England's North Sea Ports

Strategic Overview and Project Report

Historic England

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Cover illustration

Locally-registered fishing vessels berthed at Scarborough's West Pier with the fish-sellers' offices and market on the quay above. The pier or breakwater was built in the early 19th century to protect the western side of the harbour.

All photographs by Cornwall Archaeological Unit.

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Abbreviations

ABP	Associated British Ports
EUS	Extensive Urban Survey
LB	Listed Building
NPPF	National Planning Policy Framework
PHS	Port Heritage Summary
Ro-Ro	Roll on – Roll off
SM	Scheduled Monument
SMP2	Shoreline Management Plan (Phase 2)

Summary

The England's North Sea Ports project was undertaken by Cornwall Archaeological Unit for Historic England. The project commenced in February 2014 and was completed in July 2016.

The principal aim of the project was to improve the strategic-level understanding of the values, significance, vulnerability and adaptability to change of port-related heritage for England's North Sea coast.

The project products include 19 individual Port Heritage Summaries (PHS) and a Strategic Overview report (this document). These were written to inform all parties interested in a port's future development and the sustainable management of its port-related heritage.

The evidence base was formed by the results of the PHS undertaken for 19 selected ports: Berwick-upon-Tweed, Tweedmouth and Spittal; Blyth; Tyneside; Seaham; Sunderland; Hartlepool; Teesside; Whitby; Scarborough; Hull; Immingham; Grimsby; King's Lynn; Wells-next-the-Sea; Great Yarmouth; Lowestoft; Felixstowe; Ipswich; Harwich.

The PHS broadly correspond with a Level 2 or Rapid Historic Area Assessment. Each port was rapidly visited and assessed for areas of port-related historic character and heritage. The work looked not only at the modern commercial extent of port activity but also areas of former port use and port-related activity.

Following the completion of the PHS this overview report was completed using the evidence from the 19 ports. The overview comments on generalised themes including the broad historic phases of port development, a discussion of port function, and the risks and opportunities that port-related heritage assets face. Frequently recurring heritage assets were discussed and potential rare assets and gaps in baseline information identified.

This report shows that disuse is the greatest risk to heritage assets. Potential opportunities highlighted include improving the baseline information for certain monument types and the understanding of their significance, most notably the batts and shiels of the Tweed, the coal staithes of the North East and the historic cranes found on Tyneside and at Hull and Ipswich.

It also suggests that a handful of the 19 ports would benefit from Extensive Urban Survey work to help better link the heritage of the port with the surrounding town, to further consider how the port-related heritage can be celebrated and conserved, and better identify potential opportunities for reuse and heritage-led regeneration.

Examples of successful heritage-led regeneration are given throughout the report which concludes that port-related heritage is best conserved and celebrated at ports where there are active community heritage groups and buildings preservation trusts.

1 Introduction

This report provides a generalised overview of port-related heritage on England's North Sea coast between Berwick-upon-Tweed, Northumberland and Harwich, Essex.

The evidence base is formed by the results of the Port Heritage Summaries (PHS) undertaken for 19 selected ports (Fig 1). The PHS reports broadly correspond with a Level 2 'Rapid' Historic Area Assessment (English Heritage 2010). This report and all 19 PHS reports are deposited with the Archaeological Data Service (ADS) by Historic England.

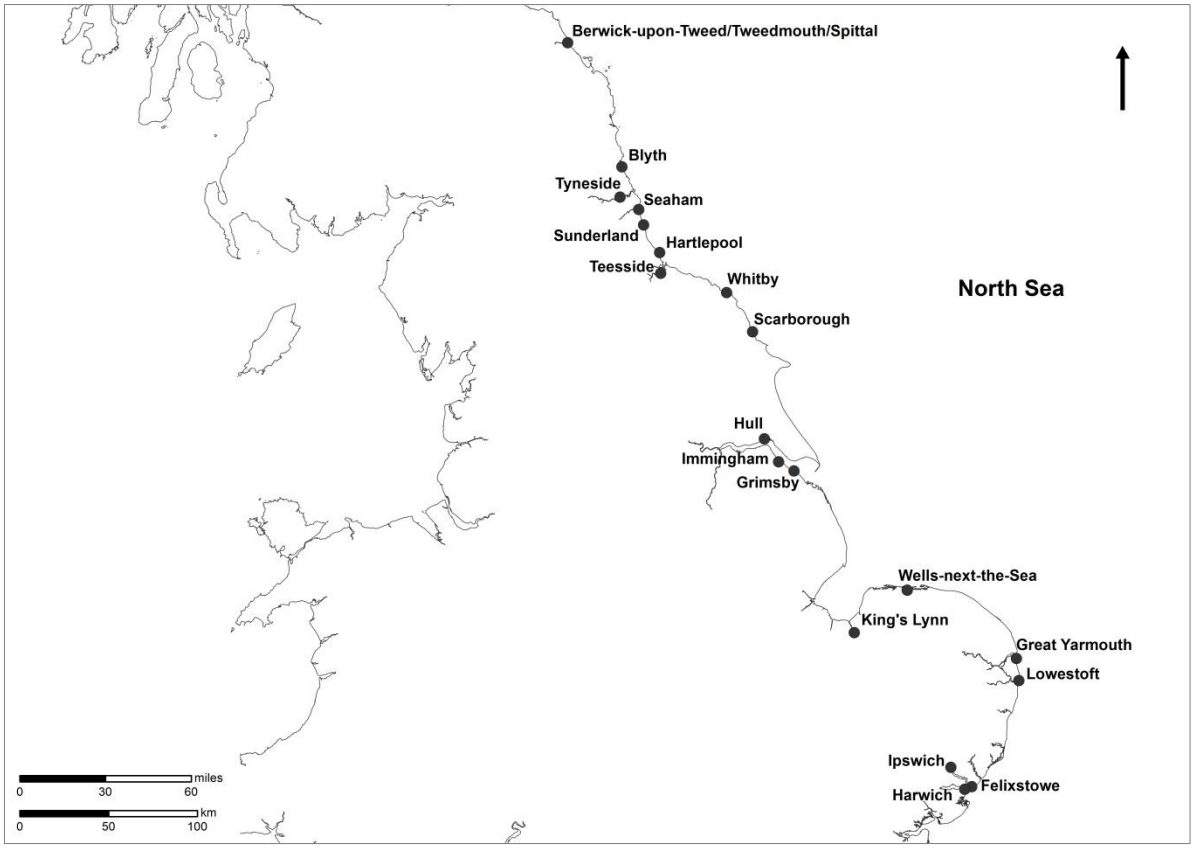

Fig 1 The 19 ports assessed and characterised.

Each port was rapidly visited and assessed for areas of port-related historic character and heritage. The PHS focussed on individual heritage assets and their contribution to historic character. As part of the consultation process to produce the PHS reports each regional Historic England team in the project area was contacted prior to fieldwork and each was given an opportunity to comment on the PHS reports in their region.

The work looked not only at the modern commercial extent of port activity but also areas of former port use and port-related activity. The PHS reports are succinct and readable, raising awareness and understanding amongst all parties interested in a port's future development and to contribute towards the sustainable management of its port-related heritage. As an example, the Grimsby PHS has been included at the end of this report (Appendix 1).

This overview focuses at the scale of an entire port and comments on generalised themes only: the broad historic phases of port development, a discussion of port function, and the risks and opportunities that port-related heritage assets face. Frequently recurring heritage assets are discussed and where research within the project has allowed, potential rare assets and gaps in baseline information identified. The results and recommendations of the overview are intended to be useful for all engaged in the management of change affecting the surviving port-related heritage along England's North Sea coast.

The term 'commercial' is used frequently in this report. It is used to refer to port operations strictly associated with trade and industry, to differentiate it from those carried out with recreation in mind. This is not to say that recreational activities do not form an important part of many port's income but that, in the main, recreation is not the principal focus of a port. In its use of the term commercial the report is also implying larger scale operations.

The report is structured to provide a succinct overview of port-related heritage in the project area. Section 2 outlines six main phases of port development whilst Section 3 explains in more detail the changes ports have seen from the end of the Second World War and why understanding the function of an entire port is a complex matter. Section 4 summarises the main port-related heritage assets and Section 5 provides more detail, listing examples of heritage assets under headings of broad function and identifying rare survivals. The importance of character to the National Planning Policy Framework (NPPF) is discussed in Section 6. Section 7 highlights examples of evidential and historical value and the different aspects of aesthetic and communal values that were found at different ports. Section 8 builds an overview of the current drivers for change.

Section 9 highlights the link between disuse and the designated heritage assets at highest risk. It suggests potential opportunities for the heritage sector and explains that there are gaps in the baseline information for certain monument types and the understanding of their significance, most notably the batts and shiels of the Tweed, the coal staithes of the North East and the historic cranes found on Tyneside and at Hull and Ipswich. A handful of the 19 ports would also benefit from further data gathering as part of an Extensive Urban Survey (EUS) – this would help better link the heritage of the port with the surrounding town. Examples of successful heritage-led regeneration are given throughout the report. Heritage-led regeneration and the celebration of port-related heritage have been best achieved at ports where there are active community heritage groups and buildings preservation trusts.

2 Historic development

Despite England's North Sea ports having changed dramatically since the medieval period in terms of size, complexity, volume of trade, technology and administration they still undertake the same general role. Ports are commercial hubs for the redistribution of freight (raw materials, goods and products) and people (as passengers) established, developed and maintained by the money made from this trade.

Being part of a chain in trade, ports are located at strategic points on the coastline with links to a surrounding hinterland or region of resources (people, materials, products, business and further communication routes). Due to the trading connections of a port they are commonly centres of industry and key infrastructure vital to an area's economic success.

In this project we have used the term 'port' to refer to a geographical area where port infrastructure is, or has been, in operation. It is often associated with a nearby settlement, with many owing their foundation to the development of the port. Whilst many ports operate as single entities, the larger ports tend to be multi-nodal, with a key operator and an agglomeration of several separate businesses running individual terminals and port operations. Operators can be private companies, individuals, local authorities or trust ports (an independent authority with no shareholders or owners with profits generated invested in local stakeholders). The Navy often have their own facilities and shipyards forming a component of larger ports (eg Devonport, Plymouth) but also use other ports on a temporary basis for berthing, refitting or awaiting orders. In times of extended conflict and warfare it has been commonplace for the military to commandeer port facilities. The Navy also have a long history of using private business to build their warships.

Another consideration in the management of ports as key infrastructure is the maintenance of their harbours and havens to ensure safe navigation. To do so, they are managed by a statutory harbour authority. Although independent from the port

Fig 2 Marriott's Warehouse, King's Lynn. Once associated with the Hanseatic steelyard or kontor, the warehouse is a Grade II Listed Building. It has recently been converted into a restaurant and exhibition space. The building is managed by the Marriott's Warehouse Trust which use the warehouse 'to create a welcome space where themes of River, Trade, Buildings and People can be explored in both permanent and temporary displays' (Marriott's Warehouse Trust website).*

businesses for many ports the statutory harbour authority and the key port operator are the same organisation.

In its most general sense the size, scale and complexity of a port's operations reflect its importance - in terms of the size and types of shipping and freight it can handle, the volume of its trade, the types of industry that can use it, its inter-connectedness with the transport network, the size of its hinterland and economic impact and thus, financial turnover.

Whilst each of the 19 ports has its own unique history, six broad chronological phases of port development can be identified from the medieval period onwards. Ipswich is noteworthy for having clear archaeological evidence for port activity dating to the early medieval period. For most ports, however, an accurate summary of port development can only begin in the medieval period.

Medieval (AD 1066 to mid-16th century)

A majority of the ports can trace their roots back to the medieval period. The ports varied greatly in size and importance from small fishing ports (eg Lowestoft, Wells) to nationally important centres of trade and population (eg Newcastle, Hull, King's Lynn, Great Yarmouth, Ipswich).

The more successful medieval ports were often located in places of strategic importance, near important river crossings, harbour pools and extensive inland waterways that penetrated deep inland. They were founded by leading families, bishops and monasteries as economic enterprises and planted towns, often developing into fully fledged boroughs administered by a corporation. Competition between ports could be fierce and Newcastle was notable for the vigour by which it suppressed the growth of other ports in its surrounding region. The smaller ports tended to serve local needs with smaller hinterlands and less complex trading links.

During this period port infrastructure developed from simple landing places to town quays constructed under the auspices of the town's corporation (eg Newcastle, Ipswich) or a leading sponsor (eg Tynemouth Priory, North Shields on Tyneside). The landing places and quays were located next to the centre of the settlement forming a focus for commercial activity (Fig 24). At larger ports wealthy merchants began to build private quays to the rear of their warehouses (eg Newcastle, Hull, King's Lynn).

A small number of the harbour pools were of military importance as places for fleets to assemble (eg Harwich, Hartlepool). Near England's troublesome border with Scotland, the ports of Newcastle and Berwick developed at militarily important defensive positions. Before coming under English control Berwick was Scotland's major port.

The wool trade played an important role in the initial development of several ports (eg Berwick, Newcastle, Hull) but increasingly ports began to trade on a greater range of commodities, often reflecting the resources of their local hinterland and trading links to

ports elsewhere in England and on the continent, in particular the area of the Baltic and Low Countries (modern-day Netherlands and Belgium) (Fig 2). Of prominence was fish (in particular herring and cod), salt and grain and, for Newcastle, coal. Trade was never one way, partly in order to provide ballast for the ships, but also to ensure economic viability for the merchants whose enterprises were exposed to substantial risks.

At wealthier ports in more exposed locations a breakwater might be built to protect the harbour (eg Hartlepool, Scarborough), however, infrastructure to aid navigation and maritime safety was negligible. Monasteries located at the mouth of the estuary ports often shone a beacon to help guide vessels (eg Tynemouth on Tyneside) and church towers were used as day marks. The ports had little means to improve their harbours except for the re-routing of rivers to help further scour the river bed (eg Hull, King's Lynn, Great Yarmouth).

Mid-16th to mid-18th centuries

Many of the ports founded in the medieval period continued to thrive. Growth resulted in the extension of town quays and the building of customs houses by town corporations (eg King's Lynn, Wells).

However, not every port continued to be successful and as it suffered so did its associated settlement. By the late 16th century Hartlepool lacked investment in its port, faced suppression by Newcastle and increasing competition from Stockton-upon-Tees. Due to the silting of its naturally-formed harbour Grimsby declined dramatically and by the mid-18th century Ipswich suffered similar problems.

Trade with the continent was gradually eclipsed by inter-regional trade between British and Irish ports with the coal trade between Newcastle and London dominating the interests of several other ports (eg Whitby, Ipswich, Harwich).

The ports of Yorkshire (Scarborough, Whitby, Hull), Norfolk and Suffolk (King's Lynn, Great Yarmouth, Lowestoft) and Harwich in Essex became important fishing ports, not only exploiting local fish stocks, most notably herring, but also cod from waters off Iceland. Herring was smoked to enable its preservation so it could be supplied to more distant markets, often on the continent. Berwick developed as England's main salmon fishing port, its principal trade being with London.

At Newcastle and Hull there was further port-related industrial development outside the medieval core, next to navigable waterways to ensure the industries benefitted from the trade links of the port. Frequently, these links led to the development of industry in the first place: Newcastle's glass industry relied on sand returning as ballast on boats that had taken coal to King's Lynn, Norfolk (Graves and Heslop 2013).

By the 17th and early 18th centuries port-related development at the larger river ports began to expand further downstream. On Tyneside, North and South Shields began to develop further despite Newcastle still trying to defend its monopoly. On the Tees, Caldecotes on Cargo Fleet developed as a lightering point for vessels trying to reach Stockton, further upstream.

Safe navigation remained a major problem with many ports facing significant challenges (eg Tyneside, Sunderland and Teesside). The period witnessed increased effort and co-ordination to improve the navigation, principally through Trinity House Guilds established at Newcastle, Hull and London. Early improvements included the building of navigational aids such as beacons and lighthouses (eg the earlier low light at North Shields on Tyneside, Fig 3).

England faced successive threats of invasion due to the religious upheavals and political machinations of the 16th and 17th centuries. A significant development for many of the larger ports was the construction of fortifications to defend them. This included gun batteries located at the mouths of the harbour estuaries, most notably Tyneside and Harwich Haven, or immediately adjacent to the port itself (eg Hull, King's Lynn, Great Yarmouth).

Fig 3 North Shields on Tyneside. The white tower of the 'Low Light' and below it, the earlier low light, later Trinity House Newcastle's alms house. Located near to the River Tyne and North Shield's fish quay these heritage assets are sited within the heart of the active fishing port. This area is rich in historic character and designated as part of The Fish Quay Conservation Area. It has an active community group lobbying for heritage-led regeneration.

Technological advances in the construction of fishing vessels transformed the English fishing fleet, with much of the inspiration coming from the Dutch who were England's main competitors at sea in the 17th century.

In terms of military significance the Royal Navy was established in the late 17th century as naval power and protecting merchant shipping became increasingly important. During this period each port had its own shipbuilding industry for which certain ports and estuaries began to become well known, often as a result of a rich mercantile trade (eg Newcastle, Whitby, Hull, Ipswich and Harwich).

Mid-18th to mid-19th centuries

The period saw considerable changes in port infrastructure due to the increased industrialisation of trade, the establishment of new port facilities at existing ports and, in the North East, the development of new ports under the sponsorship of local industrialists with a financial interest in coal mining (Fig 10). For the larger ports in the North East the significant rise in the coal trade was accompanied by industrial development and increasing attempts to improve maritime safety.

New wet dock basins began to be built, often by dock companies set up under Acts of Parliament sponsored by local landowners, merchants and town corporations. At Hull, a series of basins were dug outside the walls of the medieval town whereas at Ipswich and Grimsby the wet docks were extensions to their naturally-formed harbour pools. These large scale projects were often designed and built by the leading engineers of their age (eg Sir John Rennie the Elder).

The construction of canals connecting to several ports including Hull, and King's Lynn, Great Yarmouth, Lowestoft and Ipswich in East Anglia, extended their redistribution network and influence further inland. In the North East a significant development in the means of redistribution was the linking of the ports to nearby coal mines via horse-drawn tramways or waggonways. This was associated with the construction of new port facilities in the form of small quays or jetties known as coal staithes. These were often built away from the existing port by local landowners and mine owners looking to increase their volume of export and to avoid the fees charged by the corporations at town quays.

With the increasing volume of sea borne trade new lighthouses and leading lights were built to help guide vessels through the difficult approaches of certain ports. The navigation aids were funded by local landowners or by the Trinity House Guilds who paid for the construction fees on income raised from dues on shipping using the ports (Figs 3 and 23).

Early attempts were made to better protect harbour mouths (eg Berwick, Blyth, North and South Shields on Tyneside and Whitby) (Fig 4). On Teesside, a company was formed to improve the upper reaches of the tidal part of the river by the digging of two

Fig 4 The West and East Piers, Whitby. The narrow harbour entrance is protected by the piers or breakwaters which were first built in the early 18th century but extended variously in the late 18th, 19th and early 20th centuries. The West Pier (left) is a popular walk as is the East Pier (right) although its final extension is currently inaccessible due to long-term storm damage. It is likely that both piers will have to be remodelled in the future due to sea-level change.

new sections of channel to improve navigation to Stockton, at that time the main port on the river.

By the mid-19th century rapid population growth fuelled increasing volumes of sea borne trade, with a substantial increase in the area of port-related activity and industrialisation. Whilst in the North East new towns and port terminals began to be extensively developed, in the areas away from large scale industry such as East Anglia, port development was more limited in size and complexity.

Mid-19th to late 19th century

This period saw the massive expansion of port infrastructure and portside industrialisation, with much of the development driven by railway companies. There was a widespread expansion of port activity away from the earlier core of most ports, and thus, away from the early town quays to wet docks connected to the rail network. Port infrastructure not only required more space for the development of railway sidings and goods storage but the railway companies often wanted to establish themselves as independent port operators to drive profits. The era was dominated by the construction of wet dock basins in former inter-tidal areas built using new steam-powered dredging and digging equipment. Town quays still formed an important component of ports and were often extended and updated with rail or tramway connections made to them.

Port development was rapid, often driven by the competition between the railway companies. At first these were small local companies, such as the Stockton and Darlington railway, but later, many amalgamated into regional groups such as the North Eastern Railway. The railway companies invested heavily and could completely transform a port, as dramatically shown by the Manchester, Sheffield and Lincolnshire Railway Company's efforts to develop Grimsby as a major fishing port.

Railways could extend the hinterland of a port, substantially increasing the market for products, most notably fish and certain ports began to flourish as specialised fishing ports (eg Grimsby, Lowestoft). This was supported by advances in the technology of trawling and the exploitation of newly-found fishing banks off England's North Sea coast.

However, the coming of the railways was not beneficial for every port, especially those that had limited potential for growth such as Wells.

The coal trade continued to dominate the North Sea inter-regional trade especially as Britain's population continued to grow. The coal trade also drove a massive increase in industrial development including shipbuilding and associated industries such as rope making and steel making. The North East began to emerge as a major shipbuilding centre (eg Blyth, Tyneside, Sunderland, Hartlepool and Teesside) principally driven by the demands of the coal trade and the proximity of large deposits of coal and iron ore.

Fig 5 Wharncliffe Road North, The Kasbah, Grimsby. The area has a strong sense of place characterised by small fishmongers, wholesalers and smokehouses housed in 19th century and early 20th century buildings near to the port's historic Fish Docks. Several of the buildings are Listed. Note the surviving rails of the former dock railway in the foreground.

The development of the iron steamship had an impact on port infrastructure and administration. It not only enabled a considerable increase in the size and speed of vessels but also allowed them to operate outside the vagaries of the wind.

With this increased pressure on infrastructure local conservancy boards and haven authorities were established for several ports to improve their navigation and maritime safety. Increased dredging capability, the construction of large breakwaters to defend harbour entrances and the further development of lighthouses and navigation aids dramatically transformed the ability of ports to handle the increasing size and number of merchant vessels (eg Tyneside, Teesside).

The coming of the railways also enabled several of the ports to develop passenger ferry terminals for the transport of people both locally and to the continent (eg Hull, Harwich). With the ease of transport offered by the railways together with changes in employment and holiday entitlement many of the coastal sections of the ports developed as tourist resorts (eg South Shields on Tyneside, Great Yarmouth, Lowestoft).

Early 20th century

The period witnessed the consolidation of existing port infrastructure and additional wet docks built at successful ports (eg Tyneside, Teesside) with a new deeper water quayside built at Ipswich. New facilities for fishing fleets were built at Grimsby, Hull and Lowestoft with Grimsby developing into the leading trawling port in the world.

Immingham was developed as an entirely new modern port: located on the edge of a deep-water channel with a large dock basin built with a wide and deep lock entrance capable of handling large, modern shipping. What also set it apart from other ports at the time was its continuous system of cargo handling integrated with the rail network. This could transfer freight more efficiently and at volumes that the established ports could not match (Crossland and Turner 2012).

Existing ports continued along the lines by which they had been run in the late 19th century although some saw the addition of new facilities in the form of dock basins, fish markets, updated quays and more robust breakwaters.

Many of the ports witnessed the updating of existing gun batteries and construction of new defences during the First World War (eg Blyth). The war also ushered in the requisition of several of the ports by the military with sea plane and submarine bases built at Tees Mouth, Immingham, Harwich and Felixstowe (Fig 6). The major fishing ports also became important bases for mine sweeping activity with the use of fishing vessels as mine sweepers (eg Hull, Grimsby, Great Yarmouth, Lowestoft).

Fig 6 The modern sea defence wall to the north of North Killingholme Haven, Immingham, with the remains of the wooden sea-plane jetty exposed with the drop of the tide.

An important development was the rise of the oil industry, the use of diesel powered shipping and the nascent petrochemical industry. It was during the First World War and into the 1920s and 30s that deep-water jetties were first constructed to serve the large bulk oil carriers which required deeper water for berthing (eg Hull, Ipswich).

The period also saw Britain's merchant fleet continue to dominate the world and the country's shipyards producing much of the world's merchant shipping and naval vessels. The North East consolidated itself as a globally important centre for shipbuilding. However, shipbuilding at many of the other ports gradually died out or was limited to small yards often building specialised craft (eg Berwick, Great Yarmouth, Lowestoft, Ipswich, Harwich).

The depression of the 1930s saw many of the ports face difficult times but the build up to the Second World War led to increasing reliance on British industry including coal and shipbuilding.

There were also early attempts to create integrated freight transport in order to minimise cargo handling costs and at Harwich, an early train ferry terminal was developed.

Late 20th century onwards

The Second World War required the increased military defence of all the ports, with several requisitioned by the Admiralty for use as submarine bases, mine sweeping operations and many of the shipbuilding yards and associated industries were used to supply and replenish the fleets of naval vessels and merchant ships.

The aftermath of the Second World War ushered in a new era with Britain facing increased global competition. Its traditional industries faltered. Many were reorganised whilst others were nationalised, including the rail companies and the ports they owned.

The weakening of traditional industries accelerated in the 1960s and continued apace up to the late 1980s. In this time, coal mining and steel production underwent drastic rationalisation and large scale shipbuilding suffered terminal decline. The trawl fishing industry also suffered due to the huge decline of fish stocks, the increasing control of its own waters by Iceland, competition from other countries and a lack of investment and adaptation (Jarvis 2000; Mumbly-Croft and Barnard 2000). These declines resulted in the infilling of dock basins and the closure of many portside companies, releasing large areas of brownfield land.

In response ports diversified as new opportunities arose in the North Sea oil and gas industry, petrochemicals and the redistribution of cargo (most notably containerised freight) and more recently, the offshore renewable energy industry.

Fig 7 Felixstowe's container port viewed from the shingle of the Landguard Peninsula.

The growing petrochemical industry resulted in the construction of tank farms and deep water jetties with pipelines, sometimes leading to extensive complexes of petrochemical works (Fig 21). The industry needed both suitable development land and deeper water berthing and therefore focussed on the larger estuarine ports of Tyneside, Teesside and Harwich.

The rise of a globalised trade in white goods, cars, refrigerated food and personal items has gone hand-in-hand with the rise of the lorry trailer, Roll-on Roll-off ferries (Ro-Ro) and intermodal containerised freight (Figs 7 and 8). This required the creation of large storage areas for trailer units and containers in transit, the rationalisation of railway sidings and the development of extensive road infrastructure to serve the ports.

Economies of scale play a major part in the freight trade and the large size and depth of the vessels involved has meant that the deep-water ports have emerged as the dominant players in this sector. This is illustrated by the rapid development of the Port of Felixstowe from a small late-19th century dock to become the largest container port in the United Kingdom. Several smaller ports have also adapted to include a freight terminal, especially those with good road links. As part of the regeneration of a port new road links are often built to enable it to enter this sector (eg Seaham).

Smaller ports continue to handle short-sea shipping dealing in bulk goods such as aggregate, timber, fertiliser and grain being transported between England and the continent. The ports are visited by small coasting vessels which can navigate Europe's inland canal and river systems (Fig 11).

In the 1980s the nationalised ports were privatised which brought about further adaptation and diversification to many of them. A problem that all ports faced was the increasing size of commercial vessels. At Wells the port closed to commercial cargo traffic as its harbour was too shallow and narrow. At other ports, many of the dock basins became redundant with commercial traffic moving to new quays and terminals with more suitable access and berthing arrangements. At several ports historic wet docks were adapted into marinas to provide income for their upkeep (eg Blyth, Royal Albert Edward Dock on Tyneside, the Humber and Railway Docks at Hull, South Dock at Lowestoft, Ipswich). Recreational sailing and motor boating began to form an important income stream for several ports. The industries which had once crowded these dock basins have departed leaving extensive areas of brownfield land available for redevelopment.

3 Changing port functions and industries since the Second World War

A port performs several functions. At a broad level these can be understood in terms of port infrastructure; port administration; bulk cargo and freight; passengers; fishing; ship and boat building; military; the provision of navigation, maritime safety and welfare.

Each port on England's North Sea coast is involved or has been involved, in most of these functions in some capacity but each has a unique history of adaptation and development. This section explains in more detail the adaptations ports have made in terms of function from the end of the Second World War to the present day.

Ports can be widely known for a particular function but it is often a more complicated and dynamic situation. For example, Newcastle was principally a 'coal' port but it fulfilled dozens of other functions and roles, the range of which constantly changed. And whilst certain ports were established to fulfil a particular function, for example, fishing, the port infrastructure created invariably attracted other port-related industries and services.

As commercial enterprises in competition with each other ports tend to have a diverse business portfolio. This spreads risk and makes the most of business opportunities that arise but which sometimes can be short-lived. This is not a new situation: the whaling industry in the late 18th and early 19th centuries tended to last only a few years at any one port. As already made clear, not every port is run as a single business and often larger ports are agglomerations of different businesses working within the jurisdiction of a single harbour authority.

At a point in time, parts of a port's business, or an individual company, will be successful whilst other parts will not. Being a fiercely competitive sector ports regularly have to adapt their business model and functions in relation to each other as well as to rapid changes in the economy (both local and global), changes in ship design and size and to advances in freight handling technology.

In terms of resilience all 19 ports studied in detail as part of the project are still functioning and, in the broadest sense, have been successful. Resilience, as the port industry sees it, is the ability of a port to make a profit, to adapt and to invest in new infrastructure and business opportunities. All the ports have suffered periods of stagnation, albeit to different degrees, and have had to adapt - a challenge they will all continue to face.

Traditional industries

A common theme outlined in Section 2 is that ports have witnessed a decline in their traditional industries since the end of the Second World War.

In relation to shipbuilding Britain's ports faced severe competition from other countries, in particular Korea and Japan, but also suffered from comparatively high costs, a lack of long-term investment, and an inability to restructure adequately in the face of pressure (Tolan-Smith 2008; Chaplin *et al* 2013). The larger industrial ports of the North East were hit badly, especially Tyneside, Sunderland and Teesside. This led to a 'snow ball' effect in that many associated industries also suffered, leading to a more widespread economic decline. However, the opening up of a global market place has enabled other port-related businesses to thrive and to develop into worldwide brands (eg International Paint, Gateshead on Tyneside). A further limiting factor to consider in relation to the viability of the large shipyards was their location: a majority were sited on rivers no longer deep or wide enough to handle the size of modern shipping. To survive, smaller boat yards at a handful of ports adapted to more specialised niche markets (eg Ipswich, recreational craft; Great Yarmouth, survey vessels for the offshore industry) but a vast majority have closed.

The North East ports were also hit particularly badly by the loss of the export trade in coal. This suffered a gradual but severe decline from the end of the Second World War

due to several factors, including the rationalisation of the coal industry, increased costs and global competition from cheaper foreign coal fields. By the late 1980s coal exports had switched to imports as Britain still needed coal to fire its power stations. Ports with good railway infrastructure, suitable depth and adequate berthing arrangements took on this function, in particular the Ports of Blyth, Tyne, Immingham and Hull. It is perhaps unsurprising as these ports already had a long history of involvement in the trade of coal.

Another traditional industry which saw a dramatic decline was fishing and, in particular, deep-sea trawling. The effects of this were more widespread geographically than the loss of the coal trade, hitting ports as far afield as Whitby and Scarborough in Yorkshire, Grimsby and Hull on the Humber, and Great Yarmouth and Lowestoft in East Anglia. Local inshore fishing has survived but on a severely diminished scale (eg at North Shields on Tyneside, Whitby, King's Lynn).

Large scale commercial fishing from England's North Sea ports reached its heyday in the early 20th century before the collapse of fish stocks and the closure of parts of the Icelandic fishing grounds to foreign vessels in the 1970s. The ports where fishing was the principal function suffered the most (eg Grimsby, Lowestoft). They experienced a severe decline with their fishing fleets all but ending in the early 1980s and, at first, with little other port activity to balance the loss. Grimsby, however, has been able to adapt to become Europe's largest fish processing and redistribution centre, built on a close relationship with Nordic fish exporters. This later success is in part due to a number of large trawling businesses that foresaw the collapse of fishing and switched to dealing in frozen fish in the 1960s.

Adaptation and redevelopment

The collapse of these large scale traditional industries has released extensive areas of brownfield land. The future direction which redevelopment takes is dependent on its location and its potential for deeper berthing. Space next to deep-water berthing or potential deeper water is at a premium. The former shipyards in Tyneside are a good illustration of the point: where there is space and berthing potential for future port development the land will retain a port-related function (eg Neptune Energy Park, Low Walker, Fig 9) but where channel depth and development space is limited the sites are often converted to residential use (eg Brigham and Cowan's yard, South Shields).

Due to the increasing size of ships ports have had to concentrate their commercial activity in a tighter location, sometimes resulting in the comprehensive rationalisation of port infrastructure (eg The Port of Tyne). Large scale commercial activity has moved downstream to deeper parts of a river or estuary, away from the earliest core of the port facilities (eg Ipswich). Immingham was developed in the early 20th century with considerable foresight – it was purpose built next to the deep-water channel in an area with surrounding land available for development.

It is the deep-water ports that are now internationally significant ports in volume of trade: Felixstowe, Immingham, Teesside, Tyneside and Hull. Ports with shallow harbours and/or narrow docks tend to be locally or regionally important, only able to handle short sea vessels (eg Tweedmouth Dock, Berwick) or have lost their commercial trade in cargo altogether (eg Wells). With brownfield land next to deeper water berthing at a premium, former docks and timber ponds have been infilled to create development land for port activity (eg Victoria Harbour at Hartlepool, Tyne Dock on Tyneside).

The concentration of commercial port activity rarely corresponds with a reduction in the range of port functions or volumes of trade. Whilst many ports have seen a decrease in vessel movements, commercial shipping has got considerably larger. This, together with more efficient technology for the transfer and redistribution of cargo, means that several ports now deal with higher volumes of trade than historically (eg Ipswich).

Another major consideration is the existing skills and transport connections that a port might have. Blyth for example has lost its status as an internationally significant coal port however, it has coped well, in part due to its good rail links and experience in

Fig 8 King George Docks, Hull. An external Ro-Ro ferry berth built extending out into the Humber to provide deeper water berthing and easier access for shipping.

dealing with bulk cargo. Its rail links enabled it to switch from coal exports to coal imports as well as the import and export of other bulk commodities.

The increasing size of commercial shipping poses a great issue for ports. A port's location can limit its size and potential for expansion as a modern commercial port. Certain ports are suitable for deep dredging due to the geology of the area (eg Immingham, Tyneside and Teesside) whereas others are limited by hard rock (eg Berwick). Furthermore, certain ports sit within tight, steep-sided valleys with little land for large scale port-related development (eg Whitby, Scarborough). By limiting the port's potential for development less money will be able to be raised for investment in dredging and the maintenance of port infrastructure such as breakwaters. The ports that have seen the greatest decrease in terms of status are those that face physical restrictions (eg Berwick, Sunderland, Whitby, Scarborough, King's Lynn, Grimsby, Lowestoft). This, however, does not mean that these ports are unsuccessful or cannot adapt in future but it will limit the range of functions and volumes of trade available to them.

These problems are not always insurmountable but again location is an important factor. Grimsby has been able to combat the depth and size restrictions of its historic dock facilities by building a new jetty because the Humber's deep-water channel lies not too far offshore. The Grimsby River Terminal allows large Ro-Ro car transporter vessels to berth, securing the port's status as the UK's number one car importing port (ABP website) (Fig 30). At Great Yarmouth, the local geology and available space for development allowed a large purpose-built modern harbour to be created on the North Sea coast, in an effort to get around the physical limitations of the river port.

Whilst physical factors can either favour or pose issues and additional costs on a port's future development an important consideration is the role of Government policy and the work of Local Authorities.

Successive Government policies in the past ten years have made the UK the world leader in terms of energy generation from offshore wind (Renewable UK website). This is seen as a business opportunity by most North Sea ports, however, some are better located than others to realise this potential. The deeper estuaries and larger ports of the Tyne, Tees, Humber and Orwell have been targeted for turbine manufacture and assembly whereas the smaller ports are competing for survey and service vessels, smaller fabrication work and the occasional project cargo (Figs 9 and 29). Again, the industry is highly competitive but some of the more remote smaller ports have secured investment as part of the sector. Wells is a good example: it created a new outer harbour for small survey and service vessels for businesses that prefer to be based in a rural location and nearer to certain wind farms (Fig 28).

Fig 9 The Neptune Energy Park at Low Walker, Tyneside. The yard has been redeveloped to support the offshore energy industry. The 'hammerhead' crane (far left) dates to the past use of the yard for shipbuilding and is the last crane of its type on Tyneside.

The offshore energy industry is being targeted by many Local Authorities as a potential major employer and a driver for regeneration of disused port facilities, especially in the larger ports with large areas of brownfield land. It has been included in regional growth strategies, with a number of Enterprise Zones and Local Development Orders created to encourage its growth at several ports (eg Tyneside, Teesside, Hull). It is clear that the resilience and success of a port is reliant on the strategic support it receives from Government, Local Authorities and their regional groupings.

Another issue in terms of resilience is what the community wants. Many are keen to see their local port adapt to ensure economic success, investment and employment. However, a community may also wish for noisy and busy port activity to be moved away from the commercial core of the town to enable its regeneration as an area for recreation, retail and residential development. More often this happens once an area has become redundant as part of the commercial port.

The conversion of historic docks too small or awkward for continued commercial use to a marina is a common occurrence, happening at a majority of the 19 ports studied. In the later 20th century recreational sailing and water use has grown to become an important adjunct to most ports, but often as a minor part of their total business. The transfer of a dock to recreational use is often accompanied by the regeneration and updating of the surrounding quayside space, sometimes including the conservation of nearby historic buildings (Fig 2).

In this respect, Ipswich's Wet Dock is a good example. It had become unusable for most large shipping by the 1950s but it was not until the 1980s that it became completely unused as part of the commercial port. Through the lobbying of the Ipswich Maritime Trust the Wet Dock became a target for a heritage-led regeneration programme, undertaken over the past 25 years in a series of separate schemes. The Wet Dock was converted to recreational use as a marina and a number of the surrounding historic buildings redeveloped, including grain silos, maltings and warehouses.

Another example of port adaptation is Seaham, County Durham. With the closure of the local mines and the loss of trade in coal and waste stone in the 1990s the port began a redevelopment programme with support from the County Council. Commercial port activity was focussed on the South Dock where the historic dock was converted for use as a cargo and freight port (Fig 10). This required the construction of a new road link and a separate cargo handling facility. The North Docks had not been used as part of the commercial port since the late 1970s due to limited space and difficult access for larger vessels. It was redeveloped with a marina for use by small recreational motor craft and the small fishing fleet and opened up for public access.

Fig 10 A panoramic view of Seaham's South Dock: modern warehousing and cranes reuse the historic wet dock and its quayside.

An important component of this redevelopment work was heritage-led regeneration and conservation work. In collaboration with East Durham Heritage Group a former lifeboat house was turned into a heritage centre.

As businesses, ports and port-related business find themselves at different stages of the economic cycle. Where they are positioned is dependent on several factors highlighted above, but the state of global trade and competition and the rationalisation of multi-national businesses also play an important part. The economic position in which a port finds itself can change rapidly, as the loss of steel-making on Teesside in the late summer of 2015 demonstrates. But ports can adapt once the main infrastructure is in place: Blyth took several years to recover from the loss of its coal trade in the 1980s, however, since then it has been able to adapt its operations to handle other bulk commodities.

4 Heritage asset survivals from ports' historic development

Section 2 explained that a majority of the 19 ports have seen use through several phases of historic development and as Section 3 showed, ports often fulfil several functions at any one time, the range and type of which can rapidly change. Therefore, each individual port has its own unique story in terms of its historic development, phases of redevelopment and the port-related heritage assets that survive within it.

Most areas of port-related development have seen successive phases of industry built on the same site, suggesting that development land next to the port has always been at a premium (see Section 3). It also means that unaltered pre-19th century port infrastructure in terms of quays and early wet docks is rare. However, earlier components are occasionally incorporated in the plan and build of a later dock (eg part of the early 19th century New Dock at Grimsby was incorporated into the late-19th century Alexandra Dock).

In general, however, the majority of surviving port-related heritage assets found in both commercial and non-commercial port areas date to the 19th and 20th centuries. And in terms of general patterning it is apparent that surviving above-ground heritage is less likely to be found in modern commercial areas of port activity. The assets most likely to survive in these areas are those with an active role in the port, most frequently those associated with port infrastructure (eg wet docks and breakwaters) and maritime safety and navigation (eg lighthouses). The exceptions to this general rule are commercial port areas that have not yet been comprehensively redeveloped and updated.

Modern commercial port activity has also often focused on areas developed as large scale port infrastructure from the mid- to late 19th century onwards. More often the assets have been greatly altered, especially in the past 60 years as ports have had to rapidly adapt: quay walls have been updated with concrete and steel to cope with the size of modern ships, new cargo handling and transfer technology has been added, larger warehouses and bulk stores built and many dry docks have been altered, extended and strengthened. Likewise, most of the breakwaters protecting ports have seen successive phases of extension and strengthening.

Pre-19th century assets associated with port administration, bulk cargo and freight, the military and maritime welfare tend to be found in areas that are no longer part of the

commercial port, often near to the town's historic core in areas of present residential and retail activity.

In terms of regional patterning ports can be grouped in terms of the predominant 'traditional' resources and products that their surrounding region and hinterland once supplied. With the decline of traditional industries (coal, shipbuilding, steel manufacturing, fishing) and the declining reliance on the raw materials of a port's hinterland, regional patterning is now less strong except where ports have developed new specialisations relevant to much wider markets, sometimes on a European or global scale, as with Grimsby's fish processing industry and its car imports through the Grimsby River Terminal.

Surviving heritage assets associated with the coal trade (coal staithes, waggonways) tend to be found in the North East ports (Figs 27 and 31). Likewise, from the 19th century onwards the large scale shipbuilding industry required raw materials such as iron and steel and this became focussed in the ports of the North East, near to the region's iron mines. The coal trade also required large numbers of merchant vessels to be built. Heritage assets associated with the shipbuilding industry are predominantly dry docks and the North East ports have a concentration of surviving examples (Fig 29).

Heritage assets associated with the fishing industry are found along the North Sea coast, especially those associated with the herring and later trawling fisheries, although the Humber ports have a concentration of larger scale infrastructure associated with the trawling industry including ice houses, markets and fish processing, and the former offices of trawling companies (Figs 5, 15 and 22).

The ports of the Humber and of East Anglia have often been associated with the trade in grain and malt with Hull, Grimsby, Ipswich and Wells being good examples with surviving malthouses, flour mills and granaries (Fig 26).

It is generally the deep-water ports and those located on the deeper water estuaries of the Tyne, Tees, Humber and Orwell that display the greatest complexity and range of heritage assets. This is no surprise as they have a long history of strategic importance, capable of handling the largest of vessels, sizeable fleets and have large areas of potential development land.

5 Port-related heritage assets

This section provides an overview of the frequently-recurring and rare survivals of heritage assets identified in the 19 ports studied as part of the project. It includes both designated and currently undesignated assets.

The section has been arranged under the broad port functions identified in Section 3, namely port infrastructure; port administration; bulk cargo and freight; passengers; fishing; ship and boat building; military; the provision of navigation, maritime safety and welfare.

Section 4 highlighted that a majority of surviving heritage assets date to the 19th and 20th centuries and therefore pre-19th century port-related heritage is a rare survival.

Port Infrastructure

The most frequently recurring port-related heritage assets to survive are related to port infrastructure, principally quays, wet docks and breakwaters. Most of these components were built in the 19th and 20th centuries and several at a scale large enough to be adapted for the workings of modern ports.

All the pre-19th century quays were updated in later phases. Where a quay retains an earlier form its facing has frequently been updated in the 19th or 20th centuries (eg Quayside, Newcastle; South Quay, Great Yarmouth). A possible exception is the brick built northern side of Purfleet Quay, King's Lynn, which is thought to date to the 17th century.

Fig 11 Tweed Dock, Tweedmouth. A short sea vessel from the Low Countries is being loaded with bulk cargo in the west dock. Tweed Dock was built in 1876 changing the focus away from Berwick's quayside which was hampered by limited depth and restricted space. The lock doors were removed from the Dock in the 1980s to accommodate an increase in the size of coasting vessels.

Berwick's quayside is unique in the way in which it relates to the surrounding surviving medieval town walls and gates (Fig 19). The remaining section of Town Wall at Hartlepool and its context with the Fishergate is also a rare survival.

Historic wharves constructed in wood are rare as most have been updated, although not always fully, with concrete superstructures. Late 19th and early 20th century examples include Spittal Quay at Berwick; Elswick Wharf and Tennant's Wharf on Tyneside; South Bank Wharf on Teesside.

Breakwaters are found on the more exposed coasts of the North East and North Yorkshire with those at larger ports in East Anglia defending the harbour entrance from silting. Berwick is an early example and complexes of several breakwaters can be found at Hartlepool and Seaham but these all date to the 19th century. At Scarborough the breakwaters enclosing the harbour also form the quays or piers (see front cover).

Seaham is also a rare example of a partially rock-cut harbour created in the early 19th century, unusually at a location where no earlier harbour had been established.

Wet docks tend to be mid-19th to early 20th century in date and are found at the medium to large sized ports where there has been substantial investment in the past. Early examples of wet docks were built at Hull (late 18th and early 19th centuries), Ipswich and Grimsby (both early 19th century).

The early technology to work the lock gates of the wet docks is rare. In terms of water-power the major wet docks have the best surviving evidence, most notably the impressive pair of accumulator towers at Grimsby (Fig 30). Other examples can be found at Albert Edward Dock on Tyneside, St Andrew's Dock on Hull and Middlesbrough Dock on Teesside (Fig 15). In terms of steam-power there is little surviving infrastructure other than a single engine house at Alexandria Dock, Hull.

Port administration

There is little surviving evidence of early port administration buildings dating to before the 17th century. At Great Yarmouth, the Tolhouse, a private dwelling later converted to municipal chambers, was used to administer the town's herring fair in the medieval period. St George's Guild building at King's Lynn was used by the medieval merchants of the town and in the late 17th century it was temporarily the port's customs house.

Merchants played an important role in the administration of ports before the 19th century with a rare and exceptional example of a 16th century merchant's watch house surviving at King's Lynn (Clifton House).

Customs houses survive at King's Lynn and Wells (17th century); Berwick and Whitby (18th century); Newcastle, South Shields on Tyneside, Hartlepool, Hull, Great Yarmouth, Lowestoft, Ipswich and Harwich (19th century); Sunderland (early 20th century) (Fig 12).

Fig 12 The Customs House, Ipswich. This imposing Grade II Listed Building dates to the reinvigoration of Ipswich's port facilities with the construction of the Wet Dock in the early 19th century. Built to impress, the building reflected the wealth the port generated for Ipswich. It is now Associated British Port's office for the port.*

Customs lookouts are rare. Two early 19th century lookouts stand at the foot of the West Pier, Whitby and an early 19th century example also survives at Berwick.

Nineteenth century conservancy board and harbour authority offices survive at Blyth, Hartlepool, Whitby, King's Lynn and Great Yarmouth. Harwich Harbour Authority's offices date to the 20th century.

Extant dock offices dating to the 19th century can be found at Hull, Sunderland, Seaham, Hartlepool, Grimsby, Lowestoft and Ipswich. Immingham has an early 20th century dock office and Seaham has an example built in the 1980s.

Hull and King's Lynn have Pilots' Offices dating to the 19th century and Tyneside has two River Police offices at Gateshead and South Shields. The pilots' lookout located on Hartlepool's Old Pier is a rare example.

Bulk cargo and freight

In terms of the coal trade, there is little surviving port-related evidence when taken in consideration of the historical extent and volume of the trade. Tyneside and Blyth have the greatest concentration of surviving coal staithes but elsewhere little survives other than the wet docks, breakwaters and harbours purposely built for the trade (eg Seaham) (Figs 27 and 31). Many of the railways built to serve the ports are still in use. These were developed as part of the coal trade but also served several other functions at the ports. Throston Engine House at Hartlepool is a rare survival. It was built as part of the dock development as a hauling engine to hoist the rail coal tubs (wagons) up the incline from track level to the coal staithes.

Warehouses, granaries and malthouses dating to before the late 18th century are rare. Newcastle, Sunderland, Hull, King's Lynn and Ipswich are notable for their surviving late medieval and early post-medieval warehouses including at King's Lynn, the rare survival of a Hanseatic steelyard or *kontor* (Fig 2).

Ipswich has a late 18th century malthouse (Gippings House) but most surviving warehouses, granaries, and malthouses date to the 19th century and early 20th century. Malthouses are more frequently found in the East Anglian ports (eg Wells, Lowestoft, Ipswich). The Bridge Street area of Berwick is notable for its granaries. The public warehouse at Ipswich is potentially a rare survival of a late 19th century iron-built warehouse associated with the trade in goods and movement of people's belongings. Few warehouse buildings dating to the late 18th, 19th or early 20th centuries survive at the 19 ports although examples can be found at Berwick (converted from an earlier oil store), Hull, King's Lynn and at Wylam Wharf, Sunderland, an 18th century example (Fig 13).

Fig 13 A converted 18th century warehouse at Wylam Wharf, Sunderland. The building is Grade II Listed and is one of few which survive in an area that was once a busy commercial quayside. The building has been converted into office space with a restaurant on its ground floor. The building was redeveloped in 1995 and recived a RIBA Architecture Award in 1996 (Sunderland Echo website).

Large flour mills dating to the late 19th, but mostly the 20th century, are found occasionally at most ports (eg Victoria Flour Mills at Grimsby). Hull and Ipswich both have notable clusters as did Tyneside until recently, where the Baltic Flour Mill on Gateshead's waterfront is now the last surviving example of a large 20th century flour mill (Fig 25).

Being a centre of 18th and 19th century agricultural innovation and industry Ipswich also has surviving evidence for the early fertiliser industry in the form of a warehouse for Edward Fison and the Coprolite Street street-name (named after the use of stone containing coprolites in an early fertiliser factory).

There are very few examples of cranes that would have dealt with bulk cargo and freight: three 20th century examples survive at Ipswich and there is a 19th century Grade II* Listed steam crane at Hull. The use and history of the modern gantry crane at Middlesbrough Dock on Teesside is uncertain.

In the past 50 years containerised and inter-modal freight has developed as a mainstay of international trade. An early stage in the development of containerised freight was the development of the train ferry. Harwich's Train Ferry Terminal is a rare survival of a train ferry terminal, the earliest gantry tower to be built in England and associated with the early development of 'containerised' freight (Fig 14).

Several of the larger ports are involved in the transport of lorry freight, in particular Immingham, but in the 1960s many of the smaller sized ports began to have Ro-Ro freight services to the continent. However, as the size of the ferries has increased facilities have moved to deeper water parts of a port or away from shallower and narrower harbours altogether. Harwich's Naval Yard Ro-Ro terminal is unusual in this respect. Developed in the 1960s it has continued as a small privately run Ro-Ro service.

Ro-Ro ferry terminals with their ramps and transit and storage areas were developed at several ports although there is little surviving evidence of the early attempts other than minor adjustments to existing quays and jetties (eg Ipswich).

Passengers

The modern ferry ports have developed out of existing transport links which were established in the 19th century and the coming of the railways. There is little surviving historic evidence other than the quays at which the ships berthed. Rare exceptions include Harwich and Hull where the hotels and railway stations developed as part of ferry services still survive. Hull also has the offices of the Ellerman Wilson Line, a famous passenger ferry service operator.

Fig 14 The Train Ferry Terminal and Trinity House Pier Harwich. Looking from Ha'penny Pier to Trinity House Pier and the gantry of the Train Ferry Terminal (right). The modern headquarters of Trinity House (left) have been built facing on to The Quay, the focus of Harwich's historic port. Trinity House Pier has been recently refurbished as Trinity House's main depot and buoy store.

Modern passenger ferry services have been rationalised to a handful of deep-water ports (Newcastle, Hull and Harwich) with the destinations being limited to the Netherlands and Denmark (Fig 8). The deeper water ports are also able to handle modern cruise liners and have developed existing quays as cruise ship terminals. Immingham's Eastern Jetty was historically used as a cruise ship terminal in the 1920s and 1930s.

In terms of more localised ferry services very few routes survive, having been replaced by road and bus transport coupled with the dramatic decline in port-related employment. In the early 20th century 11 foot ferries crossed the Tyne between Tynemouth and Blaydon Bridge. Now there is only one service on the whole river; that between North and South Shields, and the infrastructure for this service is entirely modern. An ancient ferry route between King's Lynn and West Lynn is still in use and although the infrastructure is again modern, the ferry is accessed on the King's Lynn side via an ancient lane, Ferry Lane. The Harwich to Landguard Point ferry preserves an historic route and still uses the 19th century Corporation or Ha'penny Pier on the Harwich side. The ticket office at the foot of the pier is potentially a rare survival of a 19th century ferry ticket office. At Hull, Victoria Pier was used by a ferry to cross the Humber and link to New Holland but this closed with the opening of the Humber Road Bridge in the 1980s.

Fishing

Most of the direct infrastructure in terms of fishing relates to the 19th and 20th centuries, to fish quays, fish docks, fish markets and ice factories.

In terms of the trawling ports there is little surviving evidence for their fish markets and ice factories. In this respect Grimsby is noteworthy as the 'Kasbah' area of the port includes surviving fish docks, fish sheds with a nationally important ice factory, located in juxtaposition to an area of fish processing and smoking businesses housed in 19th century buildings and the modern fish market (Fig 5). Grimsby's ice factory is the earliest and most complete surviving historic ice factory in the United Kingdom (Humble 2010; Great Grimsby Ice Factory Trust website; National Heritage List for England website, Ice Factory summary) (Fig 22). Its modern market is one of the most important in Europe for the redistribution of frozen fish.

The area of Hull's St Andrew's Docks also has interesting evidence for the trawling industry including parts of a 19th century fish dock and, unusually, the 20th century headquarters of Lord Lines, a large trawler firm (Fig 15).

Other ports that have significant and interesting fish quays still in use are North Shields on Tyneside and Whitby. A fish market at Newcastle has been adapted for retail use, as

Fig 15 St Andrew's Dock, Hull. The disused lock (centre) is flanked by unused port-related buildings including the Grade II Listed pump house and accumulator tower (far left). The Dock was built in the late 19th century as one of several docks developed in the inter-tidal zone of the River Humber at Hull. The Dock became the main fishing dock until the collapse of the industry in the 1970s.

a nightclub and now a restaurant. An unusual survival is the 19th century icehouse at Southtown, Great Yarmouth which imitates the style of a medieval tithe barn.

Many of the 19 North Sea ports were involved in the herring fishery to some degree with the ports of Whitby, Scarborough, Great Yarmouth and Lowestoft notable in this respect. The industry severely declined in the early 20th century and there is little surviving evidence for it. Many of the ports still have smoke-houses with Grimsby's 'Kasbah' notable for its fish processing businesses and smokehouses including Listed examples. Berwick contains important evidence with smokehouses surviving in the town and surviving buildings associated with a herring processing factory at Spittal. A smokehouse survives at King's Lynn, now part of the True's Yard Fisherfolk Museum. As already highlighted above, Great Yarmouth is also important for the Tolhouse, a rare survival of a building related to the administration of the herring fishery in the medieval period. The town also contains two well preserved 19th century curing works, one now used as the Tide and Time museum concerned with the history of the port's fishing industry.

Lowestoft has an interesting juxtaposition between the early fishing port, the 'Beach Village' and the later docks, first developed in the mid-19th century. Whilst much of the Beach Village was destroyed by the storm surge of 1953 the area contains several 19th century net stores and a Grade II Listed 17th century warehouse, most probably used by fishermen. A number of the net stores fall within the North Lowestoft Conservation Area but others do not (Fig 34).

In terms of salmon fishing and its development from the late 18th century Berwick is potentially unique. The town contains early ice stores dating to the 18th century, stone-built batts (stone-built mounds from where nets were cast, Fig 33) and fishing houses or 'shiels', built alongside the river to provide lodging for the fishermen and a place to store their nets and equipment. The batts and shiels could be unique to the Tweed. Only a few shiels survive including a Listed but unused example at Spittal, a recently converted example at Whitesand Shiel and an unroofed one at Yarrow Point.

Ship and boat building

In relation to large scale shipbuilding there are now very few surviving examples and the clearest evidence for these former yards are the boats they built and the surviving dry docks and slipways.

Concentrations of dry docks can be found in the North East ports, in particular at Blyth, Tyneside, Sunderland and Teesside (Fig 29). Other ports have smaller complexes of surviving dry docks (eg Hull), single docks (eg Great Yarmouth) and yards with slipways (eg Lowestoft, Ipswich). Many of the redundant dry docks have been incorporated into residential development but several have been reused as modern ship repair and engineering yards (eg The Gray yard on Teesside).

Fig 16 Dock offices of the former Hawthorn Leslie shipyard at Hebburn on Tyneside. The buildings are one of the few surviving historic dock office complexes on Tyneside and form an impressive street frontage. They are currently unused but advertised for sale as a development opportunity. The buildings have been plagued by arson attacks (Chronicle Live website).

The shipyards have frequently been altered with their former warehouses, machine shops and offices demolished. Two notable exceptions survive on Tyneside: the 20th century former offices of the Swan Hunter Yard (now *Segedunum* Museum) and the late 19th century offices of the former Hawthorn Leslie Shipyard on Ellison Street in Hebburn (Fig 16). A rare survival is the Listed 19th century clock tower built as part of the Swan Hunter shipyard on Tyneside.

Smaller shipyards were once found along the entire North Sea coast but the evidence for these is largely preserved in place- and street- names. Small boat building yards are maintained at Great Yarmouth (survey and crew transfer vessels for the offshore renewable industry) and Ipswich (recreational motorboats). The dry dock at Lowestoft is still used as a small ship repair and refitting yard and the St Clement's boat yard at Ipswich is now a marine engineering and boat refitting yard. Grimsby's Fish Dock contains a boat yard with slipways and winch houses: once used for trawlers it is now used to refit and overhaul offshore survey vessels.

The cranes built to serve the ship and boat yards rarely survive. A very rare example is the 18th century treadmill crane at Harwich. A rare example is the early 20th century 'hammerhead' crane at Low Walker on Tyneside, now refurbished for use on a quayside serving the offshore renewable energy industry. It is also unique as it is still used as part of the modern port (Fig 9). The redundant 20th century 'Scotch-derrick' at Queens Basin, Hull may have also been used for the shipbuilding industry.

Military

The medieval town walls of Berwick and Hartlepool both have gates created to give access to the port (Fig 19). The Shore Gate at Berwick opens on to the town quay and the Sandwell Gate at Hartlepool on to Fish Sands, the historic landing place for the port's fishing fleet.

Harwich Haven has a notable concentration of pre-19th century coastal defences, most notably at Landguard Point, Felixstowe. A pre-19th century defensive battery survives at North Shields on Tyneside. In response to the threat from the French during the Napoleonic Wars defensive batteries were built at several ports and examples survive at North Shields on Tyneside, Hartlepool, King's Lynn and Harwich.

Later 19th century batteries were built at several ports, often adapting earlier ones (eg Heugh Battery at Hartlepool and Landguard Point, Felixstowe) or newly constructed, as was Teesside's South Gare battery and Blyth's Links Battery.

All the ports were defended to varying degrees in the two World Wars, and again many of the existing defences were updated (eg Blyth Links Battery, now a popular local museum and visitor attraction) and new defences built, as at Stallinborough Coastal Battery (Immingham).

Fig 17 Beacon Hill Fort Radar Tower, Harwich. The Tower forms part of the Beacon Hill Fort Scheduled Monument which is at risk due to parts of it being overgrown with vegetation and vulnerable to decay. Most of the fort is inaccessible to the public but the Tower is managed by the Harwich Society. The Society is a very active community group that has helped to spear-head the celebration of the town's heritage including many port-related assets.

Each port contains the occasional surviving elements of the defences, most often Second World War pillboxes. Harwich and Felixstowe (Landguard Point) have more complex Second World War defences including a rare survival of an early radar station at Beacon Hill, Harwich (a Scheduled Monument) (Fig 17).

During the two World Wars the fishing ports of Hull, Grimsby, Great Yarmouth and Lowestoft played an important role in mine sweeping and protecting convoys of shipping. Little survives of this past use, the most noteworthy being the headquarters of the Royal Naval Patrol Service (RNPS), *HMS Europa*, at Lowestoft.

Several of the ports were also the bases for seaplanes and submarines but there is little surviving evidence except for the deteriorating remains of wooden-built seaplane jetties at Seaton Wharf on Teesside and at Immingham (Fig 6).

In terms of submarine mining and defence the currently undesignated barracks at South Gare, Teesside is a rare survival. At Felixstowe, adjacent to Landguard Fort, the Ravelin Block and its associated jetty, tracks, turntable and other fixtures form substantial surviving evidence for the use of the Submarine Mining Establishment. Dating to 1877, the Establishment was one of the first (or the first) in the British Empire to pioneer the technology, making the evidence rare and unusual.

Navigation, maritime safety and welfare

An important component of all ports is the infrastructure put in place to aid navigation, maritime safety and the welfare of merchant seamen and fishermen.

Frequently-recurring heritage assets include lighthouses and navigation beacons.

Of notable significance are the two pairs of high and low lights at Harwich, created with the movement of the entrance channel to Harwich Haven. As a nationally significant port with a difficult entrance channel the entrance to the River Tyne has an interesting and noteworthy concentration of navigation aids, in particular the two pairs of high and low lights at North Shields (Fig 3). This was primarily the work of Trinity House Newcastle. Both Newcastle and Hull are noteworthy for their separate Trinity House Guilds established in the 16th century to improve navigation and maritime safety. Both have interesting and significant complexes of historic buildings sited within their historic town core.

In relation to the story of Trinity House, Harwich is now significant as the modern focus of its operational activities. Hull has a historic Trinity House buoy shed and crane which is a Grade II Listed building but unused.

The High Light at Blyth is also noteworthy as a late 18th century attempt to improve the navigation of this once difficult harbour entrance (Fig 23).

Fig 18 Freestone Point, Tynemouth. Tynemouth Volunteer Life Brigade Watch House Buildings. Grade II Listed and now a museum, the building was recently refurbished (after this photo was taken; Chronicle Live website). It stands at a natural vantage point with commanding views of the mouth of the Tyne. Next door is a former coastguard station and close by at Priest's Cove, a former lifeboat station, now the boathouse of Tynemouth Rowing Club.

In terms of historic beacons the cast iron Beacon Tower built in association with the mid-19th century West Hartlepool Docks is an interesting and unusual example.

Although lifeboat stations and coastguard stations are commonplace, the ports of the North East and East Anglia were influential in the early development of the lifeboat and salvage operations.

In terms of lifeboat development the North East is particularly important with rare early Volunteer Life Brigade buildings at North and South Shields, and at Roker, Sunderland (Fig 18). Tyneside was also home to the pioneering work of Henry Greathead and William Wouldhave, who made important advances in early lifeboat design. South Shields has the world's second oldest lifeboat, *Tyne*, on display.

In terms of the welfare for seamen early efforts focussed on providing alms to those in need. Examples include the Seamen's Hospital, Whitby; the Fishermen's Hospital, Great Yarmouth; the Keelmen's Hospital at Newcastle, founded by the keelmen themselves. Tooley's almhouses in Ipswich was funded by the wealthy merchant Henry Tooley. The Beach Companies at Great Yarmouth played an important part in the founding of a home for shipwrecked sailors built on Marine Parade in the late 19th century.

In the mid-19th century the Mission to Seamen (now known as the Mission to Seafarers) was established to help the welfare of merchant seamen and hostels were set up around Britain's coast. Historic mission buildings survive at South Shields on Tyneside, Sunderland (adapted from an earlier building) and Whitby, all of which are Listed.

6 The contribution of heritage assets to local character

The concept of character and local distinctiveness is frequently referred to within the National Planning Policy Framework (NPPF), the primary document setting out the Government's planning policies for England and how these are expected to be applied. The NPPF makes clear that planning decisions should be based on up-to-date evidence about heritage assets and the contribution they make to their surrounding environment. In terms of the historic environment it adds, 'where appropriate, landscape character assessments should also be prepared, integrated with assessment of historic landscape character' (Department for Communities and Local Government 2012, 41).

An over-arching core NPPF policy is 'to conserve heritage assets in a manner appropriate to their significance, so that they can be enjoyed for their contribution to the quality of life of this and future generations' (*ibid* 6). At the heart of the NPPF is a presumption in favour of 'sustainable development' but with restrictions in regard to designated heritage assets. Undesignated heritage assets of equivalent significance are considered to be covered by the same policies (*ibid* 4, 139).

Fig 19 Berwick's historic quayside, as viewed from Tweedmouth. The medieval walls of the town form an impressive backdrop to the quay as do the historic buildings on top of the wall. The character of the quay differs: Old Quay to the left is a public space whereas the later part of the quay to the right is grassed over, mostly fenced off and inaccessible to the public.

A key emphasis is the need for Local Authorities to produce an up-to-date Local Plan (*ibid* 3). The Plan should include 'a positive strategy for the conservation and enjoyment of the historic environment, including heritage assets most at risk through neglect, decay or other threats' (*ibid* 30).

The concept of character has been used in various North Sea coastal initiatives in which the rich and varied maritime cultural heritage of fishing, trade, industry and communications has contributed strongly to the sense of local distinctiveness, place and cultural identity. The work of the Durham Heritage Coast partnership provides good examples (Durham Heritage Coast website).

Historic England has produced a comprehensive range of guidance notes from heritage perspective on the role of port-related heritage assets and historic character in its relationship with the NPPF (Historic England 2015a, 2015b; Historic England NPPF webpage). With historic character forming a dimension of character everywhere, it is part of the evidence base wherever the NPPF relates to the character of a place. In terms of the management of heritage assets Historic England has published 'Ports and the Historic Environment' (Fisher Associates 2014) and, 'The Assessment and Management of Marine Archaeology on Port and Harbour Development' (Wessex Archaeology 2016).

Each port body has its own planning powers derived from its founding Act and subsequent further Acts and Orders. As important infrastructure large scale port development is often classified as 'Nationally Significant Infrastructure Projects' (NSIPs). These are subject to a streamlined planning process in accordance with 'The Ports' National Policy Statement (Department of Transport 2012). The Statement includes a section on the Historic Environment which includes guidance for the planning applicant and the decision maker.

In preparing this project's PHS, each port was divided into Character Areas based upon their distinctive present character within the port, historical development and surviving heritage assets. This heritage was often diverse and varied. Besides upstanding buildings and structures it includes such aspects as place-names, street layouts, patterns of open space, and levels of public access as these add interest and texture, coming together to give unique character to an area (Fig 24). The following Character Area descriptions, selected from the Summaries prepared for Berwick, Immingham and Wells-next-the-Sea, provide examples of the great variety in port-related character.

Berwick's Quayside is easily interpreted as the most ancient area of its port-related infrastructure (Fig 19). Nestling beneath the medieval defensive walls of the town, pedestrian and vehicular access on to it is confined to a number of narrow gateways. One of these, the 'Shoregate' suggests a predecessor to the quay: the area was reclaimed from the inter-tidal area which was once used as landing point for vessels in the medieval period, and perhaps earlier.

Fig 20 Sandstell Road, Spittal. The Grade II Listed fishing shiel (centre) is unused and crowded by modern buildings. The Spittal Improvement Trust (SIT), a local community organisation, wants the shiel to be restored and converted to a heritage centre to celebrate the area's past as a fishing settlement. The area has plentiful port-related character including possible former herring sheds (right), a pair of Grade II Listed smokehouses and a rocket house nearby.

The present quay was formed in two main phases and the character of its northern and southern areas differs today. Most of the quay is now fronted by a modern quay wall built with steel shuttering although a remnant of historic stone-built facing is visible in the Little Dock located mid-way along its length. Further historic context is provided by the dense concentration of historic buildings surrounding the Quayside, including the former Customs House, Harbour Office, a granary and coastguard station and Customs lookout tower.

Across the river at Spittal the scale and grandeur of the port-related heritage assets is more subtle but nonetheless forms significant evidence for understanding the historical development of the area. With a long-standing tradition of historic fishing related activity and later industrial use, the Sandstell Point area of Spittal has an interesting mix of modern and historic modern buildings now used for residential, recreational and light industrial purposes. The area has a longstanding association with fishing activity, a tradition with its origins in the late medieval period.

There are the surviving remains of a pair of brick built historic smoke houses, whilst nearby is a row of stone-built historic buildings associated with the former manure and chemical works. These jostle for space with large modern business units built of metal and fibreglass. Nestled next to one is a Grade II Listed fishing shiel, stone-built and single storey high (Fig 20). Opposite the shiel is a low line of concrete-built buildings which may be former herring store sheds but are now used by Berwick Sailing Club whilst against the edge of the sailing club, is an historic rocket house, now unused. At Sandstell Point the brick chimney of the former chemical works is an important landmark, dwarfing the surrounding buildings of all dates.

The character of modern port infrastructure can be on a scale radically different from the past, even the more recent past. Immingham is a large expanse of port and port-related development spreading for almost six miles along the southern bank of the River Humber to North Killingholme. It includes several terminals and port operators including the Port of Immingham (Fig 21). Immingham's first port development, its early 20th century dock, still retains most of its original extent – a testament to the foresight of their original design and construction, but despite being a huge development in its day, the dock is now dwarfed in character and scale by the modern port. The skyline is filled with modern cranes, conveyors, oil tank farms, stackers and reclaimers, warehousing, silos and offices interspersed with massive stockpiles of bulk products such as coal, metals and ore. Much of the built environment is constructed of concrete and steel. Extending up to 1km out into the Humber are a series of modern deep-water jetties which represent the adaptation of the port over the past 60 years to accommodate the larger vessels and economic demands of modern sea-borne trade and industrial production.

Fig 21 The port at Immingham. Looking across six miles of port development from the modern sea defence wall, the skyline is dominated by huge tank farms, cranes, silos and petrochemical works. The Immingham oil jetty can be seen as it leaves shore before extending a kilometre out into the River Humber. The photograph is taken from the edge of the port on the southern edge of the security zone.

Elements of an earlier time-depth survive – the Port of Immingham's head offices are located in the original headquarters building; the original dry dock has only been partially filled in; an early 20th century coaling drop survives on the southern edge of the area and nearby, the red tower of the 19th century High Killingholme lighthouse is visible from afar whereas by design, the shorter North and South low lighthouses are more hidden from view.

A strong contrast to the scale and complexity of Immingham is the small port of Wells. The narrow harbour channel cuts through sand banks and salt marshes. It is now much quieter in terms of commercial traffic than in times past but the channel is still used by the small locally-based fishing fleet motoring to and from the old harbour located a mile from the sea. In summer the older harbour is also busy with recreational yachts and motor boats, the numbers swelled by visitors from other ports. Both the recreational and commercial vessels found in the port are small with a shallow draft due to the navigational limitations of the harbour mouth and its channel.

Small survey and service vessels of the offshore wind industry use the purpose-built Outer Harbour which was formed as a small U-shaped harbour pool surrounded by an earth bund of dredged material in 2009. A modern concrete and steel-built pontoon provides berthing facilities and is regularly dredged to maintain depth (Fig 28).

The historic core of Wells' port infrastructure is focussed on its stone-built historic quay, a mile further down the harbour channel from the Outer Harbour. Its importance to the development of Wells is reflected in the layout of the later historic core of the town which is formed by a series of parallel streets or yards running inland from it. Facing on to the Quay is a built frontage that includes several historic buildings. These include not only houses but also historic granaries and malthouses which have found sympathetic reuse, conserving much of their historic built character. The most visually dominant of these is the large brick-built early 20th century granary located at the eastern end of the Quay, now converted into flats.

7 Conservation Values

In 2008, English Heritage published *Conservation Principles*, containing its framework and guidance for assessing the range of heritage values pertaining to the historic environment (English Heritage 2008). Conservation Principles identifies four main types of values: Evidential, Historical, Aesthetic and Communal.

The following section is based on the heritage values identified and discussed in the 19 ports rapidly assessed for the project's Port Heritage Summaries.

7.1 Evidential

– 'the potential of a place to yield evidence about past human activity'

Significant clusters of late medieval and early post-medieval port-related buildings including merchants' houses, warehouses and guild buildings survive at the important medieval ports of Berwick, Newcastle, Whitby, Scarborough, Hull, King's Lynn, Great Yarmouth, Ipswich and Harwich. The age and relative rarity of these heritage assets contribute greatly to their significance and understanding of the early history of England's port heritage. Harwich, for example, contains several late medieval merchant houses which provide a clear appreciation of the early history of the port, and reflect how the town's early prosperity was generated through its workings as a port.

As this overview has made clear many ports have undergone several hundred years of development and change, often in a very restricted geographical area. The area of the Wet Dock in Ipswich is a good example. It contains a high number of historic buildings and structures that are key evidence for the understanding of Ipswich's port history, from the medieval period through to the present. Not only does this built heritage provide strong evidence in this respect but the scale and imposing nature of the early 19th century Customs House shows the prestige of the port and its administration within the town (Fig 12). The later phasing of the Wet Dock's Quayside area is demonstrated by the huge Cranfield Brothers Mill and the smaller warehouses and offices built on Common and Wherry Quays, as well as the 20th century developments, perhaps best represented by the concrete-built grain silo of R&W Paul. The more recent buildings also play an evidential role in this story marking the change of the Wet Dock from a commercial part of the port surrounded by industry to an area of recreation, residential and retail use.

The early navigation aids, the High and Low Lights (both earlier and later) in North Shields, Tyneside are distinctive eye-catching historic buildings and represent the attempts of Trinity House Newcastle to improve the navigational approach to the Tyne (Fig 3). The Guild was one of the three Trinity House Guilds established to improve the navigation of England's North Sea coasts, the others being established at Hull and London. The headquarter buildings of the Newcastle and Hull Guilds survive and are strong, well-preserved evidence for these organisations which pioneered the early provision of maritime safety.

The North East played an important role in pioneering coastal maritime safety. At Tynemouth on Tyneside the watch house and cottage of the Tynemouth Volunteer Life Brigade give clear evidence of Tyneside's role in improving coastal safety. As a group, the other buildings related to maritime safety surrounding the brigade's headquarters, including the former lifeboat house on Prior's Haven, provide further context to the Brigade's story (Fig 18). Few Volunteer Life brigade buildings exist and surviving examples are rare, although the North East has an important concentration, with others found at North Shields, Tyneside and Roker, Sunderland.

Where a port has undergone a later history of large scale change and successive phases of redevelopment its earlier features provide significant evidential value, contributing strongly to the historic character and time-depth of the port's present landscape.

Hull was one of the principal English ports involved in the late 19th and 20th century deep-water trawling industry. Following the collapse of the industry in the 1970s little built evidence of the industry now survives. However, in the area of St Andrew's Dock the surviving extent of its 19th century purpose-built fish dock basin, its walls and lock entrance and, surrounding it, the cluster of 19th and 20th century warehouses, office buildings and hydraulic tower and pump house, are of substantial evidential value to the understanding of Hull's role as a nationally important fishing port in this period (fig 15).

Fig 22 The Ice Factory, Grimsby. This Grade II Listed building is a remarkable survival of an historic ice factory complete with its machinery. The building is located in the Kasbah area of the port – an area rich in historic port character and heritage assets. On the 'Heritage at Risk' register the building is in a deterioriating condition. A community organisation, the Great Grimsby Ice Factory Trust has formed to champion its heritage-led regeneration.*

Ports can still retain a considerable number of extant heritage assets related to their past use. At Seaham these combine to make a dockscape retaining significant evidential value in terms of historic character and time-depth in the present landscape (Fig 10). The method of the harbour's construction, being carved out of solid rock in a series of phases, as well as being planned and operated under the control of a single local family, makes Seaham quite different from most other ports.

Grimsby's port area is a rare example in that it has, as yet, not been comprehensively redeveloped. Its rapid development to become the world's leading fishing port in the early 20th century and its contribution to the development of Britain's modern trawling fleet and the present seafood industry makes the earliest features in this sequence of considerable significance.

The area of the Fish Dock, and in particular the area of the Kasbah, has a high concentration of extant historic buildings, structures, and road names associated with the fishing industry in particular (Figs 5 and 22). These provide good evidence of the early stages in this development. This value is enriched by the inter-connectedness of the key heritage assets in the Areas (the fish sheds, Ice Factory, the Dock and the historic buildings in the Kasbah) and the inter-visibility between them. In the Kasbah there is a blend of large scale functional industrial architecture with small scale fishmongers and smoke houses, which together with the boats using the Fish Dock strongly evoke a powerful and unique sense of place and Grimsby's heritage as a fishing port.

Much of the evidence already considered has a direct relationship with port activity but as a focus for trade and industry, a port will naturally contain associated port-related heritage. This in itself can form valuable evidence for the historic development of the port.

Whilst there is little surviving physical evidence of the early steel works at Teesside, there is evidence of its related engineering industry. Of strong evidential value in this respect are the Tees Newport and Tees Transporter bridges. Not only are they built in locally-produced steel but they are iconic landmarks. Both were designed in relation to the working of the port (in order to keep the Tees navigable) and the Tees Newport Bridge was also designed by local company, Dorman Long. The location of the bridges is also of value as they preserve the position of earlier foot ferry crossings, of which none now survive.

At Harwich the Redoubt, the late 19th century, First and Second World War batteries and radar station at Beacon Hill are of high evidential value to the understanding of the defences required to protect nationally significant harbours such as Harwich Haven since the 16th century (Fig 17). This significance is reinforced for Harwich by the survival of other contemporary elements of the same defensive system at Felixstowe and Landguard Point.

Ports also have great archaeological potential for waterlogged organic artefacts and trade items, buried soils preserving earlier land surfaces (eg Hartlepool), and the remains of timber structures and buildings associated with earlier port activity (eg Newcastle's Quayside) (Wessex Archaeology 2016). Ipswich is notable for its buried archaeological potential and its role as an important early medieval trading emporium. Excavation by archaeologists has exposed a sequence of timber waterfront revetments dating from the 7th century onwards that were built to better define the northern bank of the river (Ipswich Archaeological Trust website).

7.2 Historical

– 'the ways in which past people, events and aspects of life can be connected through a place to the present. It tends to be illustrative or associative'

Understanding a port and its harbour is often fundamental to understanding the history of a place. This is clearly true of Tyneside, to the foundation of the towns that stand beside it, to the successive changes of industry that crowded around it and to the character of the people who lived with the river as a mainstay in their lives.

The history of a majority of the ports is often associated with a traditional industry. In terms of fishing a number of the ports have played a significant historical role. For example, a large part of Great Yarmouth's historical value is its significance as a nationally important medieval port when it rose to prominence as a fishing port associated with the trade in herring. It continued to play a nationally significant role in England's North Sea fishing industry into the late 19th and early 20th centuries. Likewise, the history of herring fishing is the key to understanding the development of Lowestoft as a port and town. The understanding of the port's role in England's herring fishery is of high value (Fig 34). Similarly, in many ways the declining role of fishing in the port forms a commonly occurring theme in the story of England's North Sea Ports from the mid-20th century onwards.

At Berwick, Spittal and Tweedmouth the historic importance of the herring fishery was surpassed by the area's commercial salmon fishery based upon the River Tweed. This is significant to the history of the area, potentially unique in England and deserves further research. The continued use of the commercial fishery up until recent years is of great historic interest, and still of significant value.

Scarborough's role as one of the North Sea coast's formerly most important fishing ports is critical to understanding the history of the town. The creation of a sheltered anchorage through the construction of extensive breakwaters and piers in the lee of Castle Head was fundamental to its long success. From its beginnings as a small fishing settlement, Scarborough rapidly developed into the most important of the medieval North Sea herring ports.

The early success of Scarborough and its fishery enabled the construction of an enclosed harbour. Not every port required this level of initial investment, some being a naturally-formed harbour with suitable anchorages and protection. A good example is Harwich Haven. As a strategic, nationally important port, Harwich has been defended as such since the 14th century. In that time it has witnessed several defensive schemes and fortifications which are of high value to the understanding of the history of England's and Britain's conflicts and wars, the changing political stances and foreign policies.

The success of Harwich Haven and its deep-water facilities have ensured it is still nationally important in terms of port use. The rapid development of Felixstowe as a port, in particular the expansion of the Landguard and Trinity Container Terminals, is a result of the recent international shift in trade to containerised freight (Fig 7). Felixstowe's constant expansion and the modernisation of its container terminal and supporting infrastructure highlight the adaptability of Harwich Haven as a port and its continued importance as a deep-water harbour.

Fig 23 The High Light, Blyth. Built by the Ridley family who transformed the port in the late 18th century. This Grade II Listed Building is a distinctive feature of Blyth's early port infrastructure. Blyth's later history of large scale change and redevelopment on the sites of its earlier port activity gives the surviving earlier features significant evidential value, contributing strongly to the historic character and time-depth of the port's present landscape

Immingham's port facilities are historically significant because from its first development it has been a nationally important port - in its volume of trade, the infrastructure built to bulk handle goods and in its integration with transport redistribution networks.

Immingham Dock's story is one of adaptation, important in understanding the national economy, port privatisation, the need for coal and petrochemicals, the increasing volume of import and export goods moved by sea, and the increasing economies of scale and size of commercial vessels. The growing importance of deep-water berthing in recent decades for modern commercial vessels and sea-borne trade is reflected in the development of further port activity in the area and the construction of several offshore jetties out towards the deeper water channel (Fig 21).

The success of a port can completely transform the history of a place. Several towns in the North East which developed in the 19th century owe their origins to the coal trade. Seaham, Middlesbrough and Blyth were all founded and invested in by leading families and businesses with an interest in coal. For example, Blyth's role as a major coal port is linked to the Ridley family who helped develop the port from its humble beginnings (Fig 23). The Ridley family have an important role in the industrial past of the wider area, with the maritime use of Newcastle, and with the later roles of the Merchant Adventurers of which they were members. The reinvigoration of a port could also have a dramatic impact on the surrounding area. Ipswich's success as a port had a positive knock-on effect on the economy of the surrounding region, especially as an export outlet for agricultural produce and, before the coming of the railways, for the import of coal and other goods.

Whilst Tyneside was the major coal port from the medieval period until the early 20th century the trade also attracted other port-related industries. The sheer volume of its coal trade and its associated industries led Tyneside to have a critical role in the British Merchant Navy – the ships vital to the economic and political success of its Empire. The story of the Wellesley Nautical School helps to demonstrate the importance of Tyneside's role in relation to Britain's merchant fleet. South Shields supplied many of its sailors, some recruited from more far flung corners of the Empire, including several thousand Yemenis. The history of their contribution to the Merchant Navy and their integration into British life are interesting elements of Tyneside's historic character. Historically Tyneside's port-related industries drew tens of thousands into the area. This not only included people from inland areas and from ports in the North East, but also fisherman from Shetland and mainland Scotland, and shipwrights and workers from Aberdeen and Ireland.

In the past, successful ports often developed a ship and boatbuilding industry. From the later 19th century shipbuilding on an industrial scale was increasingly concentrated at heavily industrialised ports including those of the North East – Blyth, Tyneside,

Wearside, Hartlepool and Teesside. In Hartlepool the various shipbuilding entrepreneurs are significant to understanding the port's development. The list could include, amongst others, Parkin, Blumer, Richardson, Irvine and Pile, however, the most significant players are Denton, William Gray and Christopher Furness.

William Gray is perhaps the most well-known in the region for the size and scale to which he and his heirs built their shipbuilding business. The shipyard was celebrated as one of the most efficiently run - in 1878 Gray's earned the 'blue riband' for launching 18 ships in one year, the most of any British shipyard. It went on to win the award a further five times in the years up to 1900. Gray is also highly regarded for his contributions to safety at sea in his promotion of the Plimsoll Line (a line on the hull that indicates the maximum depth to which the vessel should be safely loaded) and his new well-deck design for steamer ships. For these reasons, Gray is also an important figure in the development of Britain's merchant shipping and its regulation. From a port perspective, the shipyard and other port-related factories and businesses run by Gray's provided huge economic support to Hartlepool and national fame for its shipbuilding awards and records in the late 19th century.

The increased volume of trade required the considerable improvement of ports, their harbours and facilities, leading to further developments in port administration. At first, improvement was often carried out by specially formed Companies and River Commissions but later, Conservancy Boards and Harbour Authorities; the latter two having a broader agenda not only to ensure safe navigation but to balance the needs of all port users without jeopardising the local area.

At Sunderland, the improvements to what was an unwelcoming river mouth were made by River Wear Commissioners, established in the early 18th century. The improvements assisted greatly with the development of the river as a port. Great engineering strides were made and vast areas were reclaimed and embanked or dredged. The natural energy of the river was put to use in scouring out the narrowed channel and keeping the mouth free from the sandbanks and ballast dumps that had previously caused such trouble.

Teesside witnessed similar attempts at first by a Navigation Company, later a Conservancy Board, with the latter developing into the harbour authority. This is a highly important aspect to the historical development of Teesside as a successful modern port. Their efforts were critical to the rise of the port's later success. Also noteworthy is the scale of the works needed to improve the port. This not only included two new cuts to straighten the river (the Mandale and Portrack Cuts), but in the 19th century a huge amount of dredging and reclamation and the use of iron slag waste to help create training and revetment walls to define the deeper water channel.

Many of these port improvements were designed by the leading engineers of the time. The development of the Wet Dock at Ipswich is the work of Henry Palmer, a leading British engineer of the early 19th century. As well as being one of the founders of the Institute of Engineers, Palmer's work in Ipswich is valuable, considering the huge impact the Wet Dock had upon the town's economy, townscape and later development. The effort needed to maintain the port from the early 19th century and the engineering undertaken to enable the change is reminiscent of other North Sea ports. In this respect Ipswich forms part of a bigger picture.

7.3 Aesthetic

– 'the ways in which people draw sensory and intellectual stimulation from a place'

Whilst some people will draw interest from the present workings of a port others will find its activities ugly, noisy and obtrusive: it is a subjective point of view. The value

Fig 24 South Quay, Great Yarmouth. Ships still use the quay as part of the river port and an impressive frontage of historic merchant's houses and port administration buildings face on to the Quay. The quay is a bustling space, publically accessible and full of movement and sound - the space between the quay and buildings is now the modern A1243 link road, which is often busy with port-related traffic.

ascribed is likely to be influenced by the history of the relationship between the port and the community, what the individuals value themselves, how they relate to the workings of the port and the future they want to see for their town. But such aesthetic values are also dynamic, open to variation in attitudes through time, especially with changing economic circumstances.

On Tyneside, many local people look to the present workings of the port for visual inspiration. One gentleman watching the work on the redevelopment of the Wallsend shipyard spoke not only of the nostalgia of the shipbuilding glory days but also of his hope and positive belief in the regeneration of the yard being witnessed. He regularly visited vantage points overlooking the river to draw visual stimulation from the ships using the port.

Unfortunately the opportunities to visually appreciate many larger ports are limited. This is mainly due to the privatisation of the waterfront by large scale port-related businesses which need to keep the public separate for reasons of health and safety and security. However, a handful of ports appreciate that the public like to watch the movements of vessels and cargo handling on their quays and viewing points have been established, most notably at Felixstowe. Here, a purpose-built viewing area offers good views to the container terminals of the port and is a popular visitor destination for this very reason. There is a visitor café which forms part of a broader visitor centre for the Landguard Peninsula.

The port infrastructure of the larger ports (in particular Felixstowe and Immingham) is on a scale that is not commonly found in most communities. The port infrastructure dominates not only the skyline of the surrounding areas but also the neighbouring waterscape. These ports are very busy places with high volumes of traffic, activity and noise which can be both awe-inspiring and overwhelming, especially when experienced by people on foot.

The topography of certain ports can also make long distance views difficult due to intervening natural features such as hills or the curve of the river. Publically accessible views to the modern workings of Ipswich's port from the landward edge of the river are often difficult to find. This not only makes the workings of the port visually remote but also contributes to a strong degree of separation from the rest of the town. At Immingham the local topography of flat low-lying land makes the port infrastructure at a distance seem smaller than it really is, for when closer up the scale of the port-related area is massive.

Immingham's scale can create a feel of separation from the surrounding landscape. To the visitor this is made all the more distinct by the security fences and shelter belts that close around the port but for many local people this is what they will be used to, and with many of them working in the port, the aesthetic values they place on the port are likely to be considerably different.

Fig 25 The waterfront of Newcastle and Gateshead. Regeneration has transformed the area. This involved the sensitive conservation and reuse of several historic buildings including The Baltic, a former flour mill but now a contemporary arts centre left). A feature of the area is the blend of historic buildings and modern structures including the now iconic Millennium Bridge (pictured).

It is on the historic quays or at smaller ports where the public can still get close to the workings of the port: for example, at Wells, North Shields on Tyneside, Whitby and Scarborough. These are popular places for the public to visit. In the summer the quayside at Wells is a throng of visitors who not only come to fish for crabs but also peer into the fishing boats and queue to buy whelks and fish from the local fishmonger. The backdrop of historic buildings fronting on to the quay draws the eye and adds considerable visual interest and variety.

When a quay is no longer the site of commercial activity, it often forms a focal point for recreation, usually as a promenade or walk fronted on to by historic buildings converted into bars and restaurants. The quays at Newcastle, King's Lynn and Ipswich are good examples (Figs 2 and 25).

Historic buildings and structures associated with a port help to create a sense of place, giving time-depth to the landscape, providing a visual appreciation of past port technology and administration. They contrast with modern port development which is often built in concrete and steel and on a larger scale, this difference most evident in the larger ports where the size of the shipping, quays and cranes is huge.

Occasionally a port-related heritage asset can visually compete with the scale of modern port development. Grimsby's Dock Tower, for example, is a late 19th century water accumulator tower and a prominent local landmark towering 200 feet above the docks. As an early water accumulator tower it needed its extreme height to achieve sufficient pressure to power the dock machinery. It was designed by the engineer James William Wild who based its appearance on the *Torre del Mangia* in Siena, Italy, making the building distinctive, eye-catching and much loved by Grimbarians. Its grandeur also sets it apart from the more functional appearance of the surrounding built environment (Fig 30).

Groupings of port-related historic buildings and structures can be as visually dramatic as modern infrastructure and Newcastle and Gateshead's quayside area is one such example (Fig 25). Here, the Tyne gorge opens up to offer dramatic views up and down the river. The skyline is crowded with historic buildings and bridges that intermingle with the modern. Newcastle's Quayside is the historic centre of its port-related power and administration, a position reflected in the prestige and the time-depth of its heritage whilst on Gateshead's quayside the Baltic Flour Mill, now a contemporary arts centre, is an eye-catching and iconic building in itself. Historic buildings of different date and appearance jostle with each other. Many have seen conservation, refurbishment and reuse as part of the regeneration schemes undertaken over the past 30 years. Overall, the regeneration of the Quayside area, and that of Baltic Quay, is celebrated as an exemplar of integrating heritage and redevelopment. Part of the success has been the linking for cyclists and walkers of the Quayside with Gateshead via the dramatic Millennium Bridge. Most of the area is dominated by recreation, residential and retail activity, as a pleasant place to work and live and to enjoy the

Fig 26 The West Haven, Grimsby. In need of heritage-led regeneration – the Grade II Listed West Haven malting and Garth buildings and the channel of the West Haven. The West Haven was part of an early but largely unsuccessful attempt to improve the port's harbour. It is now a neglected part of Grimsby's town and waterscape.

Tyne. At the close of a working day the place is often busy with people making the most of the riverside bars, commuters using Hadrian's Way to cycle home and tourists posing for photos with the heritage often forming a backdrop.

7.4 Communal

– 'the meaning of a place for the people who relate to it, or for whom it figures in their collective experience or memory'

All the ports have interested groups and members of the community who value the historic and present workings of them. Each port has someone writing and celebrating its history, often in the form of blogs and websites or publishing their own research into an aspect of it such as shipbuilding or fishing. The attention to detail, love and care for the sense of place often comes through in their work, for example, the musings of the Grimsby based writer and photographer Rod Collins who has written about the architectural merits and character of the Kasbah area (see Rod Collins' website).

Heritage-focussed groups take various forms, from archaeological and local history societies, industrial heritage groups, to preservation trusts, civic societies and community groups and certain ports also have active maritime history groups including regional associations, especially in the North East. Some of these groups are very small, writing the occasional leaflet, whilst others are larger, more active groups lobbying for heritage-led regeneration (eg on Tyneside, The Ouseburn Trust or The Net North Shields and FISH - Folk Interested in [North] Shields Harbour).

Several of the former medieval ports have preservation trusts formed to purchase and conserve historic buildings for reuse, several of which have a port-related history. The campaigning of the Trusts has also influenced their respective Local Authorities. As already highlighted, it is often these wealthier towns where heritage-led regeneration is most evident. In the case of Ipswich, it was the active campaigning by the Ipswich Maritime Trust that drove the early campaign for the heritage-led regeneration of the Wet Dock.

The regeneration of a troubled port or former port-related area is often a complex and difficult topic with communities often divided about the course it should take. It was observed that the ports that have seen the most recent and severe decline in traditional industries face the greatest tension between celebrating the past achievements and forging a new economic future. It can be difficult for abandoned, often derelict, aspects of a port's heritage to escape being caught up into a desire to move away from the past and set a new economic course for a place, both amongst popular views and in planners' keenness to show they are responding to economic needs. But successful examples of heritage-led regeneration, for example in Newcastle and Ipswich, show the benefits of using the existing heritage imaginatively to create vibrant places whose

Fig 27 The North Side [coal] Staithes, Blyth. Striking in its scale and high visibility this late 19th century wooden structure runs parallel to the north side of the harbour for over 700 metres. The staithes are located in a highly visible position, especially at low tide when their full wooden superstructure is revealed. Reduced to a single storey, unused and deteriorating, the staithes are over 100 years old and unsuitable for modern shipping.

cultural distinctiveness rests on maintaining tangible links and continuity with people's actions in the past.

Grimsby is a good example as it is generally considered to be in need of regeneration, a fact highlighted in *Design North East Lincolnshire,* which built upon previous strategies and documents. *Design North East Lincolnshire* sought to guide the redevelopment of the town's docks and waterfront (outside the modern commercial port). Its aim was to influence the design and quality of future development, to create a waterfront space, to open up pedestrian and cycle access, and to integrate the docks more fully with the centre of the town (Gillespies and Kevin Murray Associates 2008) (Fig 26). As yet no over-arching scheme has been announced. The decline of a well-known historic building can provide the stimulus to establish a community-led campaign to conserve it. In 2010 the Great Grimsby Ice Factory Trust (Great GIFT) was formed to try and secure the future of this nationally important Listed Building (Fig 22). The town has no established preservation trust although one exists for the county of Lincolnshire.

In terms of outreach certain port authorities have a closer relationship with their local communities and a greater means to communicate with them and support events. And whilst trust ports often have a duty to invest profits into their local area enshrined in their aims and workings, some are more able than others to reach out to their communities.

The Port of Tyne is notable for the efforts it makes, including sponsoring heritage open days on Tyneside and sponsoring *Tyne View*, an informed and loving look at Tyneside which details much of the history of its traditional industries, their decline and the subsequent regeneration which has transformed the riverfront and port (Chaplin *et al* 2013).

There is often a range of documentary records that can assist in understanding the history of a port by its local community (as well as heritage professionals). Sources include engravings, paintings, photographs, historic maps and documentary records of port administration. Ports can be well-documented but sometimes archives are not always easy to access for the public. At Lowestoft, for example, The Port of Lowestoft Research Society has an extensive collection of over 14,000 documents and photographs of the vessels and the port. Formed in 1955 with the aim to 'compile a written and photographic record of the port and of the vessels and industries connected with it', the collection is housed by the Lowestoft branch of the Suffolk Record Office (Mr S Earl, Society Secretary, pers comm). Whilst this is publicly accessible within the Records Office the information is not widely known or disseminated.

Oral history can also provide important information about port-related heritage. For example, at North Shields on Tyneside the 'Remembering the past, resourcing the future' project is a local initiative to record local history and the stories of people who lived alongside the Tyne (Remembering the past, resourcing the future website).

Fig 28 The Outer Harbour, Wells. The harbour was built in 2009 to attract businesses involved in the offshore wind industry, in particular for survey and service vessels which are small enough to use this narrow and shallow harbour. The harbour and entrance channel have to be constantly dredged. Here dredging works are being undertaken with a survey vessel berthed behind.

8 Drivers for change

As Sections 2 and 3 made clear, the main driver a port faces is the need to remain economically viable. Historically, every port has faced periods of change, phases of decline and times of success. Diversification of the business has often necessitated changes to the port infrastructure, as have major technological advances in ship design, cargo and freight handling and the means of redistribution.

The main new business opportunity that all the North Sea ports are looking to is the offshore renewable energy industry (offshore windfarms). A further round of windfarm construction is due off the coast of eastern Norfolk and the construction of the largest offshore windfarm in the world off Yorkshire has recently been announced (Guardian news article; Wind power in the United Kingdom Wikipedia page). Due to its economic potential the offshore renewable industry is seen as a focus for the regeneration of several ports. Enterprise zones have been established at a number of ports to attract the industry with considerable support provided by Local Authorities and Regional Growth Funds (eg Green Port Hull). Ports nearer to the offshore development sites are more likely to be favoured than those more distant from them.

The larger deep-water ports are competing to become assembly bases for the turbines whilst the medium and smaller sized ports are vying to support the survey and servicing functions.

The larger deep-water ports often have large areas of brownfield land, potential quay frontage and further development land available. Green Port Hull is currently being developed by Associated British Ports (ABP) and Siemens as a large-scale assembly base for the wind turbines and at Immingham, Able UK has been given permission to build a similar facility. Harwich International Port has been used to assemble wind turbines in the past and wants to compete for future trade (Able UK website; Green Port Hull website; Harwich International Port website).

In terms of survey and service vessels Grimsby has developed part of its historic Fish Dock and the North Quay as an operational base. In East Anglia, Great Yarmouth, Lowestoft and Wells also compete for the trade to service the wind farms off their coast. The ports of Great Yarmouth and Wells have invested in building new 'outer' harbours to enable service vessels to access the ports more easily and at a greater range of tides (Fig 28).

This growth is supporting established industries and port operators, especially on Tyneside and Teesside where there are specialist companies producing related products such as cabling and providing engineering facilities to support the industry (Fig 29). These businesses are often reusing historic dockyards and quays, many of which have had to be redeveloped, extended and updated to provide modern berthing and dock facilities as well as workshops and storage areas. At Blyth, Narec (National Renewable

Fig 29 The former Furness Shipyard, Teesside. The shipyard has been reused by the offshore energy industry making use of its historic docks, slips and quays. Here an offshore support barge is being loaded whilst in the background the monopile foundation tubes of wind turbines are being assembled.

Energy Centre) run a testing facility for the offshore wind industry within the docks of an historic ship yard. The port was the site of the first offshore wind farm constructed in Britain.

The effort to reduce the UK's carbon emissions has led Britain's largest power station, Drax (North Yorkshire), to work with the Port of Tyne and ABP's Humber ports of Immingham, Hull and Grimsby to import wood pellets from North America. New facilities have been built to handle the pellets and transport them to Drax by rail. Drax is still predominantly coal-fired but is converting three of its six coal-fired units to biomass. However, its future trajectory will be strongly affected by Government policy and the broader discussion of the positive and negative effects of the wood pellet trade (Carbon Brief website).

Certain ports have become centres for the import and export of cars. The highly successful Nissan car production plant at Sunderland exports its cars from the Port of Tyne. The import of vehicles is of particular importance for several ports including the Port of Tyne, Teesport, Grimsby and Immingham (Fig 30). This has resulted in large areas of land given over to vehicle parking and storage areas. Car production in the UK is steadily recovering after the recession but is vulnerable to the vagaries of the global economy, trade with the European Union and demand for new cars.

In September and October 2015 Sahaviriya Steel Industries United Kingdom closed the South Bank Coke Works and Teesside Steel Works, a decision which is likely to have a considerable effect on Teesport, engineering firms and industry in the region. Until this point Teesside was still a nationally important centre for steel production with significant port infrastructure supporting the industry through the import of iron ore and the export of finished steel. The works closed following an international slump in steel prices and it is possible that if the site is not reused it will release an extensive area of portside brownfield land.

Many of the current opportunities for diversification are being pursued on brownfield sites made available by the loss of traditional port-related trade: principally the coal trade, shipbuilding and heavy industry in the North East; shipbuilding and fishing in the ports of Yorkshire and the Humber; fishing and timber importing in the ports of Norfolk and Suffolk. It is often on areas of brownfield land where port-related heritage assets have fallen out of use.

The ports which are undertaking large scale port development are the deep-water ports where there is also either brownfield land and/or large areas of greenfield land which offer extensive (and often cheaper) space for industrial growth. These are principally the ports of the larger estuaries - Tyneside, Teesside, Humber (Hull and Immingham) and at the mouth of Harwich Haven (Felixstowe and Harwich). These ports already have strong rail connections and have been the focus of improvements to the road

Fig 30 Sea defence improvements at Grimsby. The work was undertaken to the northern sea defence wall surrounding the port's historic docks. In future, with sea-level rise and climate change the Shoreline Management Plans warn that that remedial and improvement works to defences will become more common. The pair of historic water accumulator towers can be seen in the background and further to the left, the Grimsby River Terminal.

distribution network. As deep-water ports they can handle the increasing size of commercial ships.

These ports have significant interests in containerised freight, the transport of which has developed significantly over the past 30 years. Whilst containerised freight forms part of the port business for Tyneside, Teesside, Hull and Immingham, for Felixstowe it forms the majority of its port function (Fig 7). Felixstowe has developed to become the UK's main container port although it could face future competition from other ports in years to come. The trade of containerised freight is highly competitive and subject to increasing economies of scale. Warnings have been made of global over-capacity and the emergence of only a smaller number of large scale distributors. This is likely to encourage the development of transhipment and further feeder services from the main container ports to smaller container ports within Europe and, conceivably, could lead to the smaller ports with good transport links developing smaller scale container terminals, much like Seaham has done in the past 20 years. A further threat that the container industry faces is potential global recession and financial instability (Lloyds list website).

The smaller ports are used by short sea vessels for the European-wide distribution of bulk goods, often grain, timber, fertiliser, aggregate and occasionally small project cargo (Fig 11). Short sea shipping forms an integral part of the trade network within the European Union (Observatory of Transport Policies and Strategies in Europe 2013). The smaller ports often rely on supplying a key business and therefore their future could be at risk if it failed. Tweed Dock and King's Lynn's Docks not only rely on a small number of key port users but also on the continued viability of their respective estuary and river to handle shipping. Although unlikely in the short-term, if short sea vessels do get bigger these smaller, shallower ports may struggle.

Whilst fishing was a historically important industry its collapse means that it now only forms a minor part of port activity for most ports. It continues at a much diminished scale at North Shields and Whitby, and at an inshore level, at King's Lynn and Wells. It is the Humber ports and Lowestoft, due to their success and dominance of the industry as late as the 1970s, that the decline is most striking. It is here that the quayside areas once associated with the industry now form large brownfield sites.

A threat which all the ports face is the risk from sea-level change and tidal surges. The vulnerability will vary with each event but there is a heightened risk to the ports located at the northern end of the North Sea due to the topography of the coastline (Met Office webpage). The ports in these areas were hit hardest by the 1953 flood event and are now protected by substantial sea defences. However, the 2013 tidal surge was higher and hit the Humber ports particularly badly, almost closing the Port of Immingham.

Fig 31 Throston engine house, Hartlepool. The Grade II Listed engine house dates to c1830 and is one of the earliest surviving heritage assets associated with Hartlepool's industrial-scale coal docks. In 2013 it was considered at high risk of deterioration unless conservation work and/or suitable reuse was undertaken to secure its future. The scaffold has been erected to prevent a long-term structural crack leading to a collapse of the building.

The Shoreline Management Plans (Phase 2) (SMP2) have been undertaken for sections of the coast. These reports outline the predicted models for sea-level change in each region being studied and identify how areas of key infrastructure and heritage (mostly that designated) will be managed in the short term (to 2025), medium term (2026-2055) and longer term (2056-2105) (Environment Agency 2000, 2010a, 2010b; Guthrie and Lane 2007; Guthrie *et al* 2009; Royal Haskoning, 2010; Scott Wilson, 2010).

Most of the SMP2 reports suggest 'hold the line' of existing defences but acknowledge that in the longer term there may either be a programme of upgrading needed or, occasionally, a 'managed retreat' of defences, especially in rural, less built up areas.

Certain areas are more vulnerable than others to sea-level change and the Landguard Peninsula at Felixstowe is one such place. Its sea defences are reliant on the natural deposition of shingle, the geography of the coastline, and the maintenance of the surrounding man-made sea defences including Landguard Groyne. Over the next decade the Peninsula will be monitored for coastal erosion but it is hoped that no active intervention will be required in the longer-term (Royal Haskoning 2010).

9 Risks and opportunities

Sections 1 and 2 make clear that all ports are affected by short-term and long-term fluctuations in their business models. Section 8 highlights the main forces affecting the ports in the immediate future are changes in trade, economies of scale, the size of shipping, and the new business opportunities driven by Britain's energy industries. In the longer-term sea-level change will also be a significant risk. Whilst these broad trends can be identified with some confidence, history shows that at an individual port level, each has had its own complex story of success, set-backs and adaptation.

In terms of port-related designated assets this overview report can conclude that a majority are presently in use and well-cared for. Only a small number are currently at high risk of decay and deterioration. These are published annually on Historic England's 'Heritage at Risk Register' (Heritage at Risk Register website). Conservation Areas containing port-related heritage considered at high risk are also included. The Register highlights that neglect and decay through disuse is the most frequent threat to heritage. A majority of the buildings and structures at high risk are no longer in active use as part of commercial port activity. Many are now in private ownership (eg Throston engine house) with those still owned by port operators often on the periphery of present port activity (eg the Ice Factory, Grimsby).

Fig 32 A plaque at King's Lynn celebrates the successful restoration of an historic building by the town's Preservation Trust. The Trust has been rescuing historic buildings for the past 50 years including those related to the port.

Disuse is often a problem where traditional industries have collapsed and/or the focus for present commercial port activity has shifted elsewhere, often for the economic and logistical reasons summarised in Sections 1 and 2. The areas in which the assets are found may be awaiting a strategic steer for redevelopment and the situation can be further complicated by several factors including a lack of investment, economic uncertainty, changes in ownership and/or contested planning proposals. These problems can affect all ports, regardless of their size and complexity.

A potential risk to the short sea ports is that they are often economically dependent on a handful of key businesses. It is possible that in the longer term some of these ports may become commercially unviable if these businesses relocate or falter and if so, this would release areas of brownfield land for redevelopment. Experience suggests that in this situation the redundant wet docks and quays would be redeveloped with a focus on housing, light retail and recreation. This need not always be a risk from a heritage perspective but can be an opportunity for it to inform and lead regeneration.

From an overall perspective and in most simple terms, port-related heritage in commercial and non-commercial port areas is at lowest risk where the community actively celebrates its past and lobbies for heritage, where the Local Authority has supported this work and where port authorities and property developers have engaged positively with heritage organisations (Fig 32). By building this kind of collaborative engagement it is more likely that changes to a port will have a future positive effect on an area's heritage assets and in turn, contribute to its unique sense of place and local distinctiveness.

The ports at highest risk are those where this balance is not yet in place. These are often those most in need of regeneration due to the loss of traditional port-related industries and where the port authority is, sometimes urgently, trying to change their business portfolio. It is also important to consider that in many non-commercial port areas port-related heritage assets have been sold to private property developers.

Certain ports also have greater experience of managing heritage. The Port of Tyne is a good example as the port has several important designated heritage assets within its estate. It also has a large team dealing with environmental management and communications and as a Trust port it is keen to engage with its local community, sponsoring the annual heritage open days for the area, which includes key heritage assets in their ownership such as the Tyne swing bridge and North Pier lighthouse (both Listed).

There is considerable opportunity for more ports to engage with heritage in a similar way but many will have to be supported and encouraged to do so. This will require long-term shared investment in time and effort by the port operators, Historic England

Fig 33 A fishing batt abutting Berwick Pier. Several of these stone built mounds are found between the mouth of the Tweed upstream to Tweed Bridge. They were used by salmon fisherman to cast their nets from but are now unused. They are a potentially unique monument type found only on the River Tweed but further research is needed to confirm their significance and rarity.

local teams and the relevant Local Authorities. It will also require nurturing well-organised and proactive local heritage groups in each port, providing them with training and guidance.

Each port also has its own policy on dealing with heritage, a situation made more complex by the difference in the supporting Acts and powers that each port has. This suggests that each will have its own set of conditions and problems for opening up opportunities for engagement.

A limited number of port authorities will also see a perceived conflict between future development and heritage assets that are no longer a viable part of the port (but located in a proposed development area). Conversely, the heritage sector may under-appreciate that scarce portside brownfield land available for port-related commercial development is a premium asset, but the business models regarding brownfield land are dynamic and need also to consider the premium value of former brownfield land which has undergone heritage-led regeneration.

This overview has clearly shown that Buildings Preservation Trusts have undertaken a significant role in preserving port-related heritage at several of the ports. Where no such Trust has been set up there is an opportunity for one to be created to help drive the heritage agenda (Fig 32).

Section 4 of this report explains that a majority of port-related heritage assets still in use as part of present commercial port activity are most frequently associated with port infrastructure (eg wet docks and breakwaters) and maritime safety and navigation (lighthouses). Due to their function and location within ports sea level change poses a significant risk to them. All the ports were highlighted by the SMP2 key infrastructure and to be protected by 'holding the line' of existing defences with the need to update and strengthen them in the longer term. At this point in time it is difficult to determine the scale of these changes as individual assets will face different situations due to their built character and location.

There is also a considerable opportunity for regional overviews of certain monument types to be undertaken to help better understand their significance. These could also provide a chance for heritage organisations to engage with port authorities and to seek their support and input. A good example is a synthesis on coal staithes which could benefit from a regional overview and could be a collaborative work, supported by several port authorities and operators, linking into local archives and undertaking oral history and arts projects within the surrounding communities. The surviving staithes are at considerable risk as a majority are unused, being timber-built, approaching a century old and considered unsuitable for modern port use. Few staithes are designated heritage assets and, despite forming the most significant surviving evidence for the port-related coal trade, there appears to have been little research on the coal staithes

Fig 34 The Beach Village, Lowestoft. The wooden net-drying racks on the Denes with the gable ends of the 19th century net stores in the background. The role of the Beach Village is of great significance to understanding the early development of the town and is celebrated as part of a maritime heritage trail. An Extensive Urban Survey for the town could highlight the opportunities for heritage-led regeneration, including its port-related assets and character.

of the North East, their role in the coal industry and options for their future conservation.

Another area of potential research is to better understand the value and rarity of the surviving cranes at the ports of Tyneside, Middlesbrough, Hull and Ipswich. There are very few survivals of historic cranes at the 19 ports studied. Detailed and accurate information about the cranes was difficult to find except for the large 'hammerhead' crane at Low Walker on Tyneside which was part of the earlier shipbuilding yard but refurbished recently by Shepherd Offshore for use as part of Neptune Park (Chaplin *et al* 2013, 292) (Fig 9).

Similarly, there is considerable opportunity for an overview of shipbuilding and boat yards on the North Sea coast. There is much locally-based information available but no thematic, regional or inter-regional synthesis. Future work could be thematic eg focussing on large industrial shipyards or the shipyards of the trawling ports such as Hull, Grimsby and Lowestoft, however, the heritage of smaller boat yards has, in relative terms, often been neglected.

This could also be assessed in consideration of the historic boats and craft that still survive – notable craft might include surviving examples of the Berwick Smack, historic lifeboats, cobles, the Humber keel, the deep-sea trawlers of the Humber and East Anglian fishing ports and the bawleys of the south eastern estuaries.

More specific to one port, there is an opportunity for further research to show that the fishing batts and shiels associated with salmon fishery at Berwick, Tweedmouth and Spittal are unique to the River Tweed (Fig 33). If proven as such, they will be of considerable significance, especially when taken in the context of the area's dominance in the England's salmon trade in the 18th and 19th centuries. Being unused, the batts and shiels are at risk of not being managed and maintained. Further research on the batts could be combined with a community-led project to celebrate the importance of the area's salmon fishing industry.

There is considerable opportunity for more detailed baseline data gathering in the form of Extensive Urban Surveys and these are recommended for Blyth (to complete the existing draft), Scarborough, Hull, Grimsby, Great Yarmouth, Lowestoft and Ipswich. The urban surveys are undertaken to help Local Authorities, Historic England and others provide heritage information and ideas to help guide future development and support historic environment input into the planning process.

An important part of future EUS reports could be to consider how the port-related heritage can be more celebrated and conserved, and better identify potential opportunities for reuse and heritage-led regeneration. The ports selected for further EUS work are those that have a number of currently undesignated heritage assets that are of high evidential and historical value. The EUS reports should also aim to better

understand the regional and national importance of these assets: for example, the iron-built public warehouse in Ipswich or the Lord Line building at St Andrew's Dock, Hull.

The EUS reports should help inform local preservation trusts and community heritage organisations with the baseline information and context necessary to argue more effectively for heritage and influence the redevelopment agenda. For example, supporting St Andrews Dock Heritage Park Action Group's (STAND) work to raise the awareness of the significance of the surviving heritage at St Andrew's Dock, with the aim of influencing a programme of heritage-led regeneration (Fig 15). At Lowestoft the EUS could better assess if the net stores in Denes area of the town are significantly valued and cared for as part of the historic character of the Beach Village (Fig 34).

A priority EUS should be Grimsby. The town has been highlighted as in need of regeneration and this is a good opportunity for heritage to influence its direction and the future character of the port and town. There is also abundant port-related historic character and surviving heritage assets, with much of the port area yet to be comprehensively redeveloped (Figs 5, 22 and 26). The work would also provide further historical context for the designated port-related heritage already flagged up as being at high risk.

10 References

10.1 Publications

Chaplin, M, Aris, B, Bell, C, and Ducker, C, 2013. *Tyne View – A walk around the Port of Tyne, New Writing North*, Newcastle

Crossland, GJ, and Turner, CE, 2012. *Immingham – A History of the Deep Water Port* (Special Centenary Edition), T&C Publishing

Department for Communities and Local Government, 2012. *National Planning Policy Framework*

Department for Transport, 2012. *National Policy Statement for Ports*, HMSO, London

English Heritage, 2008. *Conservation Principles: Policies and Guidance for the Sustainable Management of the Historic Environment*, English Heritage, London

English Heritage, 2010. *Understanding Place, Historic Area Assessments: Principles and practice*, English Heritage, Swindon

Environment Agency, 2000. *The Humber Estuary Shoreline Management Plan*, Leeds

Environment Agency, 2010a. *The Wash Shoreline Management Plan 2; Gibraltar Point to Old Hunstanton*

Environment Agency, 2010b. *Essex and South Suffolk Shoreline Management Plan 2, Final version 2.4*

Fisher Associates, 2014. *Ports and the Historic Environment*, Fisher Associates, Lymington

Gillespies and Kevin Murray Associates, 2008. *Design North East Lincolnshire - Places and Spaces Renaissance*, North East Lincolnshire Council and Yorkshire Forward

Graves, CP, and Heslop, DH, 2013. *Newcastle Upon Tyne; The Eye of the North – An Archaeological Assessment*, Oxbow Books in association with English Heritage

Guthrie, G, and Lane, N, 2007. *River Tyne to Flamborough Head Shoreline Management Plan*, Royal Haskoning, Peterborough

Guthrie, G, Cooper, N, Howell, D, Cooper, T, Gardiner, J, Lawton, P, Gregory, A, and Stevens, R, 2009. *Northumberland and North Tyneside Shoreline Management Plan*, Royal Haskoning, Newcastle

Historic England, 2015a. *The Historic Environment in Local Plans - Historic Environment Good Practice Advice in Planning: 1*, Historic England

Historic England, 2015b. *The Setting of Heritage Assets Historic Environment Good Practice Advice in Planning: 3*, Historic England

Humble, L, 2010. *Grimsby Docks, Ice Factory, Conservation Statement*. Online summary on the Great Grimsby Ice Factory Trust website

Jarvis, A, 2000. Dock and Harbour Provision for the Fishing Industry since the Eighteenth Century in Starkey *et al*, *England's Sea Fisheries*, Chatham Publishing, London

Mumbly-Croft, R and Barnard, M, 2000. An antiquated relationship? Trawler Owners and Trawlermen, *c*1880-1980, in Starkey *et al*, *England's Sea Fisheries*, Chatham Publishing, London

Observatory of Transport Policies and Strategies in Europe, 2013. *Short sea shipping in Europe*, Bulletin number 33

Royal Haskoning, 2010. *Lowestoft Ness to Landguard Point Shoreline Management Plan 2*

Scott Wilson, 2010. *Humber Estuary Coastal Authorities Group – Flamborough Head to Gibraltar Point Shoreline Management Plan*, Scot Wilson, Basingstoke

Starkey, DJ, Reid, C, and Ashcroft, N (eds), 2000. *England's Sea Fisheries: The commercial sea fisheries of England and Wales since 1300*, Chatham Publishing, London

Tendring District Council, 1989. *Beacon Hill Ancient Monument Draft action and management plan*

Tolan-Smith, C, 2008. *North East Rapid Coasal Zone Assessment*, Archaeological Research Services Ltd (Report 2008/81), Gateshead

Wessex Archaeology, 2016. *The Assessment and Management of Marine Archaeology in Port and Harbour Development*, Wessex Archaeology and Historic England

10.2 Websites

(Accessed early March 2016)

Able UK –

http://www.ableuk.com

Chronicle Live, Hawthorn Leslie offices –

http://www.chroniclelive.co.uk/news/north-east-news/former-hebburn-shipyard-building-could-9233949

Chronicle Live, Tynemouth Volunteer Life Brigade –

http://www.chroniclelive.co.uk/news/north-east-news/take-sneak-peek-inside-newly-restored-8623384

Climate Brief, Does the UK's biomass burning help solve climate change? -

http://www.carbonbrief.org/investigation-does-the-uks-biomass-burning-help-solve-climate-change

Durham Heritage Coast –

http://www.durhamheritagecoast.org

Great Grimsby Ice Factory Trust –

http://www.ggift.co.uk

Green Port Hull –

http://greenporthull.co.uk

Guardian News article on World's largest offshore windfarm to be built off Yorkshire coast –

http://www.theguardian.com/environment/2016/feb/03/worlds-largest-offshore-windfarm-to-be-built-off-yorkshire-coast

Harwich International Port –

http://www.harwich.co.uk

Heritage at Risk Register website –

https://historicengland.org.uk/advice/heritage-at-risk

Ipswich Archaeological Trust –

http://ipswich.gov.uk

Lloyd's List, containers –

http://www.lloydslist.com/ll/sector/containers

Marriott's Warehouse Trust –

http://www.marriottswarehousetrust.co.uk

Met Office, 1953 east coast flood webpage –

http://www.metoffice.gov.uk/news/in-depth/1953-east-coast-flood

National Heritage List for England website, Ice Factory summary –

http://www.historicengland.org.uk/listing/the-list/list-entry/1379842

Remembering the past, resourcing the future –

www.memoriesnorthtyne.org.uk

Rod Collin's article on Grimsby's Docks including the Ice Factory -

http://www.rodcollins.com/wordpress/the-decline-of-grimsby-docks-an-illustrated-history

Sunderland Echo, Wylam Wharf news article –

http://www.sunderlandecho.com/news/local/all-news/top-award-for-restored-warehou-1-1094786

Wind power in the United Kingdom Wikipedia page –

https://en.wikipedia.org/wiki/Wind_power_in_the_United_Kingdom

11 Appendix 1 Grimsby Port Heritage Summary

See overleaf

Grimsby

Port Heritage Summary

Historic England

Contents

Historic England is committed to delivering constructive, impartial advice. This report was produced by Cornwall Archaeological Unit, commissioned by Historic England. The views suggested may not all be shared by Historic England.

All photographs by Cornwall Archaeological Unit.

Cover illustration

The Royal Dock with the Dock Office in the background.

Abbreviations

ABP	Associated British Ports
c	circa
HE	Historic England
HER	Historic Environment Record (North East Lincolnshire Council)
LB	Listed Building
LDO	Local Development Order
NGR	National Grid Reference
MHW	Mean High Water
MSLRC	Manchester, Sheffield and Lincolnshire Railway Company
OS	Ordnance Survey
Ro-Ro	Roll on - Roll off
PDZ	Policy Development Zone (a management area included in an SMP2)
PGI	Protected Geographical Indication status
SM	Scheduled Monument
SMP2	Shoreline Management Plan 2
SSSI	Site of Special Scientific Interest

Fig 1 Location, topography, place-names and features.

Introduction

The *England's North Sea Ports* project aims to improve the understanding of the heritage values, significance, vulnerability and adaptability to change of port-related heritage in nineteen major ports along England's North Sea coast, from Berwick upon Tweed, Northumberland, to Harwich, Essex. The project focuses on the historical development of each port, its present character and its port-related heritage, the values attached to that heritage and the issues and opportunities it presents for future development.

The review for each port is presented as an illustrated 'Port Heritage Summary', designed to be succinct and readable, raising awareness and understanding amongst all parties interested in that port's future development and so contributing towards the sustainable management of its port-related heritage.

This Port Heritage Summary relates to Grimsby in North East Lincolnshire, where seven individual areas of port-related character have been identified. The Summary explains how port heritage within those areas contributes to Grimsby's distinctiveness today, to the interpretation of Grimsby's historical development, and that of the Humber Estuary and the North Sea. This includes the cultural associations and feelings of local people and communities to the maritime past and how it is viewed and valued by them today.

A range of management options to build on the present values and roles of its heritage are summarised, enabling them to serve as a positive asset in Grimsby's future, retaining its rich cultural distinctiveness while meeting its changing economic needs.

Location

Grimsby is located on the southern side of the Humber Estuary, seven miles from the North Sea.

The port is formed by a series of wet docks enclosed by a sea defence wall that projects out into the intertidal mudflats of the estuary. The docks are formed by two groups developed as a series of inter-connected wet docks: the western group includes Royal Dock, Union Dock, Alexandra Dock, West Haven and the Riverhead; the eastern group Fish Docks 1, 2 and 3. Fish Docks 1 and 2 have now been amalgamated to form a single wet dock. The two groups of docks are connected to the North Sea via two separate complexes of lock gates. The West Haven is also by the River Freshney.

The Port

The Port of Grimsby is owned and operated by Associated British Ports (ABP), the country's biggest ports group, which owns and operates 21 ports, including the four Humber Ports of Grimsby, Immingham, Hull and Goole. It is a nationally significant port handling over 1 million tonnes a year including car distribution, bulk cargo and service industries.

ABP is also the Competent Harbour Authority for the River Humber, one of the busiest waterways in the British Isles.

The Port leases out large areas of port frontage to other operators and companies including the fish market.

Bulk cargoes include grain exports, fertiliser imports, cement and metals (ABP website).

Local Authorities and heritage organisations

Grimsby comes under North East Lincolnshire County Council, a unitary authority, which oversees management of the Historic Environment Record (HER - database of historic buildings and archaeological sites and monuments) and provides heritage input and advice for archaeological mitigation within the normal planning process.

North East Lincolnshire County Council has adopted a Local Development Order (LDO) for the Port of Grimsby East targeting businesses involved in the renewable energy sector. The area covers 3.6 hectares of North Quay in the Fish Dock. LDOs allow specified types of development without the need for a full planning application.

The Historic England (HE) East Midlands office is in Northampton. HE provides input and advice on heritage matters including the roles of the inherited cultural environment in the management of change and specific advice for Listed Buildings (LB) and Scheduled Monuments (SM), together with strategic overviews and support at local, regional and national levels.

Historical development of the port and its North Sea roles and relationships

Grimsby as a modern port was founded in the late 19th century as a result of the expansion of the railways and the vision of the Manchester, Sheffield and Lincolnshire Railway Company.

In the late 19th and early 20th centuries it rose to become the premier fishing port in the world but the loss of access to the Icelandic cod fishery from the mid-1970s devastated the fishing fleet. Instead, it has re-focused to become the centre of Britain's seafood industry – its processing and redistribution. The Port is also aiming to attract businesses involved in offshore renewable energy production.

Fig 2 The Riverhead with the A1136 road bridge in the middle distance.

The archaeological and historical importance of Grimsby lies in its sequence of its harbour and docks, one of the earliest modern ports developed in late 19th century Britain.

Early origins

The settlement of Grimsby has its origins in the early medieval period when the Danes occupied much of northern England. The first reference to Grimsby dates to AD 866 referring to a crossing point on the River Humber. The Domesday Book recorded two ferries operating from Grimsby (Brigham *et al* 2008).

The Grimsby place-name is Scandinavian in origin derived from the personal name, *Grimr*, and the Old Norse *–by*, 'a farmstead, a village' (Key to English place-names website). The exact location of the early settlement is unknown but it was probably located next to the tidal creek which later became the 'Haven'.

By the 12th century, Grimsby had developed into an important fishing and trading port (in wheat and wool) based around the Haven (The Riverhead area) with a further haven at Pyewype in the medieval period (the exact location of the haven is uncertain). The land next to the Humber was probably salt marsh used for seasonal grazing or as salterns for salt production (Oliver 1825; Brigham *et al* 2008).

In the 14th and 15th centuries Grimsby was one of only six English ports where a shipman's guild is known to have existed and it was one of only thirty English ports that contributed ten or more ships to royal expeditions in the early 14th century (Friel 2003).

However, by the 15th and 16th centuries the Haven had silted up so severely that the port and town of Grimsby entered a long period of decline. As a last ditch attempt to revive the port in 1697 the Corporation of the town re-directed the River Freshney into the haven to keep the channel open. The new cut created the forerunner of the West Haven and the New Cut Drain canalised the former course of the River Freshney (Brigham *et al* 2008; Winfield 2014).

Fig 3 The West Haven, flanked with historic buildings on its right hand side.

By the late 18th century Grimsby was a small town of houses and streets in the area of St James' Church but in 1796 an Act of Parliament was granted to widen and deepen the harbour and to tempt trade away from Kingston upon Hull (Brigham *et al* 2008; Oliver 1825).

The newly-formed Great Grimsby Haven Company abolished all the previous port levies except certain tolls on certain wharves which were reserved for the freemen of the town (Bates 1893). The new dock was partly made by revamping the original quayside at the Riverhead and by re-cutting the West Haven (Winfield 2014). The Company also widened the tidal creek to form 'New Dock' which was linked to the Humber estuary by a lock at Lock Hill and in its day was the largest wet dock in Britain (Brigham *et al* 2008).

The new docks were opened in 1800, with plots for warehouses and timber yards set out in the area of the East Marsh (Bates 1893). At a similar time the Haven Mill and West Haven Maltings and Garth buildings were built at West Haven. At this time Grimsby's trade consisted of timber, tar, hemp and tallow, carried out principally with the Baltic ports.

There was a small fishing fleet and Grimsby's potential as a fishing station was recognised by the town which offered a bounty to boats landing and marketing their catches there. However, these efforts met with little success and despite customs duties increasing steadily through the early 19th century the port's development stagnated (Bates 1893; Gerrish 2000).

Rapid expansion

It was not until the 1840s, and the actions of John Chapman, Chairman of the Manchester, Sheffield and Lincolnshire Railway Company (MSLRC), that Grimsby began to develop as a nationally important port. Chapman believed that the railway should be extended to Grimsby and new port facilities developed (Chapman 2007).

This led to what could be regarded as 'the first truly modern dock in Britain as it integrated the docks, railways and the means for rapid unloading by the systematic and extensive use of hydraulic power' (Jackson 1983 cited in Brigham *et al* 2008).

Fig 4 Lock Hill, the quay walls designed by John Rennie (the Elder) for the New Dock, now part of Alexandra Dock.

To enable this, the railway company bought the rights of the Grimsby Haven Company to form the Grimsby Dock Company and construction on the Royal Dock began in 1846. Developed in an area of intertidal mud flats, the works required the construction of a large cofferdam, with massive piling and draining undertaken before the foundation stone could be laid in 1849 by Prince Albert.

The Dock was designed by James Rendel, engineer, with Adam Smith of Brigg as resident engineer, and Hutchins, Brown and White, as contractors. The dock walls were built using the same vaulted construction system that John Rennie (the Elder) had devised and employed for the first time in 1798-9 at Grimsby Haven Dock, and which is still visible beside the disused Grimsby Haven lock at Lock Hill (Listing description for The Royal Dock).The opening of the Royal Dock in 1852 by Prince Albert is commemorated in a statue located in front of the Dock Office.

The twenty acre wet dock was linked to the Humber via two locks, the largest wide enough to admit the Royal Navy's warships. The lock gates were operated by water pressure generated by a hydraulic accumulator tower, the Grimsby Dock Tower.

This iconic building was designed by the engineer James William Wild who based its appearance on the *Torre del mangia* on the Palazzo Pubblico in Siena, Italy.

It was under the forceful influence of the MSLRC that Grimsby developed as a major fish port. Trawler fisherman from south west England had started using Hull from the 1840s following the completion of its new harbour and rail links but the dock authorities did little to encourage the industry (Gerrish 2000, 114).

Seeing an opportunity the directors of the MSLRC, led by Chapman, sought to attract the trawler owners from Hull by offering an ice house, cheap carriage rates for fish, houses for fisherman, and the promise of purpose-built fish docks, which opened in 1857 (Chapman 2007; Gerrish 2000).

Fig 5 The two hydraulic accumulator towers viewed from the Royal Dock.

Fish Dock 1 was built to the east of the Royal Dock by the Grimsby Dock Company and the amount of fish being transported by the railway to inland towns and cities rose from 188 tons in 1855 to 30,000 tons in 1871 (Jarvis 2000; Winfield 2014).

Grimsby's success as a fishing port was also built on the move of trawl fishing from Brixham, Devon, along the English Channel to the Thames Estuary and Kent, and then up the North Sea coast. South Devon had been the focus of trawling in the later part of the 18th century, but many of the fishermen had moved eastwards, first as seasonal migrants but later as more permanent settlers as fish stocks diminished off the coast of Devon (Gerrish 2000).

By the 1850s Grimsby's population had swollen to 8,860 but this still did not include large numbers of fisherman. Its development as a fishing port required a large expansion of the labour force as Grimsby had no established fishing community. However, change happened rapidly: the 1861 Census showed the town's population as 11,000 with fisherman representing 12% of the male labour force, and with many others working in ancillary and secondary occupations connected to the industry.

To plug the labour shortage there were an increasing number of apprentices employed on boats out of Grimsby and in 1872 apprentices actually exceeded the number of trawlermen (*ibid*).

Traditionally apprentices to fisherman were family and friends but in the 1870s this could not fulfil the needs of Grimsby's rapidly expanding trawling fleet. Therefore many apprentices were indentured from union workhouses, reformatories, charitable institutions and a variety of public bodies, while others were homeless waifs and strays. Conditions afloat were often arduous and these young and inexperienced crew members were at high risk of death and injury. Unsurprisingly many absconded and if caught received a stint of hard labour in Lincoln jail (Robinson 2000a).

The growth of Grimsby's trawling industry was matched by the town's rapid urban expansion to accommodate these workers. Traditionally Freeman Street was considered the centre of the fishing community (Gillespies and Kevin Murray 2008).

In 1873-4 Union Dock was dug to connect the Royal Dock and the Old Dock (formerly known as New Dock). Originally it had a lock and gates at its eastern end but this section was widened and the gates removed to accept larger vessels in the mid-20th century.

Soon after the Union Dock was built Old Dock was re-cut and greatly expanded to form Alexandra Dock, including the cutting of its western arm (Brigham *et al* 2008).

By the late 19th century many of the Grimsby's port-related landmark buildings had been built. At the southern end of Alexandra Dock the original Corporation Bridge was built in 1873, and the nearby Victoria Flour Mill was built in 1889 and expanded in 1906. The Dock Offices were built in 1885 for the Grimsby Dock Company and in 1892 the later, shorter but more efficient hydraulic accumulator tower was built.

Fish Dock 2 was added to the south of Dock 1 in 1876-7. On the land between the quaysides and warehouses of Royal Dock and the two Fish Docks a complex of buildings linked to the fishing industry developed in the late 19th century (Winfield 2014).

This included fish smokehouses and processing buildings, a fishermen's outfitters shop and warehouse, and a smithy, as well as a former butcher's shop and warehouse for Cosalt (the Grimsby Coal, Salt and Tanning Company).

Formed in 1873 as a co-operative of fishing vessel owners, Cosalt was involved in servicing and supplying a variety of products and services for fishing fleets and other vessels, including coal, salt, and tannin (to waterproof sails and rope).

Ship building yards were also established in the docks to build and service the fishing fleet and merchant vessels in the area. A yard near Lock Hill comprised several slipways and a small dry dock, the lock entrance of which still survives as part of the sea wall.

By the late 19th century Grimsby was a large modern port with a nationally important fleet of trawlers, fish landing sheds flanking the western side of the Fish Dock 1 and 2, a dry dock, numerous timber yards, coal jetties in Alexandra Dock, and an ever growing railway system serving the entire docks. However, at this time the Great Central Railway Company (which had absorbed the MSLRC) realised that Grimsby lacked the space for future expansion and was hampered by the tidal limits which limited the safe access to the docks. The Company first looked at Pyewype but eventually chose Immingham to create further dock facilities to handle bulk cargo.

A World renowned fishing port

In the early 20th century Grimsby established itself as England's and the world's premier fishing port. It was not only a trawler port but was also used by other fishing vessels such as steam drifters pursuing herring.

Fig 6 The Kasbah Character Area, Wharncliffe Road North. Note the surviving rails in the foreground.

Its foremost position owes much to the advent of the steam trawler. The first successful use of steam propulsion for trawling occurred in 1877 and the first purpose-built steam trawler was built in 1885. By 1892, 113 steam trawlers operated out of Grimsby rising to 450 by 1902. Grimsby, together with Hull, played a major role in the emergence of the purpose-built steam screw trawler (Chapman 2007; Robinson 2000b).

Vessel efficiency also improved with the development of new marine engines and advances in hull construction. The need for technological change was pressing – by the 1870s the North Sea had already become over-fished and these developments allowed the trawling fleets to break out of the confines of the North Sea to exploit fish stocks further afield in deep water grounds (Gerrish 2000; Robinson 2000b).

Aquarius of Grimsby was the first to exploit the bays and fjords of Iceland with many other east coast boats following in its wake. But steam trawling now required greater financial investment and, to offset this cost, better dockside facilities, access to cheap coal, impounded harbours, busy fish markets, ice houses, processing works and good transport links for the redistribution of fish. In all of these respects Grimsby's location, combined with the investment in its port infrastructure, made it an ideal place for steam trawling to flourish (Jarvis 2000).

It was in 1900-1 that Great Grimsby's Ice Company Limited built the Ice Factory on Gorton Street to supply ice for packing fish. It is understood to be the earliest remaining ice factory in the United Kingdom (Humble 2010; Great Grimsby Ice Factory Trust website; National Heritage List for England website, Ice Factory summary).

At this time the area between Gorton Street and Wharncliffe Road North next to the Fish Docks was densely built-up with several terraces of buildings fitted in between the railways that served the docks. A majority of the buildings were used by the fish industry including processing businesses and this gave rise to the area known as the Kasbah.

Fig 7 The Kasbah Character Area, The Ice Factory.

The increasing number of boats trawling off Iceland and the Faeroes and the risks the trawler industry faced brought about a changing relationship with Government, legislation and led to several conflicts that defined the British fishing industry in the 20th century – often involving Grimsby in some way.

The amount of foreign trawling activity off Iceland eventually aroused the ire of Icelanders and in 1901 the Danish and British Governments signed a convention so that the territorial fishing limits of Iceland and the Faeroes were set to three miles, a forerunner of what was later to come.

Due to the industrial scale of Grimsby's trawling enterprises the employment structure was hierarchical – at the top were the boat owners and skippers, followed by engine men, radio operators and at the bottom of the chain, the trawlerman. However, in order to cope with the financial risks of undertaking trawling far from the home port, trawlers became owned and operated as limited liability companies. This spread the risk across the venture including the trawlermen, yet the Merchant Shipping Act of 1894 had led them to be classed as casual workers, and their rights to take industrial action proscribed.

This issue escalated to a head in 1901 when the Grimsby Fishing Vessels Owners' Federated Protective Society tried to pass the full financial risks on to the workforce. This led to a fiercely contested strike action which had many ramifications for Britain's trawler industry. The 'Great Grimsby Lock Out' lasted over three months, after which trawler owners developed a trawling industry based upon the business strategies employed by merchant ship owners. Over the next 60 years Grimsby was often the focus of trawlermens' struggle to establish more effective union representation and workers' rights (Mumbly-Croft and Barnard 2000).

Yet despite these troubles, and declining fish stocks in the North Sea, Grimsby continued to be a major fishing port by exploiting distant deep and middle water grounds. In 1930, 85% by weight and 80% of value of fish landed in England and Wales passed through Grimsby, Hull, Fleetwood and Milford Haven. Fish Dock 3 was constructed in 1934 to help modernise the port with the investment partly funded by the Government's short-lived Unemployment Grants Committee (Jarvis 2000). The

Dock also includes a boat yard with concrete-built slipways and winch house facilities (near to Wickham Road) and in the 1930s several operators in Grimsby invested in updating their boats. Efforts were made to make the exploitation of distant grounds more profitable by the use of factory ships with the *Northland* of Grimsby being one of the pioneering vessels before the Second World War (Robinson 2000b).

Due to the importance of Grimsby as a major fishing port extensive military defences were established during the Second World War including a large coastal gun battery and command centre positioned on the outer wall of the Fish Docks (Brigham *et al* 2008).

Grimsby had an important role in the development of mine sweepers in the First World War (Royal Naval Patrol Service Wikipedia page). Between 1939 and 1945 the port also had many of its trawling vessels requisitioned in the War and was Britain's largest base for mine sweepers and anti-submarine warfare of the Royal Naval Patrol Services. A memorial to those who lost their lives was established near to the locks to the Royal Dock.

By the 1950s much of England's fishing industry was beset with problems: greater international competition, disputes, declining fish stocks, poor financial returns, a lack of coherent Government policy and investment in major port facilities, under-investment in vessels by many ship owners, the casualisation of employment and a poor record of safety at work (Jarvis 2000; Mumbly-Croft and Barnard 2000).

The Icelandic Fish Wars or 'Cod Wars' and the eventual exclusion of British fishing vessels from fishing within 200 nautical miles of Iceland had a considerable impact on trawlers operating out of Grimsby. The Wars were actually three short periods of confrontation (1958, 1972-3 and 1975-6) but became serious enough for Royal Navy to intervene and protect British trawlers fishing off Iceland who were having their nets cut by Icelandic patrol vessels. It was important for Iceland to defend its fishing industry as at the time it was the most important sector in their economy (Cod Wars Wikipedia page).

With all these troubles change was on the horizon for the industry. Firms such as Ross Group and Associated Fisheries anticipated market trends and moved successfully from being trawler owners and operators into fish processing.

In the early 1980s Grimsby's fishing fleet collapsed but it was able to develop as a hub for seafood redistribution and processing for which it is now the United Kingdom's main centre.

The market handles fish from local, UK and foreign vessels supplied from Ireland, Scotland and other British Ports. It also has a long established partnership with Iceland, Faroes and Norway dealing and handling substantial quantities of containerised fish. The fish market handles over 20,000 tonnes of fresh fish each year. Frozen fish is also landed at the Royal Dock.

Grimsby is also the UK's major car import terminal and fish redistribution location. Car distribution is handled by two dedicated Ro-Ro berths, and the new Grimsby River Terminal, in total handling more than 500,000 imported cars a year. Opened in 2013, the River Terminal has two jetties each able to handle vessels carrying 3,000 cars.

The port is also developing an important role in serving the offshore wind energy industry. Many businesses involved in the sector have located to North Quay with survey and servicing vessels berthed in the Fish Dock.

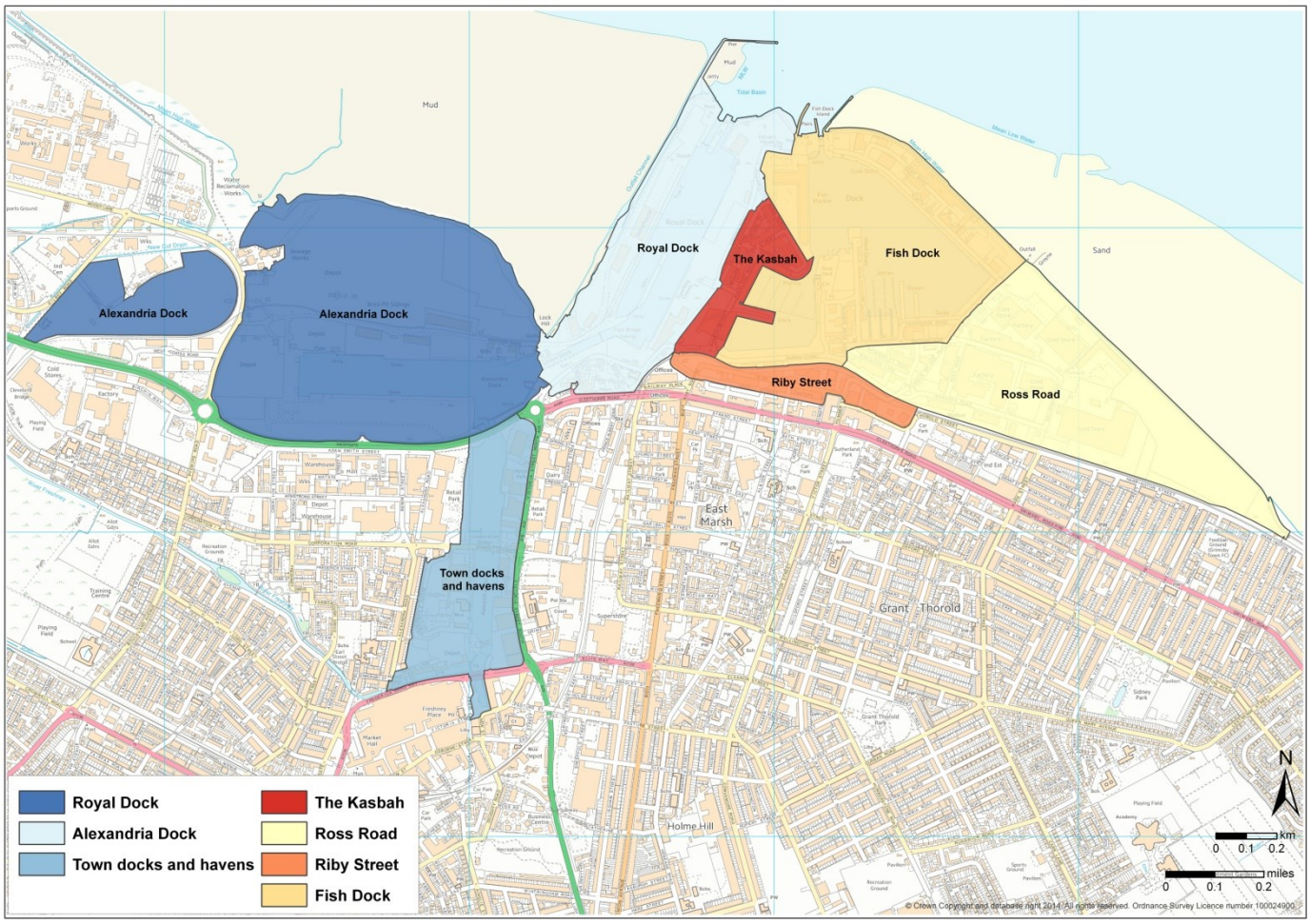

Fig 8 Character Areas.

Port-related heritage assets and contributions to present character

Grimsby's overall port-related area has been divided into seven distinctive Character Areas (Fig 8).

The distinctive feel of these Character Areas is shaped by their historical development and influenced in the present by patterns and sometimes direct survivals from their inherited past. That heritage can be many and various – place-names, street layouts, patterns of open space, whether public or private, a sense of enclosure by closely spaced or large buildings, or the presence of readily recognisable historic buildings and features – they all provide links in the present to Grimsby's past, even if the original structures which influenced and defined present aspects of the townscape and streetscape may have long gone and been replaced by modern features. These distinctive aspects of place add interest, texture and unique character to the port. The way in which surviving historic aspects within the port's fine-grained landscape, often called heritage assets, interact with that present character serves as a tangible reminder of the cultural origins of the port's distinctiveness. Whether or not people who live in or use Grimsby have any interest in its heritage as such, its historical development has shaped the place which is familiar to them, with which they have cultural associations and where they undertake their recreational, industrial and commercial lives.

This section seeks to examine how the surviving port-related heritage contributes to the present character of Grimsby.

Character Area Summary

1. Royal Dock

An area of continuing commercial port activity, the layout of which dates to its late 19th century design as a rectangular wet dock enclosed by a quay wall of York stone ashlar walls on a brick substructure with cast-iron mooring bollards. Its design and construction was a feat of Victorian engineering and its continued use as part of the modern port is a testament to this.

At the northern end of the Dock the River Humber is accessed through two original locks, the entrance guarded over by the iconic Grimsby Dock Tower. Built in 1852 and at over 300 feet high, this hydraulic accumulator tower once powered the Dock's lock gates and although it now stands redundant it is a marker visible across Grimsby of the port's pivotal role in the history of the town. It is also an important day mark visible for miles out to sea.

Next to the earlier and taller tower is a later and smaller accumulator tower that replaced it. The two towers are a poignant reminder of the rapid developments in engineering that occurred in late 19th century Britain.

Although much quieter than in times past, the Royal Dock is still used by smaller short-journey commercial vessels for the transport of bulk cargoes including metal, grain, fertiliser and frozen fish. A jetty dating to the mid-20th century for the export of coal from the port stands underused, its wooden construction contrasting with the brick and stone built walls of the Dock.

On the western quay modern warehousing and storage yards are used to store timber and metal. The eastern quay is more open and the redundant rails of former travelling cranes still survive on its surface – a reminder of how the needs of the port change with its economics, trade and operation.

Returning to the mouth of the Dock, on its western side is a war memorial dedicated to the service of Grimsby's mariners in the Second World War when the port was a centre for mine sweepers clearing the North Sea – a dangerous job in which many local people gave their lives. Nearby a slipway originally built in the later 19th century leads down to the sea.

From here a good view can be gained of the mouth of the Humber and the recently built jetty of the Grimsby River Terminal, a modern extension of the port into deeper water to allow large Ro-Ro vessels to berth at Grimsby – the development reflecting the increasing size of commercial vessels.

The western edge of the Area is defined by the shoreline of the reclaimed ground against the intertidal mudflats. Due to the tidal surge in December 2013 this seaward edge is currently being reinforced by sea defences to protect Grimsby from a similar event.

At the southern end of the Area are the Dock offices. An imposing red brick building built in 1885 it commands a stunning view of the Royal Dock and draws the eye as a place of importance and authority. Its use as ABP's headquarters for the port continues its original use. Outside its front entrance is a statue of Prince Albert who opened the Royal Dock in 1852.

Close-by the Royal Dock narrows to the Union Dock, a later 19th century connection built to link with the newly built Alexandra Dock. Originally its eastern end was a series of lock gates and much narrower but in the mid-20th century the channel was widened, and the gates removed as a result of the increasing size of commercial vessels.

2. Alexandra Dock

Alexandra Dock was built in the late 19th century as a massive expansion of the 'New Dock' built by the Grimsby Haven Company in the late 18th century; the New Dock itself an expansion of the natural tidal inlet that once linked Grimsby to the North Sea.

Reminders of the late 18th century dock survive in the quay walls and the shape of the original lock entrance at Lock Hill.

Character Area Summary

Alexandra Dock is rectangular and similar to its original design although parts of its dock wall had been updated in several phases. Fronting onto the northern side of the Dock is a series of modern storage yards and warehouses dealing with the bulk cargoes. This cargo is now distributed by road haulage but originally the Dock was served by railways which also brought coal for export. Beyond this, above Westside Road, and stretching around the western end of the Dock to the A180, is a huge area of car parking. Formerly an area of railways and timber yards it is now a concrete space which dazzles with the reflection of Volkswagen and Toyota cars that have been imported via the Grimsby River Terminal. Typical of Grimsby's past port development from the late 19th century onwards much of this area was reclaimed from intertidal mudflats and salt marshes.

This part of Alexandra Dock is still navigable by smaller commercial shipping and a small part of the dock is used by the Grimsby and Cleethorpes Yacht Club with a jetty for the berthing of vessels.

The southern arm of the original Alexandra Dock is now unnavigable to larger vessels due to the construction of the A180 road bridge and forms part of the Town docks and havens Character Area.

3. Town docks and havens

This is where the historic phasing of Grimsby's earlier port development is detectable.

The commercially redundant part of Alexandra Dock forms the main North-South axis of the Area, its shape and extent marking the successive expansion of the original tidal inlet that led Grimsby to develop as a port. Wooden posts marking the channel stand in the northern part of the Dock.

Both sides of the Dock are formed by walls with successive phases of renewal apparent in the character of their construction (some of the sections are modern whilst others date to the late 19th century).

Flanking and backing on to both sides of the Dock is a mixture of light industrial, retail and commercial buildings. This includes the imposing Victoria Flour Mill originally built in the 1890s but added to in the early 19th century. Its stature, robust build and height dominate the skyline of the Area, forming one of the few remaining buildings associated with the Dock's former port-related past.

Crossing the Dock is Corporation Bridge. This iron-built drawbridge was built in 1925, replacing a late 19th century swing bridge. The bridge still carries traffic across the Dock and is a busy thoroughfare and a good place to view the Dock and the Victoria Flour Mill. It is also an imposing structure and contrasts with the surrounding modern buildings visually adding historic time-depth to Area.

On the south western side of the Dock is the Fishing Heritage Centre, a modern building set in a former timber yard. Moored alongside the museum is the *Ross Tiger*, one of the trawlers built as part of the Ross

Trawler fleet in the mid-20th century. Its presence adds context to the Dock in that it was once part of the active commercial port, the only other boat in the Dock is the wreck of a wooden vessel.

At the far southern end is West Haven and Riverhead, the earliest surviving parts of Grimsby's port. They now feel quite separate from the rest of the port. The two areas of water are separated from the southern arm of Alexandra Dock, and the working part of the port, by a flood defence wall and pumping station to prevent the River Freshney from overflowing into the town.

The Riverhead is partly cut off from West Haven by the modern road bridge of the A1136. It sits next to the retail centre of the town flanked by a pedestrianised area and a modern retail complex with pubs and shops. The dock here has a mixture of brick-built and concrete clad quay walls, with a barge used as a café and bar. The character of the dock is overwhelmed by the buildings next to it, and it stands as an isolated part of the former port, its relationship to the other docks further diminished by the scale and busy traffic of the modern road bridge.

West Haven runs parallel to the A1136. It was originally cut in the 16th century to redirect the River Freshney to help scour out the silted up tidal creek and was then updated in the 18th century as part of the first attempt to revamp Grimsby as a port. However, it is now very much quieter, forming a shallow and narrow channel, almost canal-like and choked with weed.

On its southern side a revetment wall and walkway passes along its banks up to Haven Bridge. The dominance of the modern A1136, named the Frederick Ward Way, in terms of noise and activity makes it easy to rush past the West Haven without noticing it.

However, from the pavement and walkway people often take time to look at the Freshney and West Haven. It draws the eye and part of its charm and interest are the footbridges which cross the water and the historic buildings that back on to its northern side.

Several of the buildings have their origins in the early 19th century and the re-cutting of the West Haven by the Grimsby Haven Company. They are interesting reminders of Grimsby's earlier port heritage and the attempts to improve its economic fortunes. They also form a varied and interesting part of the streetscape despite being currently in poor condition.

4. Fish Dock

A wet dock with surrounding development, quayside frontage, slipways and jetties. Built in three phases between the late 19th century and early 20th century, the wet docks largely retain their historic extent although Fish Docks 1 and 2 have been conjoined to form one large wet dock.

It retains an historic lock opening and protecting pier (early 20th century) and some of its historic quay walls, although sections have been successively refurbished giving them a varied character in terms of construction.

The Area played an integral part in the development of modern Grimsby and its rapid rise to become the

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world's busiest trawler port in the early 20th century. It was initially developed to motivate the fishing industry to locate to Grimsby from Hull, and then continued its expansion with the provision of additional dockside facilities.

Despite the collapse of Grimsby's fishing fleet there is still a small number of fishing boats that use the dock. It is also still a nationally important centre for the redistribution of fish. At the modern fish market fish mainly caught off Iceland and the Faeroes is sold, often for processing in the local area by the major seafood suppliers.

Fish Dock 2 is partially used by a modern yacht marina but its southern quayside edge is unused, with the former early 20th century fish sheds that once fronted on to it surviving as a brick-built platform running alongside Murray Street. The southern side of Murray Street has a range of modern and earlier 20th century buildings used by a variety of port-related businesses, mostly fish processing.

The ground dividing the two dock basins is mainly used for boat storage. There is a series of early to mid-20th brick-built century warehouses (unused) on Wickham Road with the three sets of jetties, slipways and winch houses to the east of West Quay, an area still used for ship repair and maintenance.

Much of the remaining quayside frontage in the Character Area is either open, derelict land awaiting redevelopment or mid to late 20th century warehouses and office buildings of differing scale and character, many of which await reuse.

Vessels access the Humber through a mid-20th century lock at the end of the northern quay. The northern quay of the Fish Dock is formed by the protecting arm of the bund built to enclose Fish Dock 3 in the 1930s. Here, redevelopment of several parcels of land is currently taking place as businesses involved in the offshore industry build new offices and depots here (including the area of the LDO). The Dock is now mainly used by small vessels that regularly take out small teams of staff to service the offshore wind turbines. It is this industry to which the port authority hopes to attract to Grimsby.

On the seaward side of the North Quay the sea defence wall protecting the docks has been updated following the tidal surge of December 2013.

5. The Kasbah

The Kasbah is a distinctive network of small streets lined with late 19th and early 20th century brick-built buildings dominated by the smokehouses, warehouses and shops of small seafood businesses. The Area developed in tandem with the fishing industry and the Fish Docks as a landward base for its industry-related activities. It is an unusual and interesting place and a direct link to the development of Grimsby as the world's foremost fishing port in the late 19th and early 20th centuries.

As Grimsby continues as a nationally important hub for the processing and redistribution of seafood it remains a busy place rich in the sights and smells of the

Character Area Summary

industry. Its small buildings form a dense cluster of almost town-like character, that contrasts greatly with the more industrial and open character of the Areas that surround it.

The southern side of the Area is dominated by the bulk of the Ice Factory and its conveyors which loom high above Gorton Street. Redundant since 1990 it still contains its original ice making machinery. There are also many other redundant buildings awaiting reuse and redevelopment including the former range of historic buildings previously used by Cosalt. Fronting on to the Fish Dock are unused fish sheds which were first built in the early 20th century.

On Wharncliffe Road North rails survive on the road surface. The rails were first laid in the late 19th century with the development of the first fish sheds adjacent to Fish Dock 1.

6. Ross Road

The Area contains the largest cluster of seafood processing and distribution businesses in the UK with warehouses, cold stores and offices dating to the late 20th century. The area was reclaimed from the tidal mud flats in the 1930s following the construction of Fish Dock 3. The Area is visually dominated by Ross House, the headquarters of the Young's Bluecrest group. Nearby is the Grimsby Seafood Village which has been built to provide modern facilities for small seafood businesses.

7. Riby Street

Despite not being within the historic footprint of the docks the Area has a long-standing association with the workings of the modern port. It was originally developed as terraced housing in the later 19th and early 20th centuries to house the growing numbers of people attracted by the success of Grimsby.

In the mid to later 20th century the area was redeveloped as an area of light industry and now it includes several buildings, warehouses and a smokehouse associated with the fish processing industry.

Conservation values of the port heritage assets

In 2008, English Heritage published *Conservation Principles*, containing its framework and guidance for assessing the range of values pertaining to the historic environment (English Heritage 2008). Conservation Principles identifies four main types of values: Evidential, Historical, Aesthetic and Communal (*ibid*). The following subsection uses that framework to present a preliminary assessment of the values and significance attached to Grimsby's present port-related heritage.

Evidential

– 'the potential of a place to yield evidence about past human activity'

Grimsby's development as a nationally important port from the late 19th century gives its surviving features significant evidential value, contributing to the historic character and time-depth of the port's present landscape. The shape and extent of its wet docks, locks and quays all contribute to this character. As do the construction techniques and innovative structures such as the hydraulic accumulator towers built as part of the port expansion which reflect Victorian Britain's engineering prowess and the economic ambition of the railway companies.

Its rapid development to become the world's leading fishing port in the early 20th century and its contribution to the development of Britain's modern trawling fleet and the present seafood industry makes the earliest features in this sequence of considerable significance.

Together with the Fish Dock Character Area, the concentration of extant historic buildings, structures, and road names associated with the fishing industry in the small area of the Kasbah Character Area provides good evidence of the early stages in this development. This value is enriched by the interconnectedness of the key heritage assets in the Areas (the fish sheds, Ice Factory, the Dock and the historic buildings in the Kasbah) and the inter-visibility between them.

In the Kasbah there is a blend of large scale functional industrial architecture with small scale fishmongers and smoke houses, which together with the boats using the Fish Dock strongly evoke a strong and unique sense of place and Grimsby's heritage as a fishing port.

The National Fishing Heritage Centre celebrates Grimsby's glory as a trawler port in the rich form of its displays, presentation of documentary sources and the *Ross Tiger* trawler.

As direct survivals from Grimsby's earlier port development, John Rennie the Elder's quay walls and lock gates at Lock Hill, and the Town docks and havens Character Area have high evidential value. These contain the earliest surviving features related to port activity and the great efforts made from an early period to conquer the natural limitations the area posed to create a thriving port.

Historical

– 'the ways in which past people, events and aspects of life can be connected through a place to the present. It tends to be illustrative or associative'

Grimsby's role as a port and the location of its older and more recent foci of its docks are important to the understanding the town's history – from its earliest phase as an important medieval port, to its decline and later re-emergence through great financial investment and the vision of the MSLRC. Grimsby's continued role as a port and its move away from fishing reflects local, regional and national changes of the past fifty years but also the port's adaptability in the face of adversity which has been a constant feature of its development.

Fig 9 Seafood processing factory and redistribution centre in the Ross Road Character Area.

Fig 10 Smaller scale fish processing businesses in the Riby Road Character Area.

Its success as a major port is linked to the Manchester, Sheffield and Lincolnshire Railway Company who helped develop the modern port from more humble beginnings. The Company has an important role in the industrial past of the wider area, of strong historical value both locally and regionally.

The National Fishing Heritage Centre outlines the national role that Grimsby played in the history of the British trawler industry, especially from the early to mid–20th century.

It is from this industry, and from companies like Ross Trawlers diversifying in the 1960s, that Grimsby's present role as Britain's leading centre in the seafood industry developed. This role is of strong historical value on a national stage.

Seventy percent of the UK's fish processing industry is located in the town, and in recent years, this expertise has led to diversification into all forms of frozen and chilled foods. More than a hundred local companies are involved in fresh and frozen fish production, the largest of which is the Young's Bluecrest Group, comprising Young's Seafood and Findus. It is a major employer in the area, with some 2,500 people based at its headquarters. From this base, Young's has a global sourcing operation supplying 60 species from 30 countries making Grimsby one of the largest centres of fish processing in Europe (Grimsby Wikipedia page).

At a more local level of seafood processing Traditional Grimsby Smoked Fish was awarded Protected Geographical Indication (PGI) status by the European Commission in 2009 (Traditional Grimsby Smoked Fish Wikipedia page).

Aesthetic

– 'the ways in which people draw sensory and intellectual stimulation from a place'

As a working port, Grimsby's constantly changing activity generates interest for many, whether from the coming and going of visiting ships, the type of cargoes being stored and redistributed, and the buildings and structures associated with its use. To some, these activities may not always be seen as attractive but nonetheless many find them stimulating and they arise as a direct consequence of the port's historic industrial development and its continuing industrial use today.

The iconic Grimsby Dock Tower is an important landmark to the town and an important day mark for navigation. At over 300 feet tall it dominates the local skyline catching the eye due to its unusual architectural detail and shape. On the eastern side of the port, the Dock Offices, Albert statue, and Ice Factory form significant landmarks at the gateway to the Fish Docks.

At a more intimate level many local people draw interest from the comings and goings of the seafood processing industry in the Kasbah Character Area and although unsightly to some, it draws great visual interest in its activity and historic buildings to others, and is celebrated in several articles on the internet (for example Rod Collins' website). The Ice Factory has featured in television documentaries including 'Coast' and 'Restoring England's Heritage'.

It can be difficult for people to appreciate the aesthetic value of the docks and port as many of its Character Areas are underused with several derelict buildings and brownfield sites awaiting reuse and regeneration. However, when refurbished and found roles within their areas' regeneration, they provide narratives founded in the history, character and cultural distinctiveness of the place.

This is also the case within the Town docks and haven Character Area where Grimsby's surviving port-related heritage is not currently celebrated and is presented with little consideration of its historic importance to the town.

Communal

– 'the meaning of a place for the people who relate to it, or for whom it figures in their collective experience or memory'

The continued success of Grimsby as a working port provides an important focus for its local community. It is evident from local people writing about the history of the area on the internet and elsewhere that there is considerable pride in the town associated with the port and its continued economic success, especially with the potential for the port to help drive regeneration in the wider area. This pride is also reflected in high levels of local interest in the

Fig 11 Winch houses off Whickham Road in the Fish Dock Character Area.

port and its history, especially its past as a major fishing port.

In 2010 the Great Grimsby Ice Factory Trust (Great GIFT) was formed to try and secure the future of the building. There is a Grimsby, Cleethorpes & District Civic Society and Lincolnshire also has an active Building Preservation Trust which has renovated a handful of historic townhouses and farmhouses, but all outside of the port area.

Current levels of heritage protection

The Royal Dock Character Area contains a high number of Listed Buildings: The quayside walls of the Dock are Grade II (LB 1379867), the Grimsby Dock Tower Grade I (LB 1379870) and the later tower Grade II* (LB 1379871). The east and west locks (including its rails and bollards) to the Royal Dock are both Grade II Listed (LB 1379868; LB 1379869) as is the lock keeper's cottage (LB 1379872). At the southern end of the Area the Dock Offices (LB 1379873), Prince Albert statue (LB 1379874) and a former house at 26 Flour Street (LB 1379837), now used as offices, are Grade II Listed. To the south of Cleethorpes Road, the former Customs House is Grade II Listed (LB 1379417).

Within the Alexandra Dock Character Area the original lock and dock wall of the late 18th century New Dock built by the Grimsby Haven Company are Grade II* Listed (LB 1379856).

In the Town docks and havens Character Area Corporation Bridge (LB 1379432), Castle Press (LB 1379891), Victoria Mill (LB 1379892), Haven Mill (LB 1379840) and the West Haven Maltings and Garth Buildings (LB 1379841) are all Grade II Listed.

The Kasbah Character Area includes a high concentration of Listed Buildings including the Grimsby Ice factory (Grade II*; LB 1379842), a wealth of Grade II fish processing factories and smokehouses (LB 1402339, LB 1379834, LB 1379847, LB 1379848, LB 1379882, LB 1379883), and Grade II shops and warehouses (LB 1379835-36 incl.).

Riby Street Character Area includes the Grade II Listed Russell Fish Processing and Smoking Factory (LB 1379908).

Fig 12 In need of care, conservation and reuse – the West Haven malting and Garth buildings and the channel of the West Haven.

The Victoria Mill Conservation Area includes Corporation Bridge, Victoria Flour Mill and part of the southern arm of Alexandra Dock in and around Corporation Bridge.

In terms of non-heritage designations, the foreshore up to and just above Mean High Water (MHW) is included within the Humber Estuary Site of Special Scientific Interest (SSSI). Change of use and ground disturbance within the SSSIs are strictly controlled and therefore offer archaeological features general protection from unlicensed disturbance.

Pressures for change

The main pressure upon the port arises from its economic need to remain commercially viable. The collapse of the area's fishing industry, the increasing size of vessels and major changes in port technology and provision nationally, has meant that the port has had to revise its business model, a situation which will continue into the future.

Brownfield sites next to, or within the port are prime areas for redevelopment especially as ABP seek to create new businesses streams for the port. In the Fish Dock Character Area, redevelopment of the North Quay continues with blocks of land being redeveloped as offices and depots for businesses involved in the offshore wind industry, including the area of the LDO specifically created to attract these businesses.

ABP is also keen to see the development of modern seafood processing facilities within its estate. The development of the Grimsby Sea Food Village located in the Ross Road Character Area was built to enable small to medium sized seafood businesses to have modern facilities close to the cold stores and redistribution hauliers (Grimsby Seafood Village website). It is possible that many of the seafood businesses located in the Kasbah could choose to move to the Seafood Village leaving their former premises in the historic Character Area unused.

The narrowness of the locks entering the Royal Dock and the Alexandra Dock mean that only short sea shipping can use the port, with small vessels only able to use the lock leading to the Fish Dock. It is possible that future economies of scale may lead to the increase in the beam and draft of short sea

commercial vessels and make the use of the historic Docks more difficult for trade.

The need for regeneration in Grimsby is high in response to the difficult economic times of the present and recent past. The challenge is to revitalise the town and port while retaining the distinctiveness of the place and pride in its past achievements. With sufficient understanding and thought, the character of its cultural heritage can offer a positive asset in achieving that dual goal for the future Grimsby that will emerge.

The Shoreline Management Plan 2 (SMP2) provides a long-term risk assessment relating to future coastal evolution and presents a policy framework to address the risks to people and the developed, historic and natural environment in a sustainable manner.

The SMP2 for the *Flamborough Head to Gibraltar Point Shoreline Management* outlines the preferred management recommendations for the East Immingham to Cleethorpes Policy Development Zone (PDZ 3) as 'to maintain protection to the significant industry, port and residential areas present in the coastal hinterland' its justification 'to sustain the viability of industry, port and residential areas present' (Scott Wilson 2010).

Under the heading 'Appraisal of Impacts' it outlines that the management intent to 'Hold the Line' will require the sea defences to be maintained and upgraded with the need for some defences to be significantly upgraded.

Heritage risk assessment and opportunities

This Port Heritage Summary has highlighted the essential historic character and heritage assets that underpin Grimsby's port-related character.

Regeneration planning which is informed and inspired by these elements can take a proactive approach to ensure that new developments enhance the distinctiveness and strong 'sense of place' which arise from Grimsby's historic cultural development rather than as if from a blank canvas. Such heritage-led regeneration will ultimately be more sustainable for the local community.

The Kasbah Character Area has a high concentration of historic buildings, several of which are currently unused and at high risk if no viable future use for them can be established. The current vacant historic buildings offer potential for small businesses to locate there, bringing economic diversification to the area and more integration between the town and port. This would help prevent the area from declining further but would require considerable encouragement and support to ensure success.

Most notable of these buildings is the Ice Factory which is at high risk as it has been unused since the early 1990s. The building is on Historic England's 'Heritage at Risk' register and the condition of the building and its machinery are continuing to deteriorate. The Great Grimsby Ice Factory Trust (Great GIFT) hopes to secure the future of the building, and with the support of the Prince's Trust, is appraising the potential economic options for its future reuse.

The decline of the fishing industry at Grimsby and the changing economics in the modern seafood industry led to the eventual closure of the Ice Factory and it is possible that the need for modernisation could affect the Kasbah Character Area. Several of the port's seafood businesses have already relocated to the Ross Road Character Area and many of the fish processing businesses in the Kasbah may want to move to modern premises elsewhere in the port such as the Grimsby Seafood Village.

The Area is also in an isolated location with limited public access due to its position within the commercial port and the major roads that cut it off.

It is also likely that future economic viability of the port will require changes in ABP's business model and changes to the Docks and quay frontage. For these reasons the current character of the entire Kasbah Area is under strong pressure for change.

For many local people it is important that the relationship of the port with the town of Grimsby which has been so successful in the past can flourish in the future.

The water bodies of the West Haven, Riverhead and southern arm of Alexandra Dock are at medium to high risk of neglect due to their present under use. They are no longer focal points to which the town looks to – perhaps a reflection of the decline in their port related activity and being cut off by modern road bridges. It is important that these areas are better considered in future in relation to the town to help improve their connectedness and usage. This point is made in several regeneration documents and in the town's section of *Design North East Lincolnshire - Places and Spaces Renaissance* which states, 'Grimsby has many underutilised waterfront spaces which have been overlooked throughout the second half of the twentieth century. The connections to the waterfront could be re-established to re-link the town centre to the water, which is a key part of Grimsby's heritage and a substantial asset to the town' (Gillespies and Kevin Murray 2008).

Other key port-related heritage assets at risk include the central part of the Victoria Flour Mill which, unlike the rest of the building, has not been converted into residential use and is at medium risk of neglect.

The Listed West Haven Maltings and Garth buildings are currently derelict and are at high risk. They provide a substantial part of the northern frontage on to the West Haven and are survivals from the earlier attempts to improve the port at Grimsby.

West Haven is also neglected and at risk in terms of falling further into disrepair, the river channel littered with rubbish diminishing the visual aspect of what is an important part of the town's heritage.

At present there is no overarching document that outlines the heritage values of the entire town of Grimsby in any detail, assessing the different areas

within it, and the economic changes that the town and port are likely to face.

A carefully targeted Extensive Urban Survey assessment for Grimsby could help towards achieving this. Such surveys are undertaken to help local authorities, Historic England and others provide heritage information and ideas to help guide future development and support historic environment input into the planning process.

Ground disturbance in certain parts of the Character Areas could reveal buried archaeological deposits. For example, in the area of the Riverhead, to the west of the present riverside wall, traces of a medieval wooden quayside wall were revealed by archaeological excavation (North East Lincolnshire Archaeological Services 2013). However, in certain areas that potential could be limited by previous substantial ground disturbance.

References and further reading

Bates, A, 1893. *A Gossip about Old Grimsby with a complete list of the mayors from the year 1202 to the present time and the members of the borough from 1639*, Albert Gait, Grimsby

Brigham, T, Buglass, J, and George, R, 2008. *Rapid Coastal Zone Assessment Survey Yorkshire and Lincolnshire: Bempton to Donna Nook – Part 1; Report*, Humber Field Archaeology & English Heritage

Chapman, P, 2007. *Grimsby – The Story of the World's Greatest Fishing Port*, Derby Books, Derby

English Heritage, 2008. *Conservation Principles, Policies and Guidance for the Sustainable Management of the Historic Environment*, English Heritage

Friel, I, 2003. *The British Museum: Maritime History of Britain and Ireland c.400-2001*, The British Museum Press

Gerrish, M, 2000. Following the Fish: Nineteenth-Century Migration and the Diffusion of Trawling in Starkey *et al*, *England's Sea Fisheries*, Chatham Publishing, London

Gillespies and Kevin Murray Associates, 2008. *Design North East Lincolnshire - Places and Spaces Renaissance*, North East Lincolnshire Council and Yorkshire Forward

Humble, L, 2010. *Grimsby Docks, Ice Factory, Conservation Statement*. Online summary on the Great Grimsby Ice Factory Trust website

Jackson, G, 1983.*The History and Archaeology of Ports*, London

Jarvis, A, 2000. Dock and Harbour Provision for the Fishing Industry since the Eighteenth Century in Starkey *et al*, *England's Sea Fisheries*, Chatham Publishing, London

Mumbly-Croft, R and Barnard, M, 2000. An antiquated relationship? Trawler Owners and Trawlermen, *c*1880-1980, in Starkey *et al*, *England's Sea Fisheries*, Chatham Publishing, London

North East Lincolnshire Archaeological Services, 2013. *Archaeological Deposits in Grimsby – a guide for developers and regeneration officers*, North East Lincolnshire Archaeological Services

Oliver, G, 1825. *The Monumental Antiquities of Great Grimsby – an essay towards ascertaining its origin and ancient population*, Isaac Wilson, Hull

Robinson, R, 2000a. The Line and Trawl Fisheries in the Age of Sail in Starkey *et al*, *England's Sea Fisheries*, Chatham Publishing, London

Robinson, R, 2000b. Steam Power and Distant-Water Trawling in Starkey *et al*, *England's Sea Fisheries*, Chatham Publishing, London

Scott Wilson, 2010. *Humber Estuary Coastal Authorities Group – Flamborough Head to Gibraltar Point Shoreline Management Plan*, Scot Wilson, Basingstoke

Winfield, H, 2014. *Brief History of the Docks*, Draft supplied to Cornwall Archaeological Unit

Websites

Associated British Ports –

http://www.abports.co.uk/Our_Locations/Grimsby_Immingham/Grimsby

Cod Wars –

http://en.wikipedia.org/wiki/Cod_Wars

Great Grimsby Ice Factory Trust –

http://www.ggift.co.uk

Grimsby Seafood Village website –

http://www.grimsbyseafoodvillage.com

Grimsby Wikipedia page –

http://en.wikipedia.org/wiki/Grimsby#Second_World_War

Key to English Place-names - http://kepn.nottingham.ac.uk

National Heritage List for England website, Ice Factory summary –

http://www.historicengland.org.uk/listing/the-list/list-entry/1379842

Rod Collin's article on Grimsby's Docks including the Ice Factory

http://www.rodcollins.com/wordpress/the-decline-of-grimsby-docks-an-illustrated-history

Royal Naval Patrol Service Wikipedia page -

http://en.wikipedia.org/wiki/Royal_Naval_Patrol_Service

Traditional Grimsby smoked fish Wikipedia page

http://en.wikipedia.org/wiki/Traditional_Grimsby_smoked_fish

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www.cau.org.uk