
Fishing	Archaeology, Place-name	Various	Various	Names- Fisher Gate, Fisher Street

Appendix 1:

Theme 5.2 – Wrecks and Aircraft Crash Sites at Sea



Theme 5.2 – Wrecks and Aircraft Crash Sites at Sea

Summary

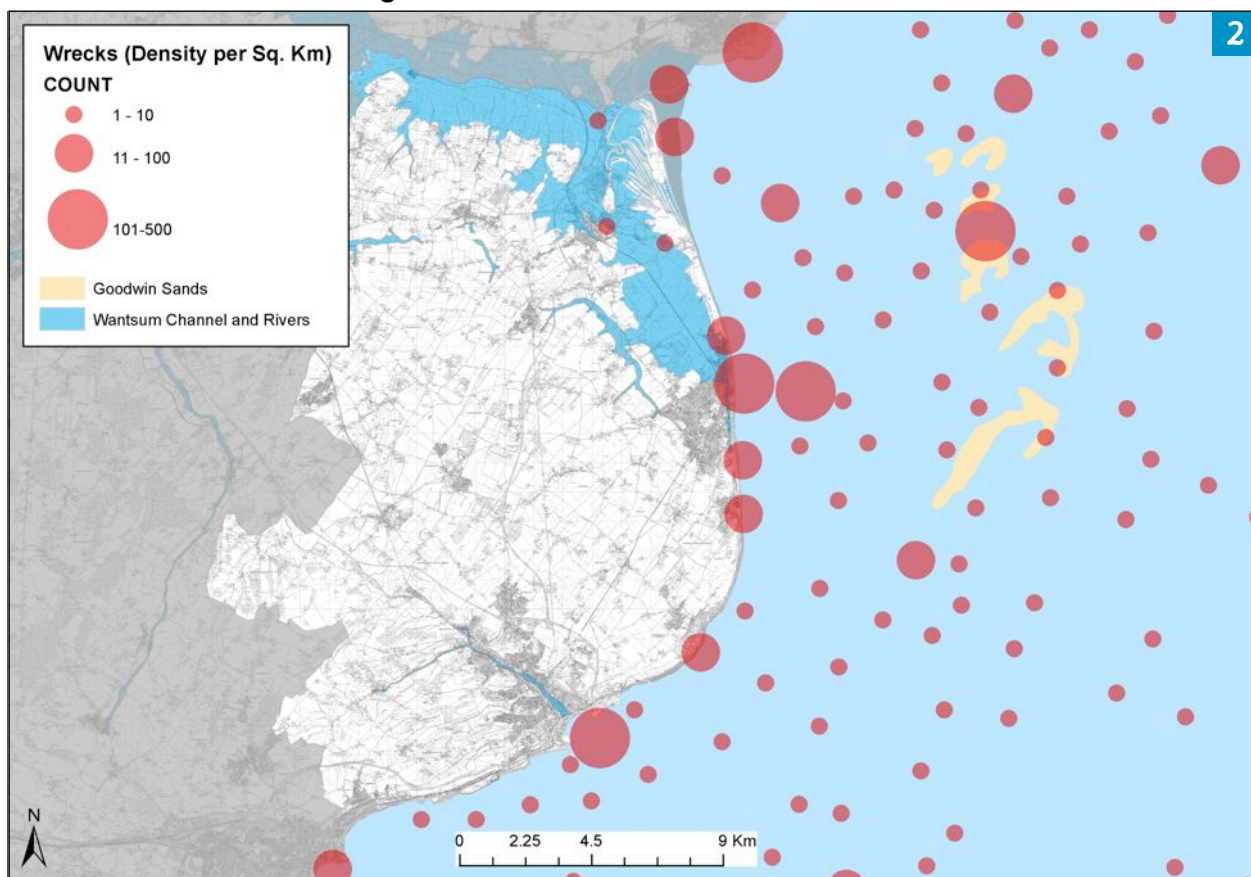
5.166 The Strait of Dover is one of the busiest shipping lanes in the World. The Channel has seen the arrival of invasion fleets and raiding vessels and has been the scene of many naval conflicts. In times of peace it has acted as an important trade route, both for vessels visiting the District's ports as well as those passing by on route to other designations across the globe. Off the coast of Deal lies The Downs, an important naval anchorage that has acted as a place of refuge for many vessels over the centuries. The business of the Channel along with the



presence of the hazardous Goodwin Sand Banks has resulted in an immense number of wrecks off the District's coastline. The Channel also acted as a frontline during the aerial conflicts of the Second World War, with numerous aircraft shot down over the Channel during the Battle of Britain.

Introduction

5.167 As recent as 15,000 years ago much of the North Sea and the English Channel was part of the continental land mass. As sea levels rose following the last ice age this land mass became submerged beneath the



Cover Detail from a Watercolour by J. M. W. Turner depicting a rough sea at Deal, where remnants of a wreck can be seen floating to the shore. © Dover Museum (d02622)

Figure 1 Cross Channel Ferries at Dover. © Explore Kent

Figure 2 Wreck sites per square kilometre as recorded on the Kent HER



growing Channel and North Sea retreating to a land mass which bridged between Britain and the continent from what is now East Kent and East Anglia. Around 6000 BC the connection with the continental landmass was finally breached creating the Dover Strait and the island we live in today.

5.168 With Dover being the closest point to continental Europe and commanding the southern shores of the narrow Strait, the history of the District has been inexorably linked with the maritime use of the Strait ever since. Forming the link between the North Sea and the English Channel, the Strait of Dover has become one of the busiest shipping lanes in the world. Vessels passing between the north countries and southern Europe and beyond would often use the sheltered waters of the Channel rather than risk the more hazardous Atlantic passages. As the shortest crossing point between Britain and the continent the Strait has been used for cross-Channel travel since prehistoric times. Great Roman ports of entry developed at Richborough and Dover and later the ports of Dover, Sandwich and Deal became prominent in the nation's maritime and naval history.

5.169 As well as being a conduit, the sea between the District and the continent has

also formed a barrier and the first line of defence against invading armies. The coastal waters of Dover District have seen the arrival of invasion forces, many raids on the coast and ports, and numerous naval engagements from Roman times to the Second World War. All of this, coupled with the natural dangers to shipping and the presence of the hazardous Goodwin Sands off the east coast of Deal have resulted in an immense number of wrecks in the District's coastal waters.

5.170 As well as naval engagement, the war in the air, particularly in the Second World War extended over the Channel. Many Allied and German aircraft were shot down and the remains of their wrecked aircraft can be found in the District's coastal waters. Although not strictly maritime in their nature



Figure 3 Embarkation of Henry VIII from Dover in 1520. © Dover Museum (d00690)

Figure 2 British troops on a destroyer at Dover May 1940 after evacuation from Dunkirk. © IWM (H 1662)

these assets will be described and discussed in the present theme paper.

Description of the Heritage Assets

The Goodwin Sands and The Downs

5.171 The Goodwin Sands is an extensive line of sand banks which lie approximately four miles off shore east of Deal. The sand banks which are around nine miles in length have long been a major navigational hazard to shipping in this narrow historically important sea route and the scene of many a shipwreck leading to the Goodwin's becoming known as 'The Shyppe Swallower'.

5.172 As well as presenting a hazard, the Goodwin Sands also provided a relatively sheltered anchorage known as The Downs for shipping in times of bad weather or as they waited for the favourable conditions to

round the North or South Foreland. The Downs became a strategically important naval anchorage and by the sixteenth century was protected by the artillery forts at Deal, Walmer and Sandown. The subsequent development of the towns of Deal and Walmer owes much to the importance of the anchorage and the need to service and provision the ships that lay there.

5.173 More than 1,000 shipwrecks have been recorded on the Goodwin Sands since the first in 1298 though the true toll is likely to be far greater. One of the most tragic events in the history of the sands was the Great Storm of 1703. The hurricane which ripped through the country in November 1703 wrecked six naval vessels and numerous merchantmen on the Sands. Amongst these were the third rate ships of the line *HMS Stirling Castle*, *HMS Northumberland* and *HMS Restoration* and the fourth rate *HMS Mary*. In all more than 1,500 seamen are estimated to

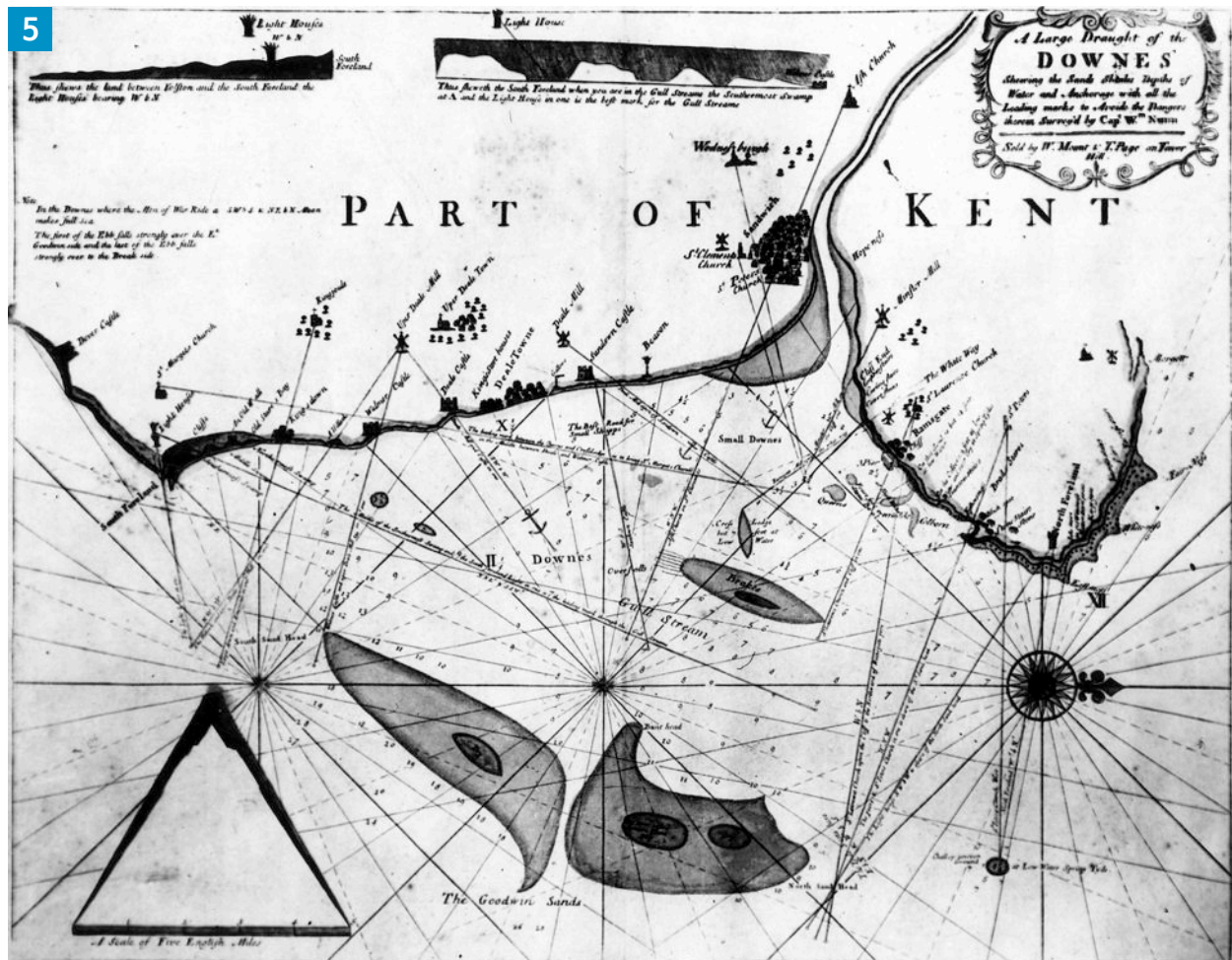
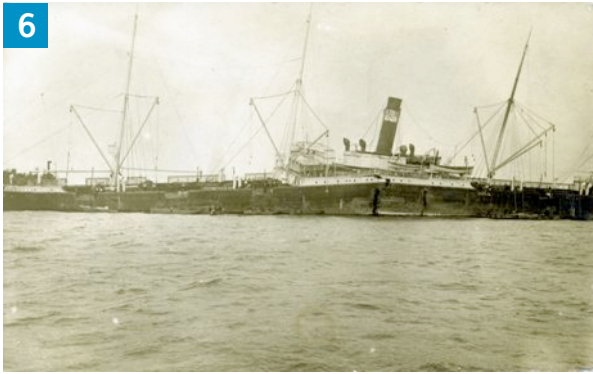


Figure 5 Chart of the Goodwin Sands and The Downs showing landmarks on the East Kent Coast. © Dover Museum (d34988)



have drowned nationally during the Great Storm, with around 1,190 lives being lost on the Goodwin Sands despite the efforts of the Deal boatmen who rescued over 200 souls. While many wrecked ships have been fully swallowed by the sands, the masts of a number of twentieth century wrecks can be seen at low water. The shifting nature of the sands has caused the remains of wrecks to be exposed. In 1979 divers found the remains of *HMS Stirling Castle*, which had been revealed following a large shift in the sands. Subsequent diving on the wreck, which has deteriorated since its exposure, has resulted in a number of objects being recovered and these were put on display in the Ramsgate Maritime Museum prior to its closure in 2009.

Wrecks

5.174 The Kent Historic Environment Record records around 1,500 known wrecks or the sites where vessels have reportedly foundered within 15 kilometres of the District's coastline. Many of these have been broken up by time and tide along with direct clearance efforts carried out more recently. Despite this, a great many survive as buried or part-buried maritime archaeological sites and some are even visible depending on tides.

Protected Wreck Sites

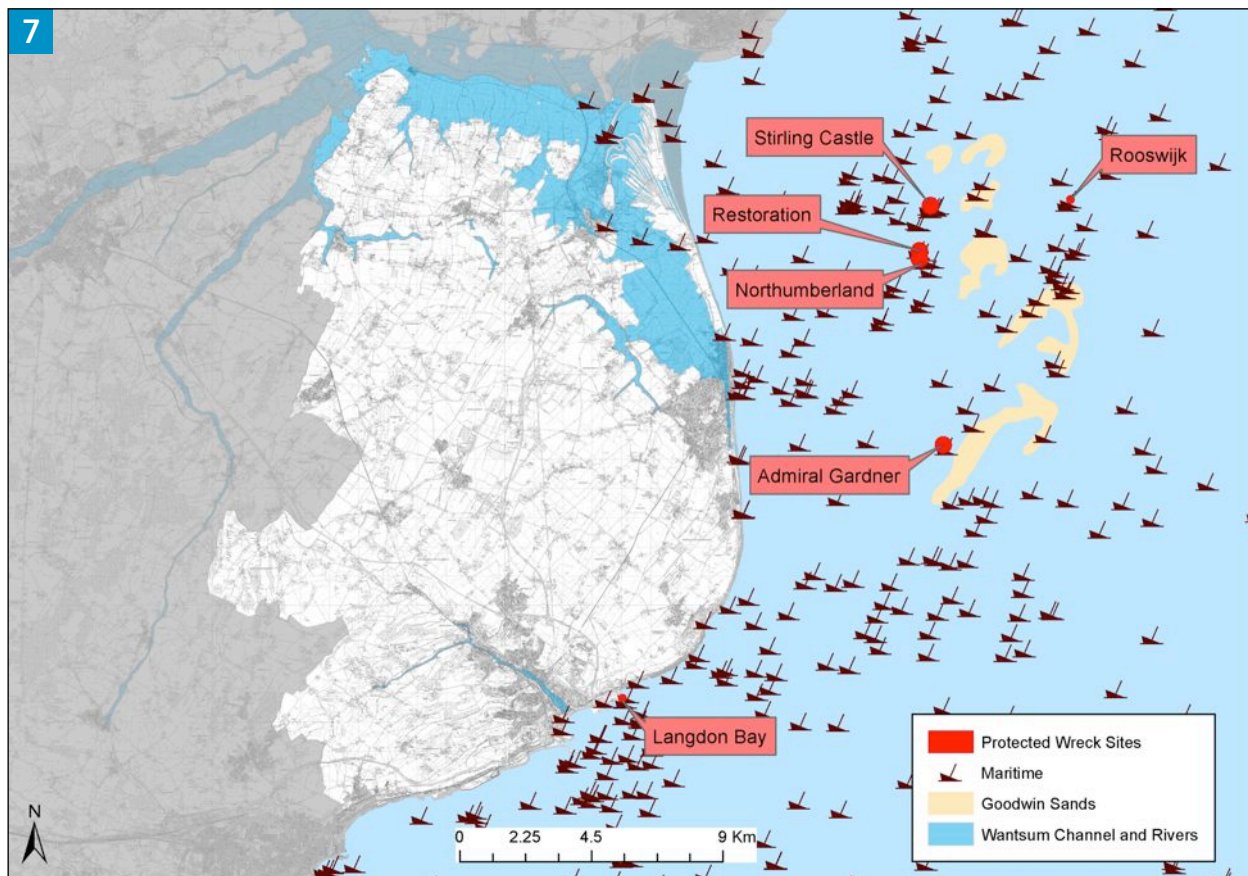
5.175 A number of wrecks, recognised as being of historical, archaeological or artistic importance are designated through the *Protection of Wrecks Act 1973* to prevent uncontrolled interference with their remains.

The Act defines a restricted area where it is an offence to tamper with, damage or remove any part of the wreck or associated objects, carry out unlicensed diving or salvage activities or to drop materials on to the wreck or the restricted area from above. There are six Protected Wreck Sites off the Dover District coastline, whilst a seventh an unnamed wreck coded Goodwins and Downs 8 (GAD8) is currently (2012) being considered for protection.

5.176 The earliest known wreck and a Protected Wreck Site is the site of a Bronze Age wreck at Langdon Bay dating to around 1100 BC. The site was discovered by divers from the Dover Sub-Aqua Club in 1974 who noticed a number of bronze objects on the sea floor. Nothing of the structure of the vessel has been found but to date over 360 bronze objects have been systematically recovered from the sea floor. The objects include tools, weapons and ornaments of a type that are made in France and rarely found in Britain. Current interpretation is that the site represents the remains of a vessel carrying a cargo of scrap metal from France to Britain, implying cross channel trade and exchange in the Middle Bronze Age.

5.177 Three of the Protected Wreck Sites, lying on the Goodwin Sands are the remains of the three Third Rate ships of the Royal Navy, *HMS Stirling Castle*, *HMS Restoration* and *HMS Northumberland* lost during The Great Storm of 1703. The three vessels form an important group of vessels which representing a historical event of national significance, are a valuable archaeological resource that can help to illustrate warship technology and way of life in the Royal Navy of the late seventeenth to early eighteenth centuries.

5.178 *HMS Stirling Castle*, *Restoration* and *Northumberland* were all 70-gun ships of the line that had been built in 1678–9 as part of Samuel Pepys' regeneration of the English



navy. The *Stirling Castle* was built at Deptford while the *Northumberland* was significantly the first Third Rate ship built under contract after it was realised that the naval dockyards could not cope with the production of the number of ships that Pepys requested. All three ships were re-built and refitted at Chatham from 1699 to 1701. Part of a returning squadron from the Mediterranean, the three ships anchored in the shelter of The Downs to escape the storm but were swept on to the Goodwin Sands along with many other vessels. Overall 1,190 lives were lost on the Goodwin Sands during The Great Storm.

5.179 All three wrecks lie in around 15 m. to 20 m. of water. *HMS Stirling Castle* was found by divers from Thanet in 1979 after the ship had been exposed by shifts in the Goodwin Sands. The exposed hull was seen to be in remarkably good condition and the divers recovered many objects that were at risk of being lost in the sands. The site was purchased by the Thanet Archaeological Unit (now the Trust for Thanet Archaeology) but

the site became lost in the sands until it began to re-emerge in 1998. The ship was surveyed in 1999 and found to have undergone substantial movement and internal collapse since its original discovery. As the ship has become exposed a large number of artefacts considered to be at risk have been recovered. These include both organic and inorganic artefacts that have survived to a high level of preservation. Artefacts recovered have included guns and their carriages, navigational equipment, anchors, rigging elements and ropes, a unique intact Stuart copper galley kettle, a medical box and many personal items including book covers. The wreck has been identified by the recovery of a ship's bell marked with the naval arrow and '1701' and initials on pewter objects. Some of the items are on display at the National Maritime Museum and others were housed in the former Ramsgate Maritime Museum.

5.180 The site of *HMS Northumberland* was discovered in 1980 as part of a

Figure 7 Wrecks and Protected Wreck Sites as recorded on the Kent Historic Environment Record (note each wreck symbol may represent numerous reports and are the location of foundering as well as wrecks)

systematic investigation of fishing net fasteners. The wreck site consists of scattered mounds of debris and some pieces of large ship structure. Divers made an initial survey and recovered numerous portable objects including coils of anchor cable, ordnance, copper cauldrons, a box of musket shot and like the *Stirling Castle* a ship's bell marked with the naval arrow and date '1701'. Detailed surveys, including geophysical survey, were carried out of the site between 1993 and 1998 and more recently in 2002. Currently the site appears to be relatively stable though items are sometimes exposed by the shifting sands.

5.181 There is no definitive evidence that the third Protected Wreck Site is that of *HMS Restoration* although it seems likely. The site consists of two debris mounds and it is unclear whether these are from a single vessel or from two. It is possible that they may be parts of the Fourth Rate ship *HMS Mary*, sunk at the same time as the *Restoration*. The site was discovered during the fishing net fasteners survey in 1980 and although side scan sonar and magnetometer surveys have been carried out in recent years, the site has not been surveyed in detail. Material recorded on the sea bed includes large ships timbers, several cannon, an anchor and galley bricks. A bell reported to be from the *Restoration* was handed into Ramsgate Maritime Museum but without the arrow and stamped '1692' it may belong with the *Mary*.

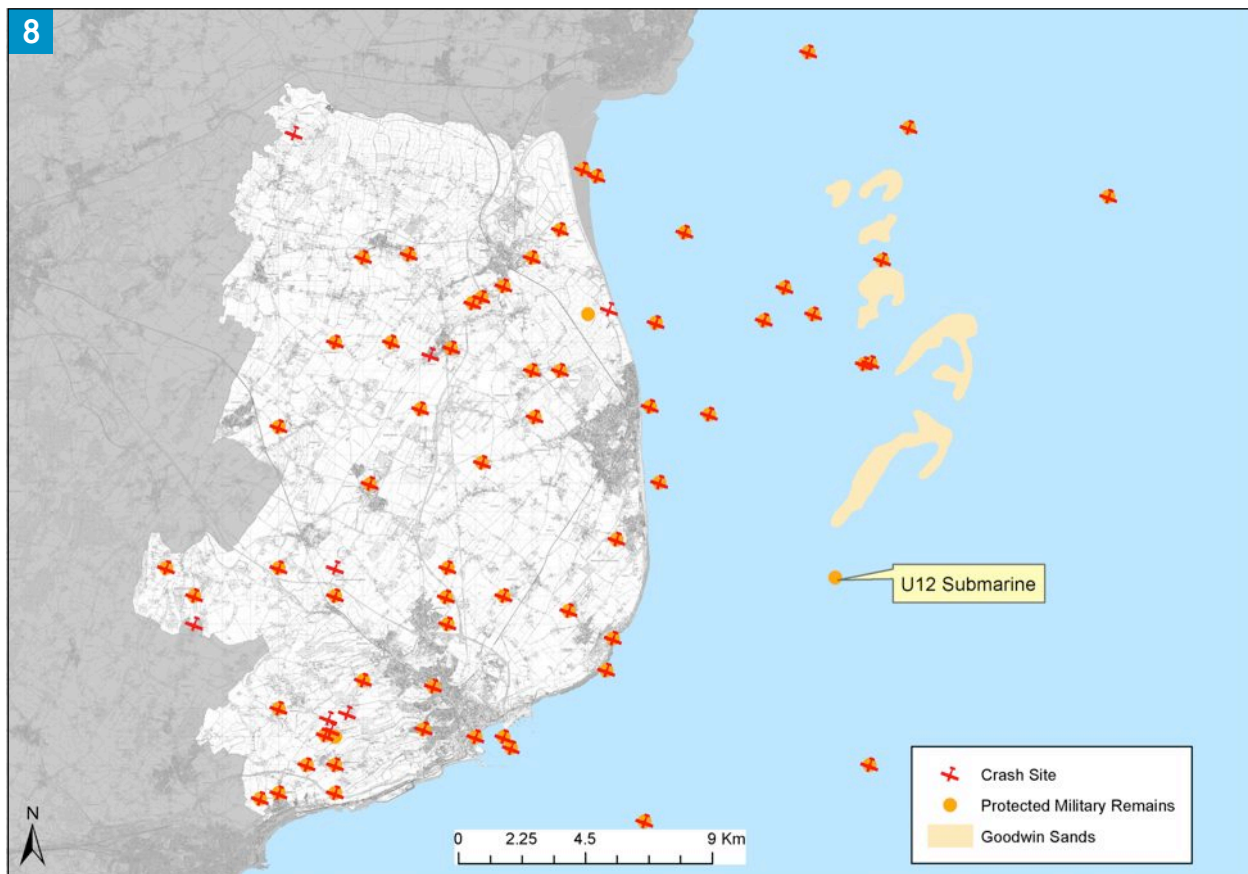
5.182 The other Protected Wreck Sites are two merchant vessels, testifying to the post-medieval mercantile nature of much of the traffic in these waters. The first is the *Rooswijk*, a Dutch East Company (Verenigde Oostindische Compagnie) built in 1737, which became stranded on the Goodwin Sands in 1739 while en route from Texel in the Netherlands to the East Indies. After several years of documentary research and a magnetometer survey ingots marked 'VOC'

were recovered in 2004. Survey in 2006 found that the site consists of two main areas of wreckage. The timber hull and interior framework at the stern was found to be in remarkably good condition and groups of iron bars were observed sitting on timbers. The findings at the site of the *Rooswijk* indicate that large sections of the wreck are buried and preserved to a high degree.

5.183 The final Protected Wreck Site is that of the *Admiral Gardner*. An 800 ton East Indiaman, built in 1797, the *Admiral Gardner* was wrecked on the Goodwin Sands during a gale in 1809. Bound for Madras with a mixed cargo of anchors, chain, guns, shot and iron bars, she also carried 48 tons of copper tokens to be used as currency by the East India Company.

5.184 The site of the wreck was first noted when tokens were found in sand dredged from the Goodwins in 1976. The site was located in 1983 by divers investigating a fisherman's snag and subsequent salvage operations recovered over a million tokens. With concerns over the lack of archaeological standards being applied in the recovery, the site was designated in 1985, this was revoked in 1986 and it was re-designated in 1990. The wreck lies in an area of the sand banks which is highly mobile and an area of approximately 15 m. x 20 m. of wreckage mounded to 1 m. above the sea bed has been exposed. In a second area away from the main mound, two guns and an anchor have been found. At present the site is fairly stable though the traces of the salvage works can be seen in the wreckage. Visible on one of the cargo mounds of the wreck are iron stocks and anchors, ships timbers and a scatter of loose tokens. The ship remains vulnerable to unauthorised diving and the shifting sands.

5.185 The wrecks of the *Rooswijk* and the *Admiral Gardner* represent important archaeological evidence for the practice of large-scale commerce between Europe and



Asia in the eighteenth and nineteenth centuries. They are good representative examples of the powerful ships that plied the trade to and from the Dutch and British colonies. In the case of the *Admiral Gardner* the cargo illustrates the wealth, influence and control the East India Company had in the Asian sub continent.

5.186 In 2010 Wessex Archaeology undertook diving investigations of a number of wreck sites west of the Goodwin Sands in the area of sea known as the Downs. Among the sites investigated was a wreck coded **Goodwins and Downs 8 (GAD8)**. The diving investigations recorded a scatter of at least seven pieces of cast ordnance along with a substantial section of coherent structural timbers. Dating evidence suggests that the site represents the wreck of an armed wooden sailing vessel dating to between 1650 and 1750. It has been suggested that the wreck may represent the remains of the fourth rate British warship *HMS Carlisle* which accidentally exploded and

sank in 1700, although this has not been confirmed. Ships and boats of this period are rare and survival of *in situ* pre-1750 ship material is rare nationally and the identification of intact timbers shows the site's archaeological potential. The Goodwins and Downs 8 (GAD8) wreck is currently being considered for protection as a protected wreck site and illustrates the potential for further significant wreck sites to be exposed on the Goodwin Sands or the Downs.

Merchant Shipping Act 1995 and Protection of Military Remains Act 1986

5.187 The vast majority of the wrecks lying offshore from the District are not safeguarded through the *Protection of Wrecks Act 1973*. Two other pieces of legislation which afford some protection to shipwrecks are the *Merchant Shipping Act 1995* and the *Protection of Military Remains Act 1986*.

Figure 8 Protected Military Remains and aircraft crash sites recorded on the Kent Historic Environment Record

5.188 The *Merchant Shipping Act 1995* requires that all wreck material that comes from UK territorial waters and any wreck that is landed in the UK from outside these waters must be declared to the Receiver of Wreck. Wreck is defined as anything which is found in or on the sea, or washed ashore or in tidal water that may have come from a shipwreck or vessel regardless of age or importance. Finders who report their finds to the receiver of Wreck have salvage rights.

5.189 The *Protection of Military Remains Act* deals with military remains of both aircraft and ships. All military aircraft are automatically designated under this legislation but shipwrecks are not. Vessels are not automatically designated but may be designated under this Act either as a 'Protected Place' or as a 'Controlled Site'. Divers may visit a Protected Place as long as they do not disturb the remains but are prohibited from visiting Controlled Sites. Designation as a 'Controlled Site' is only applicable to wrecks of less than 200 years age (since sinking) in UK waters and for 'Protected Places' vessels lost after the outbreak of the First World War in August 1914. Wrecks designated as 'Protected Places' can include UK vessels outside UK Waters and foreign vessels lost within UK waters. The Ministry of Defence's criteria for designation include:

- Whether the wreck represents the last resting place of servicemen;
- Whether the wreck has suffered disturbance and looting, and whether designation is likely to stop such disturbance;
- Whether diving on the wreck attracts public criticism; and
- Whether the wreck is of historical significance.

5.190 In addition wrecks that are



considered dangerous are designated as 'Controlled Sites' as might be those wrecks designated as 'Protected Places' which suffer sustained disturbance.

5.191 The Ministry of Defence has been undertaking a rolling programme of designation since 2001. To date the wrecks of twelve vessels have been designated as 'Controlled Sites' none of which are in the District's offshore waters. Fifty Five wrecks have been designated as 'Protected Places'. Only one lies within the District's coastal waters, the **German submarine U-12**. U-12 was a Type II-B U-Boat built in 1935 and sunk near Dover on 8th October 1939 after striking a mine with the loss of all 27 of her crew. The exact position of the U-12 is not known but the wreck was nominated by the German government to be a 'Protected Place' as a representative of all others lost within UK jurisdiction.

Undesignated Wrecks at Sea

5.192 The overwhelming majority of the wrecks off the coast of Dover District are not covered by designation. As well as the recorded loss of individual ships and in some cases identified wreck sites, there are likely to be a vast number of other vessels which have been lost without specific record. With use of the offshore waters for coastal and cross channel navigation since prehistoric times and later as a conduit for longer sea voyages the remains of craft lost through the natural

Figure 9 Wreck on the goodwin sands. © Dover Museum (d33277)

dangers of weather, navigation through the narrow strait and the hazardous sand banks of the Goodwins are likely to be found in the off-shore waters of the District. Occasionally large numbers of vessels have been recorded lost through major storm events such as The Great Storm in 1703 described above or that in 1624 when many ships and their crews perished in The Downs.

5.193 As well as the natural events, the waters off the shore of the District have been the scene of many documented raids, invasion and conflicts from Iron Age times to the twentieth century. In 55 BC, the coast in the region of Deal saw the arrival of a Roman expedition led by Julius Caesar with more than a hundred vessels packed with troops and supplies. The Roman fleet beached or anchored (presumably in The Downs) was more suited to the conditions and tides of the Mediterranean than of the English Channel and many vessels were wrecked or rendered unseaworthy. Caesar returned a year later with a fleet quoted by him to be of 800 vessels. Once again the ships were damaged at anchor in a storm and Caesar was forced to salvage and repair his fleet. AD 43 saw the arrival at Richborough of a vast Roman invasion fleet under Aulus Plautius carrying four legions and a similar number of auxiliaries.

5.194 In the Roman period there is evidence of commercial traffic between the Kent coast and the Continent but no confirmed Roman wrecks are known in the waters of the District. Towards the end of the Roman period the coast was subjected to coastal raids by North Germanic tribes and this saw increased activity by the Roman navy (the *Classis Britannica*) that had bases at Dover and Richborough. Wrecks relating to this military activity may await discovery. The Anglo-Saxon chronicles hint at the arrival of invaders and settlers immediately following the withdrawal of Roman rule and record

ninth century raids by Vikings along the East Kent coast and a number of sea battles between the Anglo Saxons and Vikings off the coast of Sandwich in AD 851, 853 and 885.

5.195 Naval conflicts off the District's coastline continued into the medieval period. In 1217 the naval Battle of Sandwich saw an English Plantagenet fleet commanded by Hubert de Burgh sally from Sandwich and attack a Capetian French armada of eleven troop ships and seventy other vessels. The armada, under the command of Eustace the Monk and Robert de Courtney, was intended to supply the forces of Prince Louis of France who held London at the time. The English took the flagship and leaders and most of the supply vessel. Only nine troop ships and six supply vessels managed to gain refuge at Calais. The fifteenth century saw raiding by the French on the Dover coastline which culminated in the burning of Sandwich in 1457. In 1460 a naval skirmish during the War of the Roses also known as the Battle of Sandwich saw the Yorkist Earl of Warwick defeat and disperse a Lancastrian fleet.

5.196 1639 saw the Battle of the Downs during the Eighty Year's War or the Dutch War of Independence from Spanish rule. With overland routes blocked by the French, the Spanish sent a fleet of an estimated 74 ships to relieve and supply their last foothold in Flanders at Dunkirk. After a short battle with an inferior Dutch fleet off Calais, much of the Spanish fleet took refuge in The Downs under English neutrality. Initially blockaded by the Dutch, the Spanish were attacked by an overwhelming force and decisively beaten. There are conflicting estimates on the losses by the Spanish though it seems that a number of ships ran aground on the Goodwin Sands of which some were later refloated, but others were burnt, sunk or captured.

5.197 The frustration of the English navy in being unable to intervene in the flagrant violation of their neutrality caused a lingering



resentment that may have contributed to the outbreak of the Anglo-Dutch Wars later in the century. In 1652, the first naval engagement of the war took place off the Dover coastline and was known as the Battle of Goodwin Sands. Here a Dutch convoy with forty escorts under the command of Admiral Tromp refused to dip their flag to a fleet of 25 English vessels under Robert Blake as had been required by Cromwell of foreign vessels using the Channel. Warning shots were exchanged with casualties and then a full five hour battle broke out. The English gained a narrow victory capturing two Dutch vessels one of which later sank.

5.198 Many of the vessels lost in the waters off the District's coastline date from the First and Second World Wars. The Dover Strait was an important line of defence preventing German naval craft entering the English Channel in the First World War. This line of defence was maintained by the Royal Navy's Dover Patrol which operated from both Dover and Dunkirk and was involved in many skirmishes. Perhaps the most significant

engagement was that of the Battle of Dover Strait in 1916 when flotillas of German torpedo boats based in Flanders attacked the Dover mine barrage and destroyed several naval drifters, a destroyer and damaged several others.

5.199 The Second World War saw the Strait of Dover and the English Channel as the first line of defence between Britain and occupied Europe. Dover played a key role in the evacuation of the British Expeditionary Force from Dunkirk receiving over 200,000 of the evacuated personnel and overseeing command of 'Operation Dynamo' from the tunnels beneath the White Cliffs. In 1940 the Battle of Britain raged over the District's coast. Many ships were lost during the war due to bombing, striking mines or from attack by U Boats. A number of U Boats themselves were also lost in the Strait including three which hit mines in quick succession in 1939.

5.200 The wrecking of ships, particularly on the Goodwin Sands, has continued since the Second World War. In 1954 the South Sand

Figure 10 Dover Patrol Memorial

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lightship was lost with seven crew members. The sister ships *Luray Victory* and the *North Eastern Victory* were both lost on the Goodwin Sands in 1946 and were notable as they were not swallowed by the sand and their masts remain visible to the present. In 1991 the *MV Ross Revenge* used by the pirate radio station Radio Caroline was salvaged from the Goodwin Sands. The following link to Pathe news footage illustrates the grounding of the Italian steamer *Sylvia Onorato* in 1948.

<http://www.britishpathe.com/video/gale-increases-toll-of-goodwin-wrecks>

Wrecks on land

5.201 As well as wrecks at sea, other wrecks may be found on land which has since been reclaimed from the sea. The Wantsum Channel was an important navigable sea route until medieval times and is likely to have ancient wrecks amongst its buried archaeological assets. A **dug-out canoe** was discovered within the silts of the Wantsum during sewer trenching through the marshland near Great Downs Bridge, just to the east of Sandwich, in April 1936. The craft is reported to have been taken to Sandwich

for more detailed study but unfortunately it is never heard of again and nothing more is now known of it locally. Its date remains unknown – it could have been prehistoric, but it might equally well have been later.

5.202 In 1936 B.W. Pearce, a senior archaeologist excavating at Richborough, obtained an interesting report from one of his workmen. He recounted how in a gravel pit at Stonar the timbers of a **'Roman galley'** had been found some years previously. The timbers were reported to have been preserved in waterlogged gravels and had seemingly been cut by an adze. Experts were said to have been brought in to view the vessel, but once they had left the workmen tried to drag out the remains with a crane, the result being that the vessel broke-up. The pieces were taken away but it is again not known what happened to them and the Roman date of this vessel cannot now be confirmed. Whatever the date it would seem that the remains at Stonar related to a vessel of some considerable size and antiquity. Other areas such as the Lydden Valley and the mouth of the Dour may also have buried wreck sites.

Figure 11 Foundring of the South Sand Lightship in 1954. © Dover Museum (d44617)



Hulks, etc

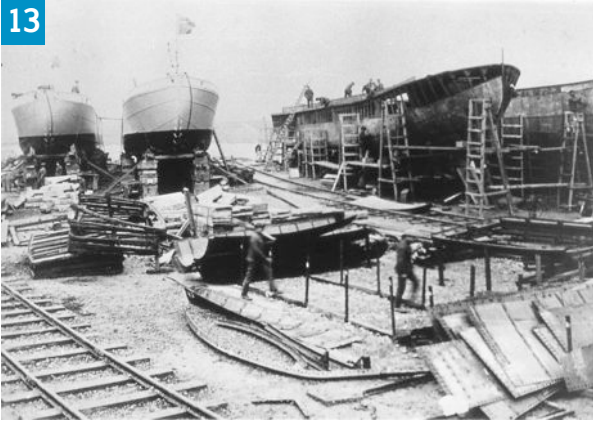
5.203 The District's archaeological remains will also include many vessels which have been abandoned and left to the elements as 'hulks'. The earliest known vessel of this type and one of the District's most notable heritage assets is the **Dover Bronze Age Boat**, found in the silts of the Dour estuary during construction works in 1992. The wreck was found six metres beneath Townwall Street in Dover during the construction of a subway. The discovery comprises more than half of a disassembled vessel, one of the most complete vessels of the period ever found and internationally important. While a large part of the boat was excavated and lifted to form the centrepiece of a gallery at Dover Museum, a substantial part of the boat was outside of the work's cofferdam and remains buried beneath Dover. The likelihood of similar boats surviving elsewhere in the Dour, Wantsum and Lydden Valley alluvium is strong.

5.204 Later hulks are also likely to survive

in these alluvial deposits. Accounts of the two landings by Julius Caesar refer to the wrecking, salvage and repair works to his fleet. The anchorages around the Roman port of Richborough and that at Dover, the medieval ports of Sandwich and Stonar are likely to be the focus of abandoned vessels. In Sandwich the rare remains of a late fourteenth century merchant vessel were found during sewer works in 1973. The '**Sandwich Boat**' as it has come to be referred to appears to have been laid up in a small creek to the east of the town walls and is an important example of a vessel of the period. The timbers from dismantled ships may have been reused in medieval buildings or in waterfronts in the historic coastal towns of the District.

5.205 In the First World War a great military port was established at Richborough in the mouth of the Stour to supply the Western Front. Special barges were constructed at the port to transport goods across the Channel to the canals that extended from the Flemish coast into the

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battlefields. Whether any traces of the boat building or vessels that used the port survive in the Stour has not been established. Perhaps the latest abandoned hulk in the District of any heritage significance can be found in Stonar Cut. Here a **German 'Raumboot'**, a fast mine sweeping vessel dating to the Second World War was abandoned in the 1980s and can be seen mostly submerged in mud at low water

Aircraft crash sites at sea

5.206 There are 47 known aircraft crash sites in the coastal waters of the District and there are likely to be many more which as yet have not been discovered. The majority of these sites date to the Second World War when both Allied and German forces incurred huge losses in the region during the Battle of Britain. One aircraft, a *Dornier 17* shot down by fighters of *No. 264 Squadron* in August 1940, has recently been discovered in extremely good condition on the Goodwin Sands and is due to be raised for display in the RAF Museum at Cosford in spring 2012. The Dornier attempted a crash landing on

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the sand banks but flipped on landing killing two of its four man crew. The survivors were rescued.

5.207 All military aircraft crash sites as explained above are designated as 'Protected Places' under the Protection of Military Remains Act'. It is illegal to interfere with the wreck of a crashed military aircraft unless licensed to investigate by the Ministry of Defence.

5.208 As with ship wrecks, the location of many crash sites remains unknown and vulnerable to activities such as dredging. In recent years Wessex Archaeology have been commissioned by English Heritage through the Aggregates Levy Sustainability fund to review aircraft crash sites in our coastal waters and provide guidance for dredging companies.

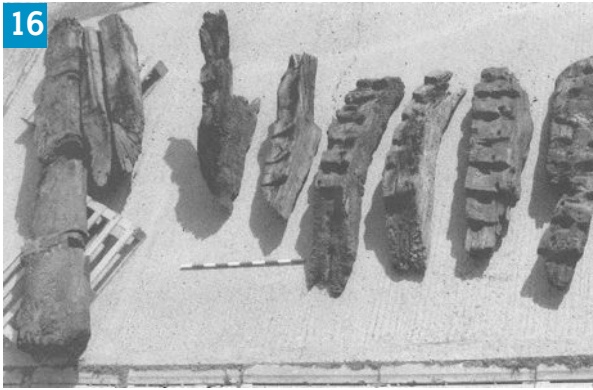
Statement of Significance

5.209 Dover District has a wealth of wreck sites both offshore and potentially inland in areas reclaimed from the sea. These wrecks are an immensely valuable resource testifying to the prolonged importance of the region for maritime trade, transport and defence and the long history of navigation through and across the Strait of Dover. Collectively, and due to the number of very important individual examples, the wrecks are of **outstanding significance**.

Figure 13 Barge Building at Port Richborough during the First World War. © Dover Museum (d01276)

Figure 14 German WW2 Raumboot, sunk in the muds of Stonar Creek, Sandwich. © Trust for Thanet Archaeology

Figure 15 Dornier 17 crashed on the Sandwich Flats at the Princes Golf Club, August 1940. © IWM (FX 68707)



Evidential Value

5.210 The wreck sites have considerably high value in potentially providing important evidence on a number of nationally important issues. The vessels themselves demonstrate the history and nature of navigation through and across the Dover Strait and along the coastal waters and channels from prehistoric times. The evidence of their cargoes in particular can provide important new information on the trade contacts and the movements of goods and in some cases peoples to and from the continent, around Europe and further afield. Many of the wrecks have particular value in representing exemplars of vessel types, cargoes and particular maritime activities, namely transport, trade and warfare and demonstrate the development of craft and boat building skills through the ages. They also provide considerable potential to help us understand the lives of the mariners. For example, the well-preserved wrecks of the *Stirling Castle*, *Northumberland* and *Restoration* provide an important resource to better understand the navy of the beginning of the eighteenth century. Many wrecked vessels and crashed aircraft can be associated with documented events such as the great naval conflicts and the Battle of Britain. They have considerable potential to provide direct evidence of these conflicts.

Historical Illustrative Value

5.211 The wreck sites have the potential to

illustrate the development of maritime craft from early times through to the twentieth century. They can help to illustrate the development of navies and naval warfare and the lives of naval seamen. Through the cargoes the historical development of trading contact between Britain and Europe and later between the European powers and their developing overseas empires.

Historical Associative Value

5.212 Many of the wrecks can be associated with nationally significant events. There is considerable potential to provide direct evidence for both the expeditions by Caesar in 55 and 54 BC and the later Roman invasion of AD 43. Wrecks or hulks associated with these events would help to confirm the location of the three landings. There is potential for the remains of wrecks associated with the various documented conflicts that have taken place in the waters around the Dover coastline including those between the Saxons and Danes, the two Battles of Sandwich and the Battle of the Downs between the Spanish and Dutch fleets. There is even greater potential for wrecks associated with natural events such as the Great Storm of 1703 which wrecked a large number of vessels in the Downs. The remains of vessels associated with the First and Second World War and aircraft lost in the Battle of Britain can help to illustrate these nationally significant events.

Aesthetic Value

5.213 The presence of wrecks protruding from the Goodwin Sands are evocative reminders of the maritime past and the hazards that the coastal waters held for the shipping and mariners. Many of the great naval conflicts have been captured in evocative and dramatic works of art and in literature. Many of the accounts of the wrecking are evocative in their telling.

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Communal Value

5.214 The connection of the District's coastal communities with their maritime heritage is strong. The shipwrecks themselves provide reminders of the past and for Deal in particular a strong connection between the town and the wrecks on the Goodwins. The role that Deal Boatmen and the lifeboats at Deal and Walmer played in saving numerous lives at sea is a point of local pride. The Walmer Lifeboat still rescues mariners from these waters.

5.215 The naval life, particularly at the time of the French and Napoleonic Wars generates a significant level of public interest particularly through popular fiction by Forester, O'Brian and others. The discovery of shipwrecks fires the public's imagination and helps to illustrate the events and times associated with them. As artefacts recovered from the seabed are often well preserved the wrecks can provide discoveries that immediately connect with the public. The wrecks of the twentieth century and the

aircraft crash sites of the Battle of Britain serve as memorials to these conflicts and are losses that still live in the memories of the coastal communities of the District.

5.216 The history of the wrecks and objects salvaged from them have considerable interpretative potential. The closure of the Maritime Museum at Ramsgate and the temporary closure of the Deal Maritime Museum have reduced the interpretation of the District's Maritime Heritage. The Bronze Age Boat Gallery at Dover Museum is an important heritage visitor attraction and demonstrates the tourism and educational potential of the boat.

Vulnerabilities

5.217 The most significant threat to the long term future of the historic wrecks and crashed aircraft at sea is from the dynamic environment in which they rest. The sand banks of the Goodwin Sands are highly mobile and wrecks appear and are re-buried quite regularly. Monitoring of wrecks such as

Figure 17 Dover Boat in the Dover Museum Bronze Age Gallery. © Dover Museum

the *Stirling Castle* have illustrated how a well preserved wreck can quickly deteriorate once it is exposed to the marine processes with the wreck structures suffering collapse and objects being washed away. The condition and exposure of the more important wreck sites in the District's coastal waters should be regularly monitored through inspection and geophysical survey with systematic recording and recovery of objects when necessary.

5.218 English Heritage have reviewed the condition of the country's Protected Wreck Sites and included seven on its *Heritage at Risk Register* for 2011. Four of these wrecks lie on the Goodwin Sands – the *Northumberland*, *Restoration*, *Stirling Castle* and the *Rooswijk*. All wrecks were recognised as suffering from the mobile nature of the Goodwin sediments:

'Sands change morphology on a seasonal basis leading to periodic exposure of the vessel's wooden hulls. Exposed timbers are weakened by biological attack and may be subject to detachment and dispersal by tide and wave surge during winter storms' (Northumberland and Restoration).

'As with other sites in the Goodwins, archaeological material is at risk owing to mobile sediments causing periodic exposure' (Rooswijk)

5.219 The wrecks and aircraft crash sites also remain vulnerable to interference and disturbance by divers. All but seven of the District's wreck sites are not protected by designation and divers are able to legally dive

on the wrecks without licence. Most act responsibly, respect and do not disturb the wrecks and report findings to the Receiver of Wreck. Under the *Marine and Coastal Areas Act* anyone who wishes to remove an object from a wreck, or from the seafloor, with the aid of a platform, vessel or other surface support system must first have a marine licence, which are granted by the Marine Management Organisation. Many divers belong to clubs with codes of responsible diving and the British Sub Aqua Club have an Underwater Heritage Advisor and support initiatives to protect the country's wreck heritage. There are a minority however who undertake unauthorised access on wrecks, disturb and remove artefacts irresponsibly and without reporting either for souvenirs or for potential financial gain.

5.220 Dredging operations at sea and the exploitation of the sand and shingle of the sea floor can have a significant impact on wrecks and crash sites. While the location of known wrecks can be highlighted to operators, many sites are not located and are at considerable risk. While new areas of sea bed operations are normally assessed prior to granting of a license, there remains a high potential for new wrecks to be discovered and disturbed. Recognising this the British Marine Aggregate Producers Association, English Heritage and the Crown Estates have in place a protocol for reporting finds and a guidance note for archaeological good practice developed by Wessex Archaeology to assist in protection of the submerged heritage. The following links

Wreck	Condition	Vulnerability	Trend
Northumberland	Extensive significant problems	High	Significant decline
Restoration	Extensive significant problems	High	Declining
Stirling Castle	Extensive significant problems	High	Declining
Rooswijk	Generally unsatisfactory with major localised problems	High	Declining

(Source: English Heritage, *Heritage at Risk Register 2011*)

will take the reader to the finds reporting protocol and the guidance note:

<http://www.wessexarch.co.uk/projects/marine/bmapa/index.html>

<http://www.wessexarch.co.uk/projects/marine/bmapa/dredging-hist-env.html>

5.221 Other forms of sea bed development, such as the construction of off shore wind farms, the laying of sea bed cables and pipelines can also have an impact on submerged wrecks and crashed aircraft. English Heritage works to ensure any marine development within the English area of the UK's territorial waters includes a full consideration of the potential for impacts on maritime heritage assets in the project planning stage. In this way such impacts are appropriately mitigated prior to the commencement of any works and in addition there is also now a protocol for reporting finds during offshore windfarm development projects. Disturbance can arise not only from development works, but also from the anchoring of vessels on wreck sites. Fishing with nets is a further potential source of damage to wrecks, though normally most fishing vessels have good knowledge of the location of submerged obstructions.

5.222 Wrecks and hulks buried within the alluvial sediments of the District's reclaimed lands could potentially be well preserved as the waterlogged and anaerobic conditions help to preserve organic remains including timber. The change in hydrology of the sediments around these preserved remains could lead to accelerated loss of the organic remains. The remaining part of the Dover Bronze Age Boat left beneath properties in Dover may be particularly vulnerable as the construction of the adjacent underpass is likely to have altered the environmental conditions of the area. As with any buried archaeology the buried hulks and wrecks are vulnerable to development works where they

coincide though this would generally be through deep groundwork such as piling.

Opportunities

5.223 There is little that can be done to prevent the exposure of wreck sites to the elements but through a programme of regular monitoring through diver observation and remote survey can help management decisions to be undertaken. English Heritage is encouraging a programme of voluntary licensees to help monitor the Protected Wreck sites around our coast both in terms of their condition and access.

5.224 Support for programmes of survey that identify the locations and significance of key wreck and crash sites will assist in considerations of where additional protection through designation is required and where further monitoring should be in place. Information on the location of known wreck sites and clear guidance on their safeguarding should be made available in an accessible form, to stakeholders, particularly those who have operational interests off shore and with the sea bed such as divers, dredging operators and fishermen.

5.225 At present the position of finds from wrecks very much remains to emphasise a 'look but don't touch approach'. Any finds must first be reported to the Receiver of Wrecks who plays the main part in identifying them and then determining their ownership.



Figure 18 Protected wrecks interpretation panel on Dover seafront.

Nevertheless the process would benefit from improved procedures for findings that are reported to the Receiver of Wrecks to be updated on to the Kent Historic Environment Record.

5.226 The discovery of wrecks and aircraft often catches the public attention and imagination. Opportunities should be taken to promote the District's maritime heritage in conjunction with such discoveries and to take advantage and celebrate key events such as the forthcoming lifting of *Dornier 17*, the possible reconstruction of the Dover Bronze Age Boat or key anniversaries of some of the significant events in the District's maritime history.

5.227 The Deal Maritime Museum is an important interpretation asset for the theme and even more so since the closure of the Maritime Museum at Ramsgate. The Museum should be encouraged to play a lead role in celebration and interpretation of the maritime history of the District. There is a role for interpretation panels at public locations on the promenades at Deal and Dover that explain the wrecks and the maritime history of the area.

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Key Heritage Assets

Asset	Form	Designation & Protection	Accessibility	Interpretation
Langdon Bay Wreck	Wreck site	Protected Wreck Site	Finds in Dover Museum	Panel on Dover Seafront & at Dover Museum
Stirling Castle	Wreck	Protected Wreck Site	Licensed Diving - Finds in Museum	National Maritime Museum
Restoration	Wreck	Protected Wreck Site	Licensed Diving	No – former exhibits at Ramsgate Maritime Museum
Northumberland	Wreck	Protected Wreck Site	Licensed Diving	No – former exhibits at Ramsgate Maritime Museum
Rooswijk	Wreck	Protected Wreck Site	Licensed Diving	No – former exhibits at Ramsgate Maritime Museum
Admiral Gardner	Wreck	Protected Wreck Site	Licensed Diving	None
Dover Boat	Buried Archaeology-hulk / Museum Display	None	Museum Display	Dover Museum dedicated gallery
U-Boat U12 and other U-Boats	Wreck	Protected Place – Military Remains Act	Diving only – not to be touched	None
Undesignated shipwrecks	Wrecks and sites of wrecks at Sea Buried Archaeology	Merchant Shipping Act	Diving access Visual access to some wrecks at low tide	Former Maritime Museums
Sandwich Boat	Buried Archaeology-hulk / Archaeological Finds	None	Site in public open space	None
Raumboot	Hulk	None	Visual access at low tide	None
Dornier 17	Wrecked Aircraft at Sea	Protected Place – Military Remains Act	Diving only – not to be touched	To be lifted for display at RAF Museum Cosford
Aircraft Crash Sites at Sea	Wrecked Aircraft at Sea	Protected Place – Military Remains Act	Diving only – not to be touched	None