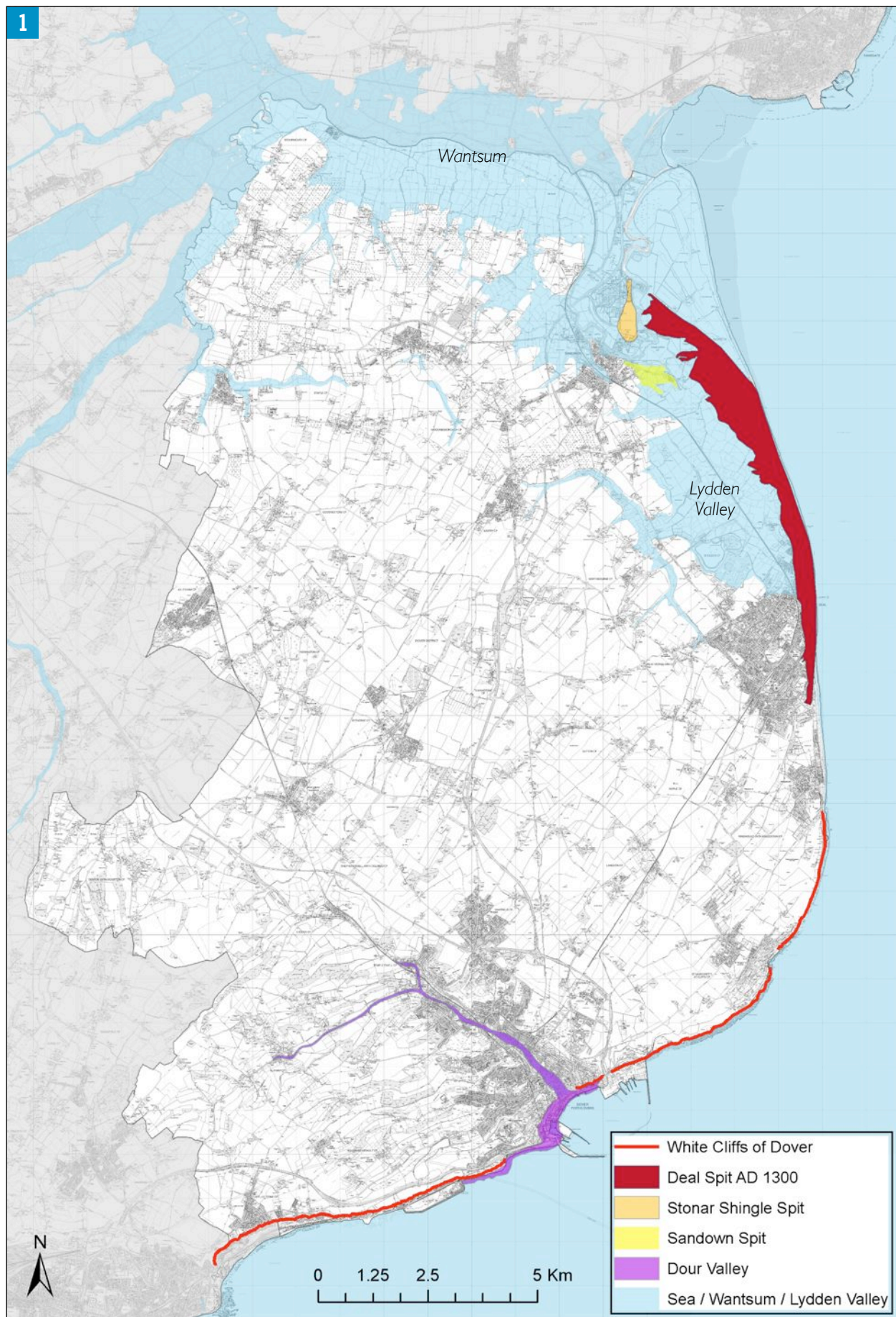


Appendix 1:

Theme 1 – Coastal Processes and Landscapes





Cover Chalk Cliffs at St Margarets Bay. © Explore Kent
Figure 1 Coastal Landscape Features of Dover District

Theme 1 – Coastal Processes and Landscapes

Summary

1.1 Dover District contains exceptional coastal landscapes of national and international renown. The White Cliffs of Dover are recognised around the world and form part of a coastal landscape of outstanding historical significance. In the north of the District the creation and reclamation of the Wantsum Sea Channel and the formation of the Deal and Stonar spits has shaped the area's landscape and history. Dover itself owes its existence to the River Dour which carved an opening in the formidable chalk cliffs providing a safe haven and harbour for vessels passing through and crossing the English Channel.

Introduction

Early land bridge to the continent and formation of the Channel

1.2 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, this land mass became submerged beneath the growing Channel and North Sea, leaving just a land-bridge between Britain and the continent, from what is now East Kent round to East Anglia. The transient Mesolithic peoples would have crossed this land bridge taking advantage of the rich natural resources available in the wide, wet, low lying plains of what is nowadays referred to as Doggerland. Around 6000 BC the bridge was finally

breached creating the island we live in today and leaving Dover as the nearest point to continental Europe which made a lasting impact on its subsequent history.

1.3 Today, evidence of the early landform is being discovered through seismic and geophysical techniques while the archaeological remains of early peoples are increasingly being discovered from the submerged landscapes beneath the North Sea.

The creation of the Wantsum Sea Channel

1.4 Rising sea levels penetrating the river valleys of the East Kent peninsula draining into the English Channel created a sea channel separating the Isle of Thanet from the Kent mainland during the Mesolithic. The history, form and development of this channel, later referred to by Bede as the Wantsum (Uantsumu) in the eighth century is complex and poorly understood but has recently been considered best by Ges Moody in his book 'The Isle of Thanet, From Prehistory to the Norman Conquest'. In all likelihood the channel was not a broad open expanse of water but a deeper channel meandering through a series of mud flats.

1.5 The earliest historical reference to the Isle of Thanet comes from Ptolemy in the second century AD implying that the channel was sufficiently large to isolate the island in

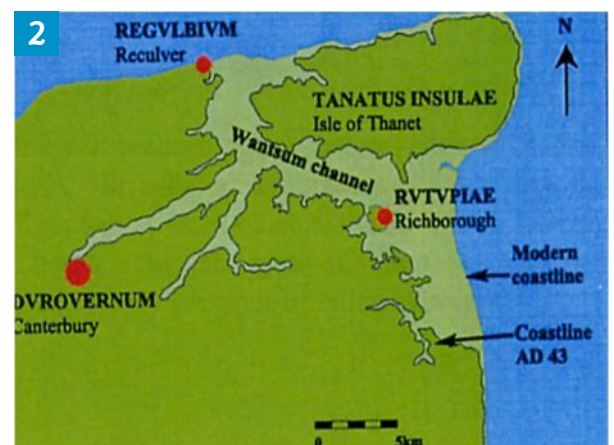


Figure 2 Wantsum Channel at time of the Romans

the Roman period. In the eighth century Bede refers to the river Wantsum separating Thanet from the mainland, that it was around 3 furlongs across (c. 600 m.) and fordable in a couple of places, one of which was presumably Sarre. The Channel was certainly navigable by boats and became an important sea route during the Roman period providing the sheltered anchorage to serve the great entry port of RYPUTAE (Richborough) at its southern end. The protection of this channel was clearly an important matter for the Roman province and by the end of the third century Forts of the Saxon Shore had been constructed at both ends of the Wantsum Channel.

1.6 Other than the description of the channel by Bede in his account of the landing of St Augustine in this area and a mention in the Anglo Saxon Chronicles of the passage from Sandwich to the north end of the Wantsum Channel by Harold and Godwin in 1052 there is little historical account. The area is associated with a number of nationally important historical events such as the Roman invasion in AD 43, the traditional place of arrival of the Saxons Hengist and Horsa at Ebbsfleet and the arrival of Augustine at the same place.

1.7 Throughout its history the Wantsum Channel suffered from the creation of shingle spits in its southern mouth and the consequent deposition of silts, which by the medieval period seriously affected its navigability.



Figure 3 Shingle Beach at Sandwich Bay. © Explore Kent

Figure 4 Aerial view of the Deal Spit. © Canterbury Archaeological Trust



4 **Creation of the Deal and Stonar spits**

1.8 The evolution of the coastline in the northern part of the District and the southern mouth of the Wantsum Channel was determined by the growth of three sand and shingle spits; Stonar Bank, Sandown Spit and Deal Spit. The development of these spits is not fully understood but is considered both by Moody and by the Lydden Valley Project in their report on the 'Geology, Archaeology and History of the Lydden Valley and Sandwich Bay'.

1.9 In brief the Stonar Bank which lies across the mouth of the former Wantsum is unusual in form with its greatest width being the southern end close to Sandwich. Several explanations have been put forward for this including that it may have been an offshore bank that migrated into the mouth of the channel: that it developed under a strong southward flow of the Wantsum, extending from the Ebbsfleet peninsula on the Thanet shoreline to the north; or that it was a bar in the mouth of the channel with entrances to the channel both to its north and south. Long shore drift from south to north may then have moved material north creating a link with Thanet and closing the northern entrance.

1.10 The latter explanation may help to account for the creation of the Sandown Spit just east of Sandwich which appears to have been built up from west to east through the deposition of material scoured from the Stonar Bank.

1.11 The third spit, from Deal to Shellness is

better understood. It is generally accepted that the spit started to extend northwards through the process of longshore drift from around Deal about 5,000 years ago. By Roman times the spit had at least reached as far north as Sandwich Bay and to the north east of Sandwich by medieval times.

1.12 Due to the growth of the spits the land behind became a muddy lagoon, gradually filling with sediments to form mudflats and salt marsh.

Reclamation of the Wantsum and Lydden Valley

1.13 The natural marshland resources of the former Wantsum Channel and the valley behind the Deal spit that became later known as the Lydden Valley provided an attractive resource for ancient peoples. A period of relatively dry conditions in the Neolithic and Bronze Age saw occupation sites established on these marginal lands before sea level rise

in the Later Bronze Age saw the area inundated and the land surfaces submerged once more. Today, evidence of these former land surfaces, the contemporary environmental conditions and the prehistoric occupation of the area lies buried in well preserved peat deposits within the alluvium of the Wantsum Channel and the Lydden Valley.

1.14 The extending spits and the increasing marshland saw the gradual reclamation of the salt marshlands for freshwater pasture. From Roman times sea walls were constructed and drainage ditches excavated to reclaim more and more land. By the medieval period, the manors of the area and the monastic houses of St Augustine's and Christ Church in Canterbury were constructing large sea walls and draining the land behind in a process known as 'inning'. Many of the sea walls and the drainage pattern created through this 'inning' are still visible in the landscape of the



Figure 5 *Monks Wall, Sandwich*

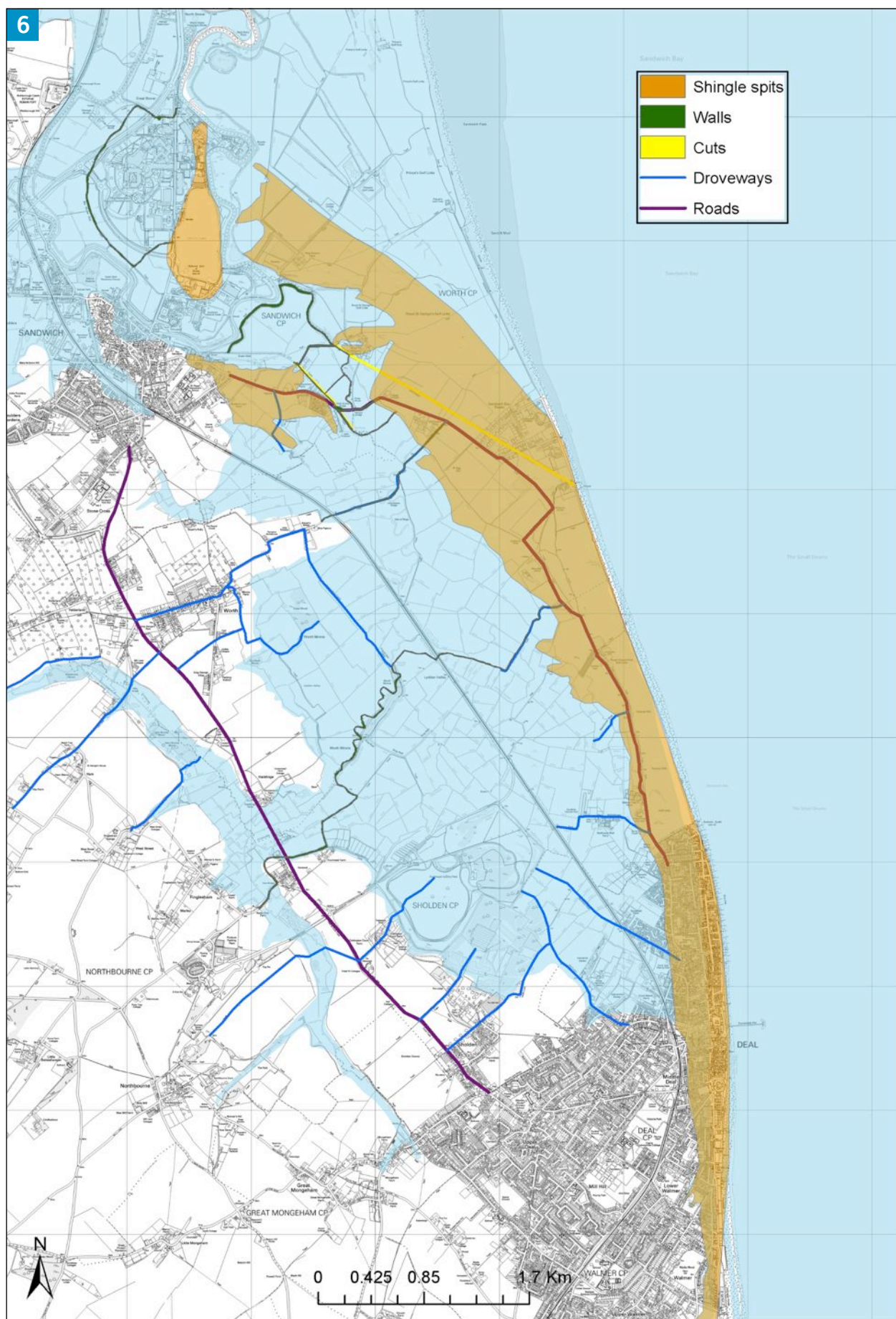


Figure 6 Lydden Valley and the Mouth of the Wantsum showing Shingle Spits, Historic Sea Walls and Droveways

Lydden Valley and the Wantsum Channel.

1.15 The recent study by the Lydden Valley Research Group has examined the northward progression of the sea walls and drainage works from Deal to Sandwich. The earliest wall identified by the project, possibly Roman in its origins, is that which they have named The Lydden Wall running from Finglesham, east across the valley to meet the Deal Spit to the south of Dickson's Corner. As the reclamation progressed northwards, subsequent walls built include The Worth Wall (probably Saxon), The Edwards Wall (1270-1285), Downs Wall (1309-1310), The Ealdesalctor Wall (1332-1347), The Langley Wall (c.1470), St Bartholomew's Wall (c.1701) and lastly the Harvey Walls (c.1742) at the mouth of the Stour. A further wall, known as The Green Wall, was constructed sometime between 1615 and 1736, presumably by the Borough of Sandwich. The purpose of the Green Wall was not to keep out the tidal waters but to retain fresh water for use in Sandwich.

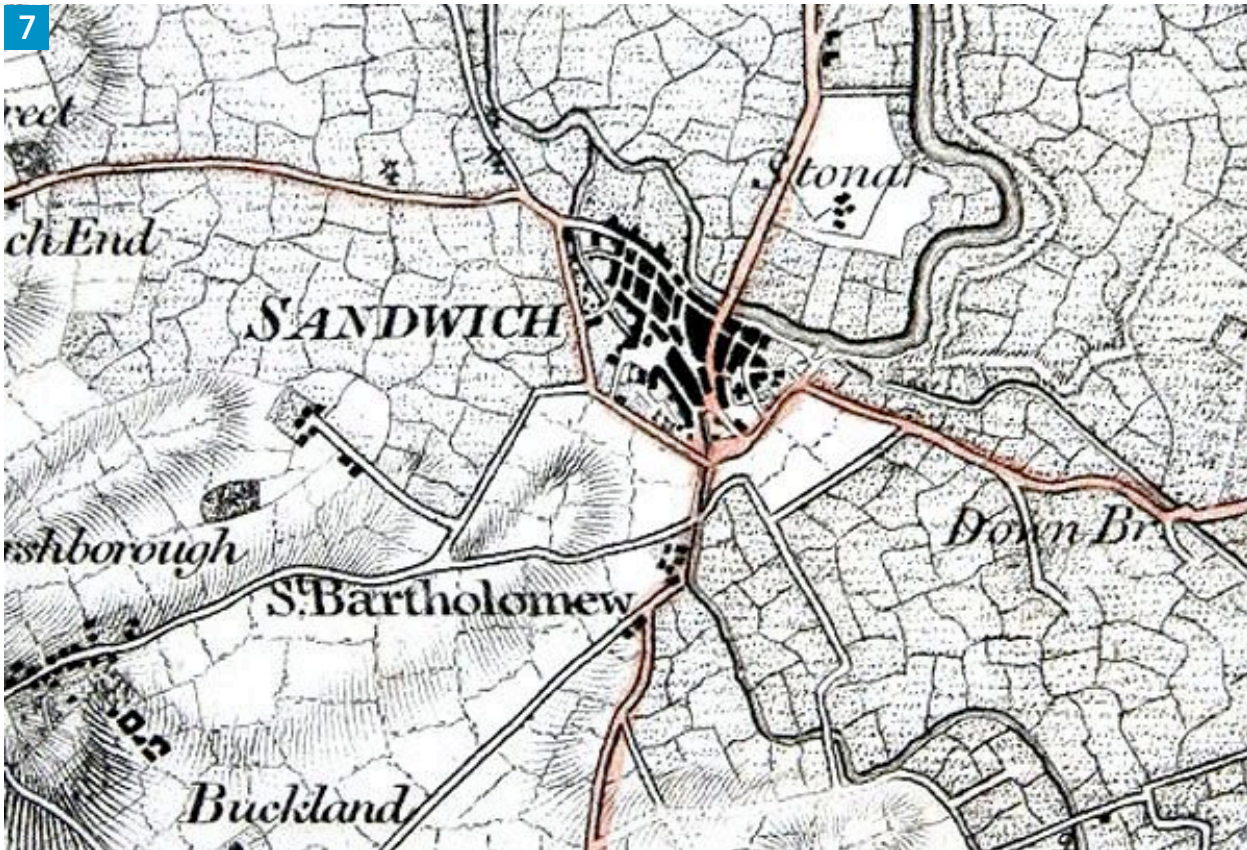
1.16 The Wantsum Channel has not benefited from a detailed study of the kind that the Lydden Valley has, however it seems that large-scale reclamation began by the Monks of St Augustine in the twelfth and thirteenth centuries. Within the eastern end of the former sea channel several of their works survive as substantial earthworks today. The Monk's Wall, which lies on the western side of Stonar Bank, was built to reclaim and protect land adjacent to the shingle bank which at that time was occupied in part by a flourishing small port at Stonar. The Abbot's Wall was constructed to reclaim the lands on the southern shoreline of Thanet and the Boarded Groin at the northeast mouth of the Wantsum. By the end of the thirteenth century this 'inning' and drainage works and natural processes of shingle deposition, accelerated by a substantial storm in 1287 made navigation of the Wantsum

Channel virtually untenable. A ferry continued to cross at Sarre until the construction of a bridge there in 1485. Final drainage and management of the alluvial plain was brought about by the émigré expertise from the Low Countries in the area in the seventeenth century.

Supplying water to Sandwich

1.17 Sandwich had no good local supply of fresh water and so as the town thrived and the population increased in the thirteenth century the senior councillors sought new sources. They found it possible to divert water from springs at Northbourne, Finglesham, Ham and Eastry through the Lydden Valley to enter Sandwich via New Gate. Built in the early part of the thirteenth century, the Delf as the new channel was called, was encased in wooden walls and in part ran as a raised aqueduct on the Pinnock Wall, an early drove way through the Lydden Valley. Sandwich Council expended significant effort on maintaining the Delf over the centuries as it was the only significant supply of water to the town until the provision of mains water in 1899, one of the last towns in England to receive this.

1.18 The area around the spring sources of the Delf, known as the Brooklands was not drained as the rest of the Lydden Valley but deliberately kept as a form of reservoir to maintain the town's supply. From 1797 drainage works took place in part to improve the supply and in part to protect the new turnpike road in the area. Works, which included widening ditches, a new cut on the North Stream and the creation of dams, were put in place to help guarantee the water supply to Sandwich though these failed to maintain the supply sufficiently. In 1825 the Council appointed Henry Ford to survey and plan a new water management system. These included an innovative design to ensure that the South Stream fed into Sandwich and involved the building new reservoirs, three



inverted siphons, a tunnel under the Pinnock Wall and a series of stopboards along drainage channels. One of the siphons survives today.

Maintaining Sandwich Haven

1.19 Sandwich Haven, the protected bay north of Sandwich had a major role in making sandwich one of the most important ports in the country in the twelfth and thirteenth centuries. By the fifteenth century, the extending Deal Spit was causing severe silting in the Stour around sandwich and the Haven, causing trade to decline in favour of other more navigable ports. From the middle of the fifteenth century attempts were made to maintain the viability of the Haven and Sandwich as a port through the construction of new channels across the Lydden Valley. Initially the emphasis was on cutting a channel to help the flow in the haven and scour it of silt. In 1479 a channel was excavated through great communal effort by the townsfolk of Sandwich to divert the North Stream (also known as the Guestling) to the wharfs in

Sandwich to assist in scouring the river. The benefits of the cut were not long lasting and in 1551 work started on creating a new navigable channel from the Stour to the coast at Sandwich Bay to provide ships with direct access to the town. Known as The Rogers Cut, the works got no further than a trial cut, which reached the Deal spit and is marked on maps today as 'The Old Haven'. Several subsequent and ambitious proposals to create a link and harbours between Sandwich Bay and the Stour also failed to get off the



Figure 7 Mudge's map (1801) of Sandwich showing the Delf water source and earthwork walls to the east
 Figure 8 Stonar Cut in c. 1918. © Dover Museum (d00219)

ground, the last one being put forward by Thomas Telford in 1825. Silting of the Stour also affected the drainage of the Wantsum to the west and the valuable arable lands there. In 1777, through an Act of Parliament prompted by the Commissioners of Sewers, the Stonar Cut, a cut with a sluice was made through a meander of the Stour to enable the flow at times of flood to bypass Sandwich and Sandwich Haven. This naturally exacerbated the problems of silting in the Haven and was the subject of much conflict between Sandwich and the Commissioners.

The Dour

1.20 The town and port of Dover owes its existence to the River Dour in whose valley it lies. The Dour originally a small chalk stream emerging from the North Downs 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 world famous white chalk cliffs, strategically located at the narrowest point of the present English Channel.

1.21 The sources of the Dour's two tributaries lie at Temple Ewell and Alkham, merging at Kearsney. The Alkham source is today only really evident during periods of prolonged wet weather. The Dour is one of the few permanent sources of fresh water in this part of Kent and its name, probably deriving from the Celtic for 'the waters' belies the significance of this. The mouth of the river, sheltered beneath the high valley sides would have provided a safe haven for boats and ships in the channel. Its proximity to the continent would have been significant for its prominence in cross-Channel travel and international exchange from earliest times and the discovery of the Dover Bronze Age boat in the early sediments of the river and the Langdon Wreck outside the river

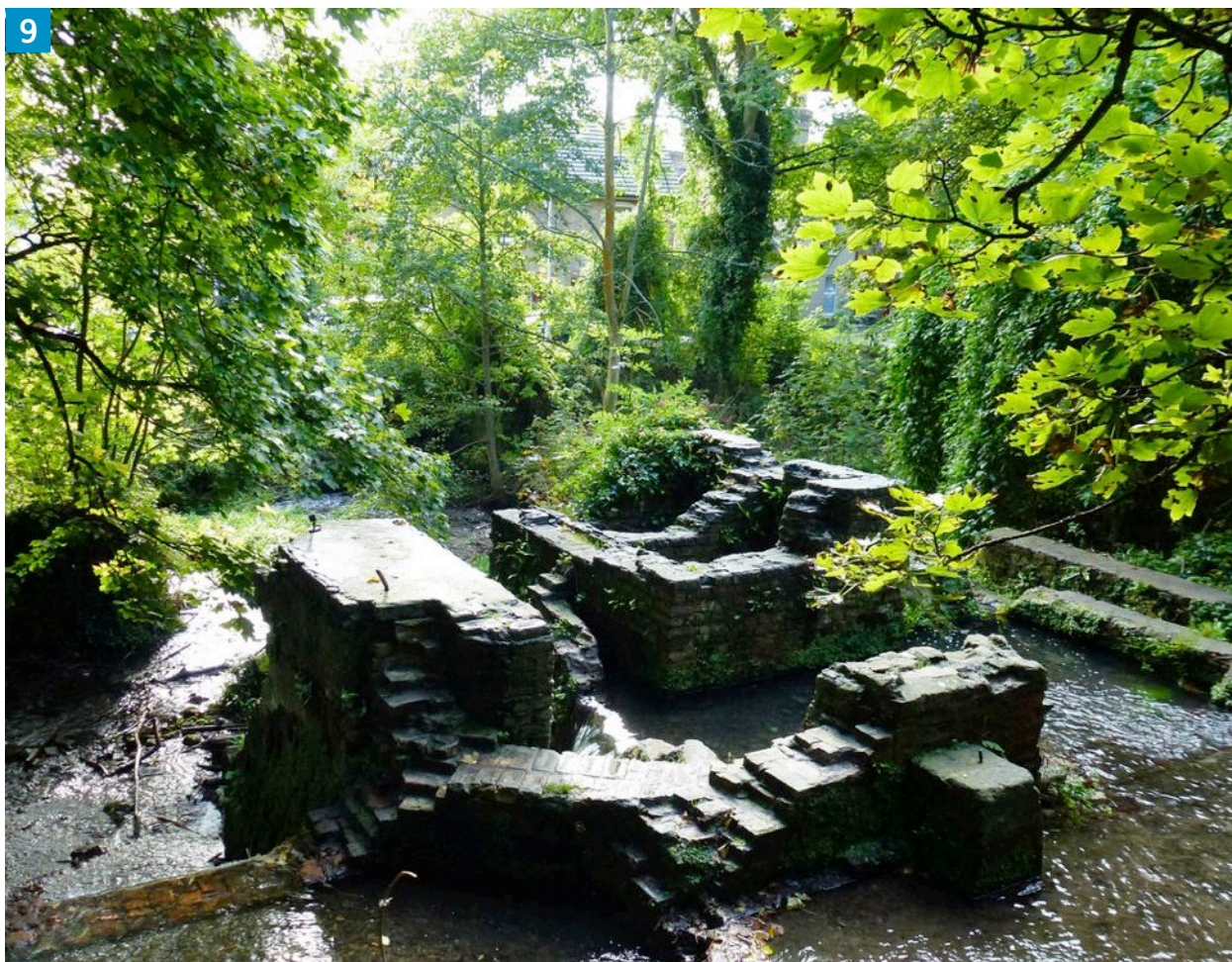


Figure 9 River Dour at Kearsney Abbey. © Explore Kent

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mouth underline this (see also Theme 4.3).

1.22 While there is evidence of prehistoric activity and some occupation in the Dour valley, the first substantial evidence comes in the Iron Age with occupation deposits reported from Castle Hill and the town centre. There is suggestion that a hillfort lay on Castle Hill but this has so far not been proven. The Romans took advantage of the sheltered estuary to create their important port of Dubris one of the most important entry points to the Province and a base of the Classis Britannica (the Roman fleet in the Channel). The town was located mainly on the slopes of the west bank of the valley. Roman harbour works, which included a mole, probably accelerated the sedimentation of the estuary of the Dour and successive waterfronts on the western side of the harbour illustrate the narrowing of the estuary. As shingle deposits increased to form banks extending from either banks of the mouth of the river, the river narrowed

further and the town extended over the reclaimed land. By the end of the medieval period much of the river was built over and the harbour survived seawards of the shingle spit. Much of modern Dover is built on the sediments of the river and its estuary leaving the Dour as a narrow fast flowing river no more than ten metres wide and a metre deep.

The White Cliffs of Dover

1.23 Either side of the Dour Valley lie one of the countries most spectacular, iconic and popular natural features – the world famous White Cliffs of Dover. These chalk cliffs, in places over 100 metres high, have provided enormous symbolic value and historical association since at least Roman times.

1.24 Formed through the erosion of the chalk North Downs following the breach of the land bridge with the continent, the cliffs have provided a formidable face and symbolic guard against the threat of invasion; they can

Figure 10 Historic image of the Pent circa 1835. © Dover Museum (d01177)

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be seen from France and are the first and last sight that many travellers have when crossing the Channel.

1.25 There are numerous historical references to the cliffs, including by Julius Caesar in the account of his attempted invasion in 55 BC, they are mentioned by Shakespeare in *King Lear* and immortalised in the 1942 song by Vera Lynn that summed up the spirit of the nation in its Second World

War defence.

The Goodwin Sands and The Downs

1.26 Another natural coastal feature that has had a significant influence on the history of Dover District are the extensive sand banks that 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. 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.

1.27 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

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Figure 11 *White Cliffs of Dover - Shakespeare Cliff.* © Explore Kent

Figure 12 *Exposed wreck on the Goodwin Sands.* © Dover Museum (d33277)

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.

Description of the Heritage Assets

1.28 The heritage assets associated with this theme of coastal processes range from those which are readily discernable at a landscape scale such as the Wantsum Channel, the White Cliffs and the Lydden Valley, buried and submerged landscapes and sedimentary deposits down to individual structures, earthworks and archaeological remains many of which form important elements of the historic landscape of the coastal areas of Dover District. The above introduction has set out the background and context for many of the assets while the following description concentrates on the assets as they survive today. For convenience the order of discussion above is continued below.

Early land bridge to the continent and formation of the Channel

1.29 Evidence for the continental landmass which once linked Britain with the rest of Europe is submerged at depth beneath the North Sea and the English Channel. Here the remains of buried land form, natural and archaeological landscapes ancient environments survive in the submerged geology and silts. Evidence of early contacts with Europe is evident within the Palaeolithic archaeology of the District. The breaching of the land bridge with the continent can best be seen through the high chalk cliffs formed by the sea truncating the spine of the North Downs.

The creation of the Wantsum Sea Channel

1.30 Although completely silted up the Wantsum Channel is discernable today as a considerable historic landscape feature. The pattern of drainage channels and earthworks enclosing prime arable farmland, threaded through by the River Stour distinguish the area of the former sea channel. Only at its eastern end, has development degraded the historic landscape.

1.31 The sediments of the channel itself survive up to twelve metres in depth and are likely to contain important evidence of the early geomorphology of the Channel and its landform as well as of environmental history of the area. Important archaeological evidence for the use and exploitation of the Wantsum Channel and the later marshlands will be buried within the sediments.

Creation of the Deal, Stonar and Sandown spits

1.32 The three spits at the southern mouth of the Wantsum Channel can be distinguished in the present landform as elevated areas in the surrounding low lying ground. The Stonar Bank has been heavily developed through the twentieth century with the Pfizer site (formerly Port Richborough) and has been affected by the quarrying of shingle to form what is now Stonar Lake. At its southern end the remains of the medieval town of Stonar lie buried on the fringes of the Sandwich Industrial Estate and are protected as a Scheduled Monument. Sandown and Deal spits are less developed, comprising mainly farmland and golf links though some development has taken place at Sandwich Bay and on the outskirts of Sandwich itself.

1.33 On all three spits evidence for their early occupation and use is likely to survive as buried archaeological remains. The shingle spits themselves are likely to contain important evidence for the coastal processes

involved in their creation and may have buried earlier archaeological landscapes, features and wrecks as they were created.

Reclamation of the Wantsum and Lydden Valley

1.34 The silts of both the Wantsum Channel and the Lydden Valley are likely to preserve archaeological remains from the earliest times. As described above remains of the Palaeolithic and Mesolithic exploitation of the later inundated valleys, the Neolithic and Bronze Age occupation of the land in relatively dry conditions, and the exploitation of the salt marsh up to its inning will all survive in the sediments. The waterlogged conditions in these areas could allow for good preservation of organic remains that would not survive in drier conditions and rich palaeo-environmental evidence may lie in preserved peat deposits.

1.35 Evidence of the reclamation and 'inning' of the salt marsh is abundant. Many of the drainage ditches and earth embankments that survive today relate to the medieval works of the manors and the monastic houses. Some, such as The Lydden Wall and The Worth Wall may be earlier, possibly dating to Roman times. A number of the more significant earthworks have been individually mapped and identified in the introduction above. It is worth noting that many more important features associated with the reclamation extend over the former Channel and Lydden Valley as extant features and in other cases as buried archaeological remains.

1.36 Within the Lydden Valley many of the sea walls constructed to reclaim the salt marsh still survive as raised earthworks across the relatively flat landscape. Given the unobstructed access that many of them provide across the drainage network and farmland, unsurprisingly many of them are today followed by tracks, footpaths and in some cases the highway network. The

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network of drainage ditches associated with the 'inning' of the salt marsh extend throughout the Lydden Valley and provide a clear impression of the area that has been reclaimed. Analysis of the drainage pattern itself can illustrate distinct phases of 'inning', as the contrast between the smaller enclosed areas south of the Lydden Wall with the larger enclosed areas to the north suggest.

1.37 The major sea walls within the former Wantsum Channel survive in part as substantial earthworks. The Monk's Wall survives to several metres within land to the south west of the Pfizer site but has been breached by the Sandwich Bypass and its northern parts completely lost beneath development. The Boarded Groin falls mainly within Thanet but does encroach into the District close to the mouth of the Stour. Its condition in that area has not been ascertained but it does survive as an earthwork in parts further north. The Abbot's Wall survives as an earthwork running between Weatherlees Hill and the mouth of the Stour outside Dover District. Its eastern end, where it coincides with the District has been lost beneath modern development and in particular Richborough Power Station. Further earthworks, to protect against the flooding of the Stour, to 'inn' the salt marsh and the remains of activities to exploit the marshes survive. These include the mounds of debris left by medieval salt working and sheepfolds and droves extending into the created grazing marsh. As in the Lydden Valley, analysis of the drainage pattern would provide

Figure 13 Walking a Lydden Valley Drove at Sholden



important information on the process and technique of 'inning' the former channel.

Supplying water to Sandwich

1.38 The various works undertaken to manage the water supply to Sandwich

between the thirteenth and nineteenth centuries have left a significant mark on the landscape of the Lydden Valley and Brooklands. Earthworks such as the Green Wall and the Pinnock Wall still survive and are utilised by public footpaths. The Delf still survives though as a ditch rather than its encased form. Whether there is archaeological evidence for its original form has not yet been established. Later works to divert the south stream towards Sandwich can still be seen through dams, sluices, new channels and notably one of the three siphons constructed to allow the south stream to pass over the north stream survives. More detailed study is needed to be able to identify the assets that survive and their condition.

Maintaining Sandwich Haven

1.39 The impact that the silting of the Stour had on the viability of Sandwich as a port and the attempts by the town to overcome this can be seen by the survival of both the 1479 Cut and The Rodgers Cut. The 1479 Cut, the channel excavated through the communal effort of the townsfolk to divert the North Stream to help scour the river, survives as an open cut over most of its original route. The



Figure 14 *Delf Stream in Sandwich*

Figure 15 *Aerial view of Rodgers Cut (also known as New Haven on modern maps)*

trial cut by Rodgers in 1551 in the failed attempt to create a navigable channel to the coast survives as a ditch, marked 'Old Haven' over most of its route but has been built over at its eastern end by the Sandwich Bay Estate. Whether additional features associated with these endeavours or other proposals lie buried in the lands between Sandwich Bay and the Stour has not been established.

1.40 The Stonar Cut survives and floodwater is still managed via a sluice through it. The Cut is crossed by the recently dualled A256 Ramsgate Road which caused the relocation of the sluice. The Stonar Cut suffers from considerable silting and within its mud lie the wreck of a Second World War German fast mine sweeper abandoned in the 1970s.

The Dour

1.41 The sediments of the Dour have a considerable potential to contain important evidence of the environmental conditions of the river valley from its time before the land bridge with Europe was breached to the

present day. Geoarchaeological analysis undertaken in connection with development within the town is already starting to improve our understanding of the historically important river valley and its estuary and the processes involved as it and the town evolved into the form they are in today.

1.42 The archaeological potential of the Dour sediments is considerable. The earliest alluvial sediments of the river and its estuary are likely to contain important well preserved prehistoric remains. The discovery of the Dover Bronze Age boat, around half of which has been recovered and is on display in Dover Museum illustrates the potential for such remains associated with the use and exploitation of the river. Later remains, associated with the narrowing of the river and the encroachment of the town onto the river silts from Roman times onwards will also be abundant. Within the mouth of the Dour, evidence for harbour works, wharfs and the activities on and around the Dour including wrecks are likely to be buried within the alluvial sediments.



Figure 16 The Dover Bronze Age Boat under excavation. © Dover Bronze Age Boat Trust (d02660)

The White Cliffs of Dover

1.43 The White cliffs today survive as an iconic landscape feature, flanking the Dour valley and Dover, facing the sea and the continent. The White Cliffs serve as a backdrop to Dover harbour, but over most of their length, sea views to them are not obstructed by development. The cliffs are subject to significant coastal erosion and as such are a changing natural and historic asset

The Goodwin Sands and The Downs

1.44 The Goodwin Sands lies as an extensive complex of sand banks off the coast of Deal sheltering The Downs anchorage. A submerged hazard at high tide, the sandbanks emerge at low tide and are substantial enough to be visited and walked upon. The banks themselves may include deposits that help us to understand the process by which they are formed as well as covering the wrecks of numerous ships and from more recent years the remains of aircraft that have crashed there. Whether the banks lie on former prehistoric land surfaces has not been established.

Statement of Significance

1.45 The coastal landscapes of Dover District are of **outstanding significance**. They illustrate the process of Britain becoming an island through the creation of the English Channel, the iconic White Cliffs being an internationally recognised face towards Europe and symbol of the nation's resistance to invasion. The part these landscapes have played as some of the most important points of entry into Britain from Roman times and their associations with many important historical events can not be overstated. The Goodwin Sands and the sheltered waters of The Downs provided a nationally important naval anchorage of such strategic importance that the most formidable of Henry VIII's Device Forts were built to protect it. The

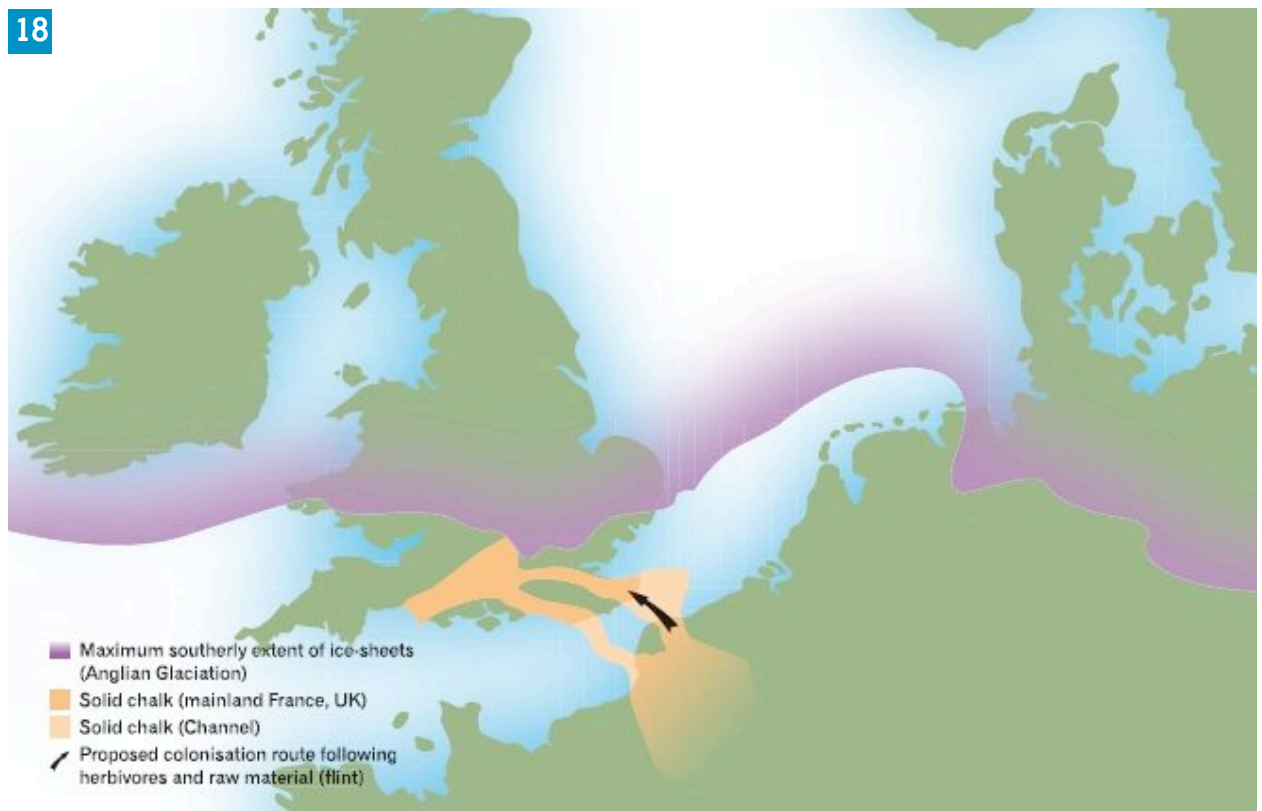
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important historic ports of Deal, Sandwich and Dover with their considerable and rich historic assets were founded and later developed under the influence of these coastal processes and landscapes. The landscapes of the Wantsum and Lydden Valley are in themselves important and well preserved historic landscapes which illustrate the process of Roman, Saxon and medieval reclamation of the marshland and the efforts to safeguard the economy of the historically important port of Sandwich and to provide fresh water to its townsfolk. Together the coastal landscapes of Dover District also provide an archaeological, geoarchaeological and palaeo-environmental resource of outstanding value.

Evidential Value

1.46 The coastal landscapes of the Dover District have outstanding evidential value. Investigation and analysis of the buried and submerged landforms and their sediments could provide considerable evidence towards furthering our understanding of the ancient landscapes at a time when Britain was once a



part of the European land mass, the process and chronology of sea level rise, inundation and the creation of the North Sea and the English Channel. The deposits would potentially contain important evidence of the environmental conditions experienced by the early peoples in this area.

1.47 The deposits of the Deal and Sandown Spits and the Stonar Bank would provide important evidence on the processes involved in and the chronology of their formation and how they affected the navigability of the Wantsum and the consequential impact on both the Roman port of Richborough and the medieval towns of Sandwich and Stonar. Within the former Wantsum Channel geoarchaeological investigation has a significant potential to better understand the form of the sea channel and how it related to Richborough.

1.48 Survey, analysis and archaeological investigation of the earthworks, drainage ditches, structures and deposits of the Wantsum Channel, Lydden Valley and Brooklands would provide a much greater

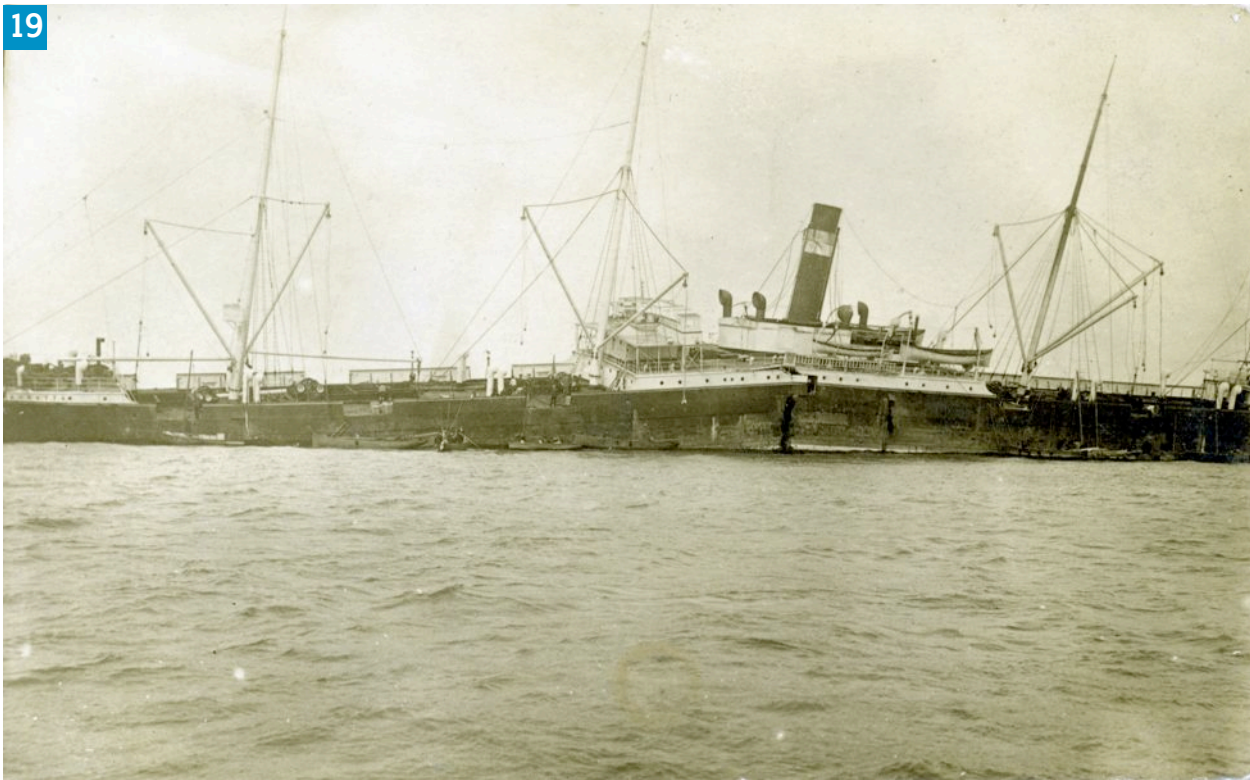
understanding of the chronology and processing of 'inning' the salt marshes for grazing marsh that led to the present historic landscapes in the area. Investigation may also provide new evidence of the efforts made to supply freshwater for Sandwich and the attempts to maintain the town as an important port from its decline in the fifteenth century.

1.49 The alluvial deposits of the Dour may provide important information on the early use of the river valley and its role in cross-Channel travel, contact and trade from prehistoric times. Evidence for the formation and development of the nationally important town and harbour at Dover, the natural processes that led to the narrowing and silting of the river channel and for the use of the river by industry are likely to be present.

1.50 The potential for wrecks and the hulks of boats from prehistoric times to the twentieth century are likely to be present and an exceptional resource for understanding the nature of seafaring in the English Channel

Figure 18 Landbridge linking Britain to continental Europe

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from early times.

Historical Illustrative Value

1.51 The coastal landscapes of Dover District illustrate the geographical separation of Britain from the continental landmass and how rising sea levels inundated the early valley systems, creating the Wantsum Channel and the Lydden Valley. They are also illustrative of the natural processes that have changed the British coast line whether it is through coastal erosion or the deposition of shingle banks and sediment and the influence this has had on the lives of people who have lived in those areas and depended on the coast. The historic landscapes of the Wantsum and Lydden Valley are an excellent and well preserved illustration of the process of 'inning' the salt marshes and the part that the monastic houses at Canterbury played in the reclamation.

Historical Associative Value

1.52 The historic associations with the coastal landscapes are particularly strong. The

Wantsum Channel has been the focus of a number of events which are prominent in the history of England, whether it is the Roman invasion forces landing at Richborough in AD 43, the arrival of St Augustine with his Christian mission or the traditional arrival of the Saxon's Hengist and Horsa at Ebbsfleet. The Goodwin Sands have seen the wrecking of numerous important vessels, with perhaps the wrecking of Cromwell's fleet during the Great Storm of 1603 being one of the most significant events. The White Cliffs of Dover have a particularly strong association with various notable commentators. Julius Caesar and Shakespeare have commented them upon, they were immortalised in song by Vera

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Figure 19 Wreck of the S.S. Mahratta on the Goodwin Sands 1909. © Dover Museum (d28588)

Figure 20 Evacuated troops on a destroyer at Dover, May 1940. © IWM (H 1662)

21



Lynne in the Second World War and at that time became a symbol of the nation's freedom and defence against the Nazi threat. The White Cliffs are also strongly associated with the homecoming of troops, especially as part of the evacuation of Dunkirk.

Aesthetic Value

1.53 The White Cliffs of Dover have enormous aesthetic value. For travellers entering and leaving the country through

Dover they are an iconic and dramatic landmark visible from the sea, presenting a strong face and lasting impressions. The presence of Dover Castle sitting on the White Cliffs adds to the aesthetic sense the cliffs provide. The low lying lands of the Wantsum and Lydden Valley crossed by a network of drainage ditches and embankments provide a rich historic and natural landscape to visit, explore and appreciate. Within the Dour Valley the river passes through areas with natural aesthetic quality such as at Kearsney and Bushey Ruff and others with industrial and architectural aesthetic quality of the former mills that once utilised the river.

Communal Value

1.54 The White Cliffs of Dover provide a strong sense of place to the people of Dover and visitors to the District. The District is identified as the 'White Cliffs Country', a

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Figure 21 The River Dour at Russell Gardens, Dover. © Explore Kent

Figure 22 National Trust managed land at Langdon Cliffs. © Explore Kent

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theme which extends through much of the promotional literature about the town and area. The Wantsum area has a good potential to provide a sense of place to the communities living alongside it and a resource to be visited and appreciated. The study of the Lydden Valley has demonstrated how a local community can take ownership of the historic landscape and work together to study and understand it. The potential for similar working on the Wantsum is high.

Vulnerabilities

1.55 The coastal landscapes are most vulnerable to the same natural processes that resulted in their formation and evolution, namely sea level rise and coastal erosion.

1.56 The White Cliffs formed through the erosion of the soft chalk North Downs by the sea are continuously being eroded. As sea levels rise the rate of erosion is likely to increase. The Goodwin Sands are a mobile environment with the sea constantly scouring and depositing sediments on the sand banks. The wrecks buried within the sands often become more exposed and vulnerable to the sea as the sands shift on the banks. As they are exposed the wrecks also become more vulnerable to diving.

1.57 In the northern parts of the District, rising sea levels will affect the low lying areas of the Wantsum Channel and the Lydden Valley which will become increasingly prone to flooding. Reaction to this vulnerability

Figure 23 Cliff Collapse. © Stuart Kinnon

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through the creation of new flood defences may affect historic assets. In particular flood defence works around the newly created Enterprise Zone at the former Pfizer site are likely to affect the Monk's Wall.

1.58 Ongoing management of the drainage ditches in the Wantsum and the Lydden Valley involves the removal of sediments and may affect historic features and the original form of the drainage. Changes in hydrology may affect the preservation of important organic deposits present in the waterlogged alluvium.

1.59 Development proposals are likely to have more localised impacts on features and buried archaeology rather than the landscapes themselves, though settings are particularly vulnerable, particularly in the low lying areas of the Wantsum and Lydden Valley, on the chalk cliffs and the sea scape of The Downs and the Goodwin Sands. The Lydden Valley may be particularly vulnerable to the growth of Deal and improvement of access and services to the town. The coastal landscapes may be particularly vulnerable to the creation of wind farms, both on and off shore, which may affect their setting more than create a direct physical impact.

Extraction of sand and gravel at sea on the Goodwin Sands may directly affect wrecks in the area or alter the sediment processes in a way that increases the exposure of wrecks. The potential impacts of a long held ambition for the creation of a limestone mine beneath the Wantsum Channel are not properly understood and certainly any headworks will require careful mitigation to ensure that the

Figure 24 Historical image of flooding in Deal. © Dover Museum (d02428)



proposals are sympathetic to the character of the historic landscape.

1.60 Continued development within Dover town centre will affect the rich geoarchaeological, palaeo-environmental and archaeological resources present in the Dour valley.

Opportunities

1.61 The coastal landscapes offer a great opportunity for connecting with the communities in the District, increasing a sense of place and raising profile. The Wantsum Channel could be better understood and appreciated and offers a significant opportunity for community led research and interpretation.

1.62 The recreational and visitor potential of the Wantsum Channel and the Lydden Valley is significant and could be improved through better connections and interpretation, improved access and branding.

1.63 There are a number of significant historic assets in the Lydden Valley and Wantsum Channel that should be identified and measures put in place to protect, enhance and interpret them. For example the surviving siphon on the South Stream should be considered for Listing.

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Key Heritage Assets

Asset	Form	Designation & Protection	Accessibility	Interpretation
Doggerland - Offshore Submerged Palaeolithic and Mesolithic archaeological landscapes	Geology, Sediments Palaeo-environmental Remains, Features, Buried Archaeology, Buried Landscapes	None other than natural environment protections	Submerged at considerable depth	No
Wantsum Sea Channel	Geology, Sediments Palaeo-environmental Remains, Buried Archaeology, Wrecks, Buried Landscapes, Historic Landscape	None	Mainly farmland, part developed. Some public footpath network access, access on Stour for cruises	Some interpretation boards at Richborough. Published trails
Stonar Bank shingle spit	Geology, Sediments Palaeo-environmental Remains, Buried Archaeology, Wrecks	Scheduled Monument at Stonar	Mostly private developed land. Stonar Lake (former shingle quarry) is partly accessible	No
Deal Spit	Geology, Sediments Palaeo-environmental Remains, Buried Archaeology, Wrecks	None	Saxon Shore Way White Cliffs Country Trail. Part private developed land; the majority is covered by golf links	No
Goodwin Sands	Geology, Sediments Palaeo-environmental Remains, Features, Wrecks	Protected Wrecks Natural and Marine Designations	Visits by boat	An interpretation panel for the wrecks on the Goodwin Sands is located on the seafront at Dover
Monk's Wall	Earthwork, Buried Archaeology	None	Limited public access	No
Abbot's Wall	Earthwork, Buried Archaeology	None	Private Land in Dover District	No
Boarded Groin	Earthwork, Buried Archaeology	None	Private Land	No
Wantsum Innings	Earthworks, Historic Landscape, Buried Archaeology	None	Mostly Private Farm Land though footpath network access to parts	No
Stonar Cut	Historic structure and channel	None	View from public footway	No

Asset	Form	Designation & Protection	Accessibility	Interpretation
Lydden Valley & Brooklands	Geology, Sediments Palaeo-environmental Remains, Buried Archaeology, Wrecks, Buried Landscapes, Historic Landscape features	None	Mostly Private Farm Land though footpath network access to parts	Online only
The Lydden Wall	Earthwork	None	Part highway, part footpath running through private farmland	No
The Worth Wall	Earthwork	None	Trackway and public footpath	No
The Edwards Wall	Earthwork	None	Private Land	No
Downs Wall	Earthwork	None	Public Highway	No
The Ealdesalctor Wall	Earthwork	None	Private Farm Land	No
The Langley Wall	Earthwork	None	Private Farm Land	No
St Bartholomew's Wall	Earthwork	None	White Cliffs Country Trail, Stour Valley Walk	No
The Harvey Walls	Earthwork	None	Limited	No
The Green Wall	Earthwork	None	White Cliffs Country Trail	No
The Delf	Historic Feature, structures and earthworks. Buried Archaeology	None	Farmland but accessible through public footpaths in several places	No
The Pinnock Wall	Earthwork and buried archaeology	None	Public footpath	No
1825 Drainage scheme	Earthworks, ditches, Historic Structures	None	Farmland	No
The 1479 Cut	Historic channel	None	Farmland some developed land	No
The Rodgers Cut	Historic channel and buried archaeology	None	Farmland some developed land	No
The Dour	Sediments, palaeo- environmental, Buried archaeology, wrecks	Scheduled Monuments, Listed Buildings and Conservation Areas lie on areas of the Dour	Heavily developed land, River accessible in places	No
White Cliffs of Dover	Landscape Feature	SSSI, Scheduled Monuments on Castle Heights	Coastal footpaths, National Trust land	National Trust managed site