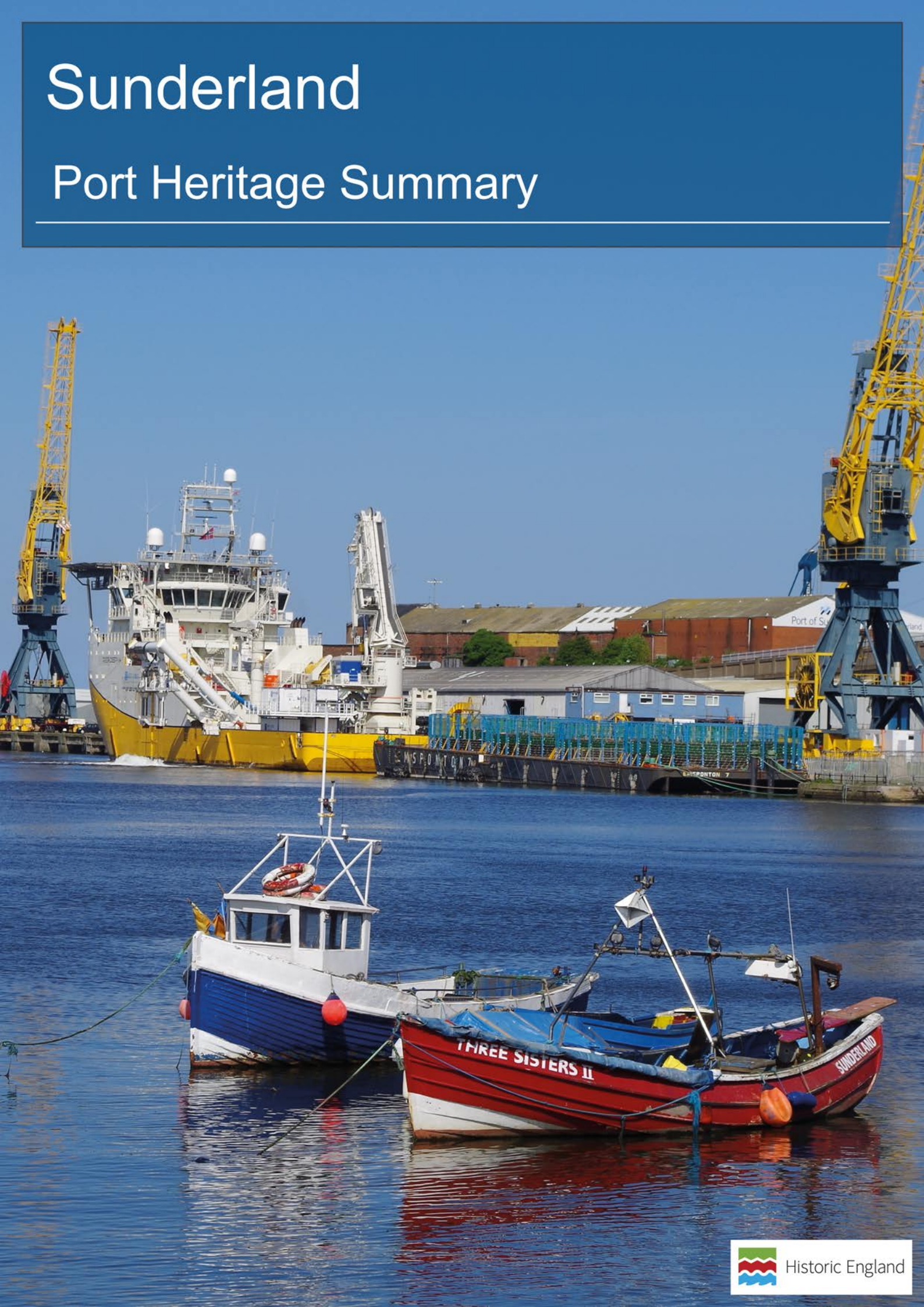
Sunderland

Port Heritage Summary



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Contents

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Abbreviations

c	circa
C2C	Coast to Coast (cycle route)
HE	Historic England
HER	Historic Environment Record (Tyne and Wear)
LB	Listed Building
MA	Management Area (within a Policy Development Zone in SMP2)
MHW	Mean High Water
NRHE	National Record for the Historic Environment
OS	Ordnance Survey
PDZ	Policy Development Zone (in SMP2)
SM	Scheduled Monument
SMP2	Shoreline Management Plan 2
SPA	Special Protection Area
SSSI	Site of Special Scientific Interest
W2W	Walney island to Wearmouth (cycle route)

All photographs by Cornwall Archaeological Unit.

Cover illustration: Corporation Quay, Sunderland Harbour.

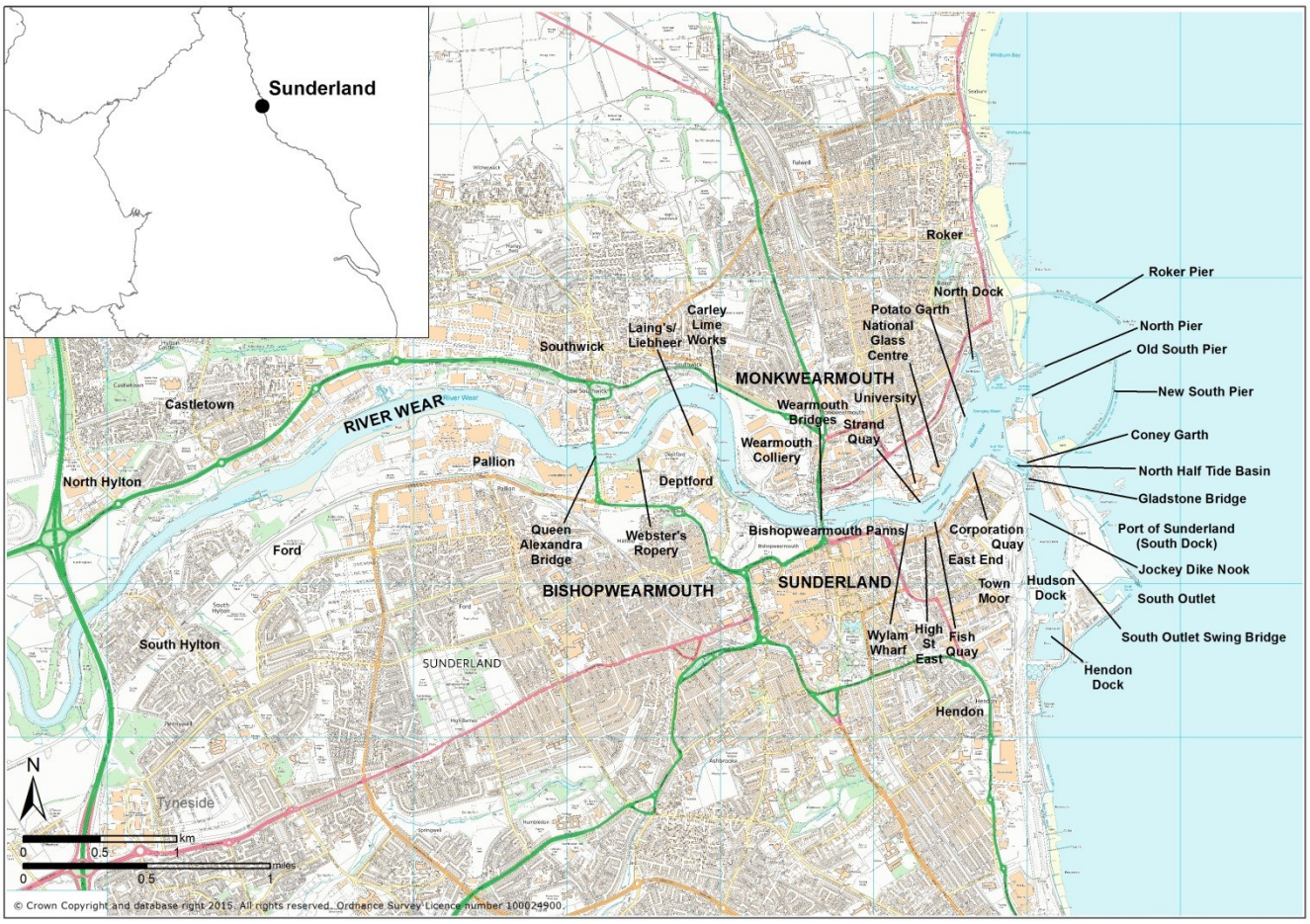

Fig 1 Location, topography, place-names and features.

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 Sunderland, where twenty two individual areas of port-related character have been identified. The Summary explains how port heritage within those areas contributes to Sunderland's distinctiveness today, to the interpretation of its historical development, and that of the North East 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 Sunderland's future, retaining its rich cultural distinctiveness while meeting its changing economic needs.

Location

Sunderland is a Metropolitan Borough with unitary powers in the Metropolitan County of Tyne and Wear in North East England.

The Port of Sunderland lies on the southern bank of the River Wear before it feeds into the North Sea. The river is tidal for just over ten miles inland to Lamb Bridge with the river's source lying in Weardale in the North Pennines.

Sunderland was formed from three founding settlements, Bishopwearmouth, Monkwearmouth, and Sunderland itself. Monkwearmouth lies on the north bank, Bishopwearmouth and Sunderland on the south. Smaller settlements have been subsumed by the expansion of the city: Roker, Southwick, Castletown, and North Hylton on the north bank of

the Wear; South Hylton, Ford, Pallion, Deptford, and Hendon on the south.

The Port

The Port of Sunderland is the second largest local authority-owned port in the UK. Traditionally it has included the navigable stretch of the river and the docks on the southern side of the river mouth (Port of Sunderland Byelaws). However, the operational extent of the Port of Sunderland harbour authority now only covers the South Dock and berths on the river from Corporation Quay on the south bank to the mouth of the Wear. Commercial traffic operates outside this limit within the Wear, to Fish Quay and occasionally to facilities up river at Deptford and Pallion (Port of Sunderland website).

In the care of the Port of Sunderland is the infrastructure to ensure the safe navigation of the port including two piers, North and South, protecting the harbour entrance, and a variety of buoys and beacons, the recently reopened lighthouse on Roker Pier, as well as a Port Control centre.

The Wear is navigable beyond the river mouth, however larger commercial sea going vessels are mostly restricted to the final reaches of the river which is regularly dredged to a controlled channel depth of 7.5m.

The Port of Sunderland is an important regional port largely in the hands of the local authority, Sunderland City Council. Privately owned facilities on the river frontage include the two surviving shipyards at Pallion and Deptford, the former still building and refitting ships, the latter an engineering works.

The Port itself owns and operates 106 hectares of land (Port of Sunderland website) on the eastern edge of Sunderland, adjoining the North Sea coast and the southern bank of the Wear. Its river frontage consists of Corporation Quay and two quays flanking the entrance to the South Dock. The Dock consists of Half-Tide Basin forming the entrance to two impounded docks, the larger Hudson leading to the southern Hendon. A total of seventeen quays are located within the port area.

Approximately 0.7 million tonnes of cargo passed through the port in 2014, an increase of 20% on the previous year (Sunderland Echo website). Bulk cargo handling has recently been improved with the addition of a new crane and commodities passing through the port include aggregates, chemicals, and scrap metals. Project cargoes are facilitated by extensive storage and heavy lift facilities and the port also caters for the petrochemical and offshore renewables industries. Ship repair and marine engineering are catered for by a dry dock. Firms with major facilities in the port include Northumbrian Water, the Sunderland Oil Storage Ltd, and Solvent Resource Management.

On the northern bank of the river the old North Dock is now the privately owned Sunderland Marina.

Local Authorities and heritage organisations

Sunderland comes under the jurisdiction of Sunderland City Council, a unitary Metropolitan Borough authority, within the Metropolitan County of Tyne and Wear.

As part of a Local Authority partnership for the area Newcastle City Council oversees the 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.

As a local authority-owned port it is subject to the planning policies of Sunderland City Council and falls within Comprehensive Development Site SA6A.2 in the Unitary Development Plan (Adopted Alteration No.2) of 2007.

The Historic England (HE) North East office is in Newcastle. HE provides input and advice on heritage matters 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

Sunderland's success as a port owes much to its strategic location at the mouth of the Wear and the natural resources of its hinterland, in particular accessible and abundant coal. From these beginnings sprang a host of associated industries most notably, salt production, glass manufacturing, and shipbuilding. The sites of these sprawling works clustered along the banks of the Wear made use of the river as the main means for the export and import of goods. The intensity of industrial development in the 18th and 19th centuries enabled Wearside to become world renowned in the later 19th century for its shipbuilding industry.

The inter-war period and the decades after the Second World War saw the port's maritime industries fall into steep decline. This was a difficult period for the area as long-established industries died and local businesses collapsed, leading to high levels of unemployment and large areas of land becoming derelict.

The cyclical nature of the changes in its industry and economy, and the almost constant need for adaptation and reuse of its crowded river margins has been an important characteristic of the city's history. The scale and breadth of the changes in successive periods is particularly striking, as is the almost total disappearance of material traces of many of these activities.

Prehistoric and Roman beginnings

Finds of Bronze Age swords and an axe have been made at Hylton and Ford, perhaps signifying that the river crossing known to date from the medieval period had much earlier beginnings. Log boats found

at Offerton Haugh and Hylton attest to the use of the Wear in the Iron Age.

There is evidence that a stone-built causeway across the river at Hylton, passable at low tide, may have been built by the Romans (Meikle and Newman 2007). Dressed stones with Lewis holes, often associated with Roman bridge building, have been used to pave part of North Dock and North Pier.

Early medieval flowering

The period following AD 410 saw the development of new political institutions and boundaries with the arrival of the Anglo Saxons. The area now occupied by Sunderland fell within the kingdom of Northumbria. The kingdom was responsible for establishing one of the most important monastic centres in the British Isles, on the north bank of the Wear. The monastery at what became known as Monkwearmouth was founded in AD 673 by the well-travelled Benedict Biscop and soon developed a reputation as a centre of Christian scholarship and a producer of exquisite manuscripts.

The monks had a taste for luxury items from the Mediterranean and beyond and this generated a large amount of maritime trade. This trade may, at least in part, have been facilitated by the extensive travels of Biscop and some of his successors. Produce from the extensive monastic estate and scholarly manuscripts were exchanged in return. The lands of the monastic estate are likely to have been located on either side of the Wear and the river crossing at Hylton must have been of critical importance (Meikle and Newman 2007).

The monastery was abandoned in the mid-9th century, probably as a consequence of Viking raids, or at least the threat of them.

By the tenth century the focus of settlement seems to have shifted to the south bank of the Wear, to Bishopwearmouth, with the grant of part of the former monastic land from the English King Athelstan to the bishopric of Durham in 934. The principal settlement of the estate at this time was probably centred in the area of the church of St Michael and All Angels. This settlement was further up the Wear than the original monastery site and afforded more extensive views of the estuary and sea, perhaps a significant factor in view of the Viking threat.

Travel between Bishopwearmouth and Monkwearmouth necessitated a river crossing in the form of a ferry said to have been in existence from the eastern end of Sunderland to Monkwearmouth since the 7th century. The mouth of the river was also apparently fordable at low tide until around 1400. Other early ferries linked Pallion and Deptford with Southwick, and North and South Hylton on the route of the main road to Newcastle (Meikle and Newman 2007).

Medieval beginnings: fish, salt, and coal

In the course of the medieval period (AD 1066 – 1540) the trades and settlement patterns of modern Sunderland were established.

The earliest survey of the Bishopric of Durham, in 1183, records predominately farming settlements on the estate. The fishing rights on the Wear must have been lucrative as they were leased from the Bishop for the princely annual sum of £6.

At the same time the Borough of Wearmouth was created by the Bishop of Durham. The name 'Sunderland', was applied almost immediately to the new borough and is likely to have been a well-known name for the area deriving from the 'sundered land' mentioned in a grant of land to Benedict Biscop many centuries before around AD 686. This new borough was more closely associated with the river than Bishopwearmouth and this is where the port initially developed.

Many of the laws and decrees of the new borough related to maritime activities, including the regulation of trade. For instance, all commodities except for herring and salt had to be landed first before being sold. The large amount of imported pottery dating from the 12th century, found during archaeological excavations on Low Street, suggest a bustling trading port. The wares from Tyneside and Scarborough are supplemented in the late 14th century by continental imports but a decline seems to have set in for the two subsequent centuries, perhaps exacerbated by the effects of the Black Death (Meikle and Newman 2007).

Fishing was the mainstay of Sunderland's medieval economy. The river was an important fishery and the rights were leased by the bishops to local fishermen. This included the use of yares, dams or weirs of stakes and wattle or stone, that caught fish on the ebbing tide. The yares proved hazardous to navigation and moves to regulate them increased in the 15th century.

The fishing industry required salt for the preservation of the catch. Initially, the salt was imported but by the middle of the 15th century an increasing amount was produced in salt pans locally (salt was produced by the boiling of sea water in flat-bottomed ceramic vessels known as pans using coal as a heat source). Further records from the 16th century show the industry starting to flourish. The salt pans required coal demonstrating the interdependence of the three dominant industries of this time: fishing, salt, and coal.

Trade began to prosper again from the 16th century and records from the early 1500s show ships from various English ports, including Rochester, King's Lynn, and Newcastle, entering the port. The export of coal is suggested by records from the 12th century, and more certainly, in the last decade of the 14th century. Landing stages for loading coal, known as staithes, are recorded from the beginning of the 15th century at Thrylstanhugh on the Wear.

Fig 2 A coble on the Wear in Sunderland Harbour.

Fig 3 Webster's Ropery at Deptford.

The coal is likely to have been brought down the river to the staithes in keels (small boats of shallow drafts) (Meikle and Newman 2007).

The first mention of the other major industry that came to dominate the Wear, shipbuilding, is in 1381 when Thomas Menvill is recorded as paying rent at Hynden (Hendon) for the purpose of building vessels (Anon 2004, 24).

The precise layout of the medieval port remains unclear but there are documentary references to moorings on the foreshore at Hendon in 1395 and payments for anchorage made to the Wearmouth monastery from the mid-15th century (Meikle and Newman 2007, 90-1). Excavations at Wylam Wharf in the 1990s demonstrated that this area lay previously on the foreshore and that the area had subsequently been reclaimed, probably by ballast dumping. The original river frontage may be delineated by Low Street (Anon 2004, 26).

Early post medieval expansion

Sunderland was described as a 'fishing town and landing place ..... in great decay of building and inhabitants' by the Crown survey of 1565. The survey recorded no ships in the port other than seven cobles (small fishing boats).

At this time Bishopwearmouth and Sunderland were still separated but the layout of the latter is known to have been confined to the riverbank, comprising the two parallel roads of Low Street and High Street (Meikle and Newman 2007, 92).

The latter part of the 16th century saw a struggle for control of the port between the Bishop of Durham and the successors of the dissolute monastery at Monkwearmouth, both of whom claimed the right to lease anchorages and beacons, and to profit from wrecks. The bishop enjoyed the powers of an admiral which gave him the right to regulate port and river trade and fisheries on the river. A succession of vice-admirals, and later, water bailiffs, took charge of the day to day running of the port and the collection of duties.

The disputes were no doubt caused by the increasing volume of trade coming into the port and this appears to have been driven by one family, the Bowes of Barnes. Robert Bowes was the treasurer of the garrison at Berwick and ambassador to Scotland.

In response to a growing demand for salt following the collapse of the French salt-making industry in the 1560s and in order to counter the consequent expansion of the Scottish salt industry, Bowes entered into a contract to supply the ports of Hull, Boston, and King's Lynn with salt. Unable to fulfil this contract with existing facilities on Tyneside, Bowes took it upon himself to establish salt pans on the foreshore at Bishopwearmouth, later to become the settlement of Bishopwearmouth Panns. Financial difficulties almost nipped the enterprise in the bud but Robert's son Ralph recovered the operation and by 1601 had been granted the lease of considerable stretches of foreshore between Ford and Sunderland.

Ralph had built a quay, Bowes Quay, from which to export his salt, and increasingly, better quality coal from his mine at Offerton. Other local entrepreneurs, including the Lambtons and Sir John Hedworth, did the same and the 1590s saw a rapid expansion of the coal trade. Coal was exported to the continent, in particular to the Netherlands and Germany. A total of 640 chaldrons (a non-standardised English measure of dry volume used in the coal trade) were exported in just three months of 1594 on 36 vessels (Meikle and Newman 2007).

Coal became the dominant commodity traded from Wearside with ships calling from many east coast ports including Hartlepool, Whitby, Scarborough, Hull, Great Yarmouth and London. Foreign ships also came from Finland, Germany, the Low Countries, northern France and Turkey. Other goods were exported with the coal, including Weardale lead, salt, butter, rabbit skins, and stockings. Foreign imports included Scandinavian timber and French wine and cider.

As well as wagon transport to the staithes, the coal was transported downriver from the collieries by keels and lighters, shallow-drafted barges. The hazardous navigation caused by shifting sandbanks was exacerbated by the unregulated dumping of sand ballast from incoming vessels. With the increase in the volume of traffic in the 17th century this problem worsened, to the extent that larger vessels could no longer dock at the quays and their cargoes had to be transported by the keels. In the early 17th century the Bishop, in league with Ralph Bowes, had constructed a quay at the eastern end of the harbour expressly for the dumping of ballast, in

return for a fee. This soon led to the accumulation of a sandbank beside the quay. The fees charged for allowing the ballast to be discharged turned out to be profitable and a profusion of ballast quays were built, at first on the south bank, then later on the Monkwearmouth side (Meikle and Newman 2007).

Evidence of 17th century ballast dumping and quay building was recovered from Wylam Wharf during excavations in the 1990s (Anon 2004).

The shifting of channels and sandbanks was further aggravated by reclamation of the foreshore and quay building, particularly at Bishopwearmouth Panns and Sunderland, and this diverted the river channel towards the north bank at Monkwearmouth. This in turn caused sandbanks to be thrown up on the south bank (Meikle and Newman 2007). Monkwearmouth benefitted from this shift in the channel and new wharves and a ballast quay were constructed around 1630 (Cookson 2010).

Not only did the shifting of sandbanks require the constant movement of navigation beacons, it also virtually wiped out the salmon fishery at the mouth of the river. The offshore fishery was relatively unaffected and seems to have been based on the foreshore to the east of Sunderland but pressure on land in the town led to the relocation of fish processing facilities from the edge of Low Street to Town Moor (Meikle and Newman 2007).

The port thrived throughout the 17th century. Salt increased in value due to foreign shortages and local businessmen taking advantage included George Lilburne and George Grey. These two men would take centre stage in the municipal, political, and religious development of Sunderland in the turbulent years of the middle of the 17th century. Coal exports too increased in volume, particularly to London. Tensions with neighbouring Newcastle were raised when the Newcastle Hostmen, a cartel of coal merchants, successfully lobbied the Crown for a levy on coal from Wearmouth and similar concessions were won by Newcastle for salt production.

During the Civil War the town was taken, with no resistance, by the Scots army. They garrisoned the town, building a fort on the western side of Bishopwearmouth Panns with its northern side defended by the steep bank down to the river. The security of the town, under Royalist counterattack, was only assured with the aid of local seamen in the port who mustered arms.

Sunderland became critical to both the provisioning of the Parliamentary forces in the North East and the supply of coal to London.

Following the end of the Civil War there was a collapse in the North East's salt industry as it failed to compete with cheaper Scottish production. The period also witnessed the first Anglo-Dutch war, which saw collier convoys, sometimes as many as 500 ships, requiring naval protection from the Dutch. The rapid expansion of the navy at this time also precipitated large scale press-ganging in eastern ports, including Sunderland (Meikle and Newman 2007).

Industry

The period following the 1660s saw continued prosperity. New quays and 'fine houses' for the pre-eminent merchants were built, and the local fleet grew. Although the trade was still predominately in coal with the eastern ports of England, other markets across the North Sea were being exploited in Scandinavia, Germany, and the Low Countries. The local salt industry declined further and had disappeared entirely by the early 18th century, but other exports boomed, in particular stockings and lead from the rural hinterland.

Imports started to be dominated by the raw materials for shipbuilding: deal, oars, spars, balks, masts, and barrel staves from Norway; wainscot (oak panelling), poles, and oak boards from the Netherlands (Meikle and Newman 2007).

The industry was concentrated around the port, on the Panns, at Monkwearmouth Shore, and at Pallion. By the end of the 18th century the river frontage at the port, and opposite on North Sands, was dominated by shipyards and timber yards. At this stage the industry was still small compared to, for instance, Whitby, but war with France created a huge demand for ships. The six yards recorded in 1780 had become 20 by 1815 and facilities included dry and wet docks. Shipbuilding spread upriver, particularly at Hylton and Deptford. By 1816 Sunderland was producing the largest number of ships in the country, up to 30 or 40 at any one time.

Associated trades such as ropemaking began to make their mark on the town with ropewalks on Town Moor and around Monkwearmouth. The world's first steam-powered factory producing machine-made rope, Webster's Ropery, opened at Deptford in 1793. Innovation continued into the following century when it was one of the first to produce steel rope. Ironworks, particularly those involved with nail-making, also expanded. Expansion of Bishopwearmouth to its north east was centred upon a sail cloth factory located just to the north of High Street West (Anon 2004).

The local glass industry was also expanding at this time. The first record of local glass production is from 1685, the industry possibly benefitting from the large quantities of unwanted sand ballast in the port combined with the ready supply of dross coal unsuitable for other uses. Glass houses, the kilns for glass production, appeared on both banks of the Wear: at Southwick, Deptford, and the Panns. Specialist glass-making sand began to replace the normal sand ballast, particularly from King's Lynn, and later soapers' ashes from Great Yarmouth and

Fig 4 The Carley limekilns at Southwick.

Fig 5 18th century warehouses at Wylam Wharf.

London were imported (Meikle and Newman 2007; Cookson 2010).

The lime industry, producing a resource in demand for agriculture and industry also benefitted from the ready supply of dross coal and the almost unlimited availability of limestone. This was quarried from the 17th century at Bishopwearmouth, Fulwell, and Monkwearmouth, and kilns were established along the river at Hylton, Southwick, and at Town Moor. The latter were washed away by coastal erosion in the 19th century. The industry gravitated towards Pallion in the early 19th century, from where a fleet of 25 to 30 ships made regular runs to Scotland and Yorkshire. It was not without its hazards and light from the kilns, which burned continuously from spring to autumn, proved a danger to shipping. From 1759 the River Wear Commission made sure that the kilns were shielded by walls. The importance of Sunderland to the lime industry is highlighted by the fact that it was the only port between the Forth and the Humber to export this product in the 18th century (Anon 2004; Cookson 2010).

Potteries sprang up around the river, particularly from the 18th century. They too made use of cheap local coal combined with both local and imported clay. There were at one time up to 16 potteries in Sunderland, producing coarsewares, creamwares, and lustre. Brickworks also made use of coal and local clay and brickfields are shown on Rain's Eye plan of 1785-90 at the western edge of Town Moor (Cookson 2010).

Improving the port

As the port grew in size and importance it began to appear on nautical charts. It is first referred to on the Dutch *Speculum Nauticum* of 1586 as a 'promontory commonly called Sunderland'. In 1625 the approach to the port was described as being beyond a beacon on the 'north point' and into 'a narrow place, where a long ship shall scarce be able to wend, within it, it is wide enough, and every where good anchor ground'. The British undertook a detailed survey in 1681-88 by the Royal Hydrographer, Captain Greenville Collins. The resulting *Great Britain's Coasting Pilot*, published in 1693, noted that 'it is a tide haven, where at high water, a spring tide, is 12 feet water, and 2 feet at low water; but within Lady Hole there is 21 ft [foot]. at high water on a spring tide, and nine at low water. A little within the bar, just without the mouth of the river are two beacons, called the Stell beacons, as you enter the Lady Hole, and there you lie by the quay side of Sunderland. Great colliers, that are laden with coals, and have not water enough over the Stell, take in the remainder of their coals in the road, brought out in keels' (from Meikle and Newman 2007, 168-9).

With the increase in traffic and the size of vessels, the limitations of the Wear estuary as a natural harbour became more apparent. Larger ships had to be loaded offshore by keels. In the late 17th century there were several attempts made to improve the navigation of the port. In 1675 the Stell Shoal (a sandbank) was removed from the mouth of the estuary.

The administration of the port was once again under the control of the Bishop of Durham and his appointed water bailiff. A vice-admiralty court was used to settle disputes over quay building, which was restricted to the foreshore between high and low water, and the ongoing problem of ballast dumping.

The quays on the south bank were subject to large-scale alterations and extensions in the early 18th century. These ranged from Mark Quay in the west to Ettrick's Quay in the east. Beyond this, on the site of the present Commissioners Quay, an attempt to build another quay by the Ettricks at Coney Warren was foiled by the strength of the tides.

Quays were built further upriver too, serving glasshouses at Southwick and Ayre's Quay at Deptford, and probably lime and manure at Hylton. A quay was also built at Pallion before 1750 (Cookson 2010).

As noted previously, two ferries of some antiquity crossed the Wear, ancient routes that may have lapsed but both were again in operation in the late 17th century. The Hylton ferry was restored in 1659 by the manor of Hylton. It was operated by rope, which assisted the navigation of a fast-flowing stretch of river, but hindered the navigation of keels The Bishop's ferry ran from Bodlewell Lane to Monkwearmouth Shore and from 1661 was operated

Fig 6 Part of the Old South Pier.

Fig 7 The Wearmouth Bridges.

by Walter Ettrick. Litigation over new tolls between Ettrick and the Williamson family of Monkwearmouth Hall led to the transfer of rights and responsibilities over anchorages and navigational aids on the north bank to the Bishopric of Durham The Ettricks held the rights to the harbour ferry until it passed to the Wearmouth Bridge Commissioners in 1796. Additional ferries ran from Southwick to Deptford and Monkwearmouth to Bishopwearmouth Panns (Meikle and Newman 2007; Cookson 2010).

The development of commercial interests along the quayside of the port led to a drift in residential properties away from this area. Following the loss of its residential character Low Street became a 'long list of raff yards, shipyards, tanneries, breweries, boat building yards, cooperages, sail makers with many public houses mostly of the poor class to cater for the seamen and keelmen from up the river' (from Anon 2004). Two surviving warehouses, one of 18th century date, the other mid-19th century, survive off Low Street. The land further inland, which the merchants of the port colonised, had the benefit of extensive views over the harbour and sea for those whose livelihoods depended on it. Two of these merchants' houses survive on Church Street (*ibid*).

The waterfront was left to commercial interests and was rapidly filled with quays throughout the 18th century, culminating in the completion of the Commissioners Quay in 1741, in the shelter of the new South Pier. A succession of Customs Houses were used, the first on Bishopwearmouth Green but later along Low Street. Adjacent to the latter was the Customs House Coffee House, which was an important feature to emerge from the 18th century trade in this commodity with the Americas (Anon 2004).

A bid to transfer responsibility of the port from the motley assortment of existing owners and users to a centralised port authority was made in 1705-6. Parliament was approached by a group of interested parties, largely those involved in the coal trade, hoping for port improvement commissioners to be appointed. This attempt was blocked by Newcastle's Trinity House but another similar proposal was successful in 1717, despite further protestations from the Tyne. The River Wear Commission was established shortly after, which combined the roles of water bailiff and vice admiral and took responsibility for the clear navigation of the river as far upstream as the coalfields. Financed by a tax on coal exports, the building of quays, wharves, and staithes was regulated and new facilities were introduced (Meikle and Newman 2007).

The River Wear Commissioners first asked James Fawcett in 1718 to survey the harbour and this was followed by the construction of a quay wall to the north east of the Customs House. In 1723 work on South Pier began, incorporating a lighthouse and tide gauge. Completed in 1730 the pier forced the river's flow northwards and helped to remove the bar at the entrance to the harbour (Anon 2004).

Although the goal of deepening the channel was achieved by the previous plans, Low Street and the Custom House Quay were threatened by erosion, perhaps as a result of this new pier, and in 1748 a Swiss engineer, Charles Labelye, was employed to design further improvements.

Labelye had the pier realigned and a northern channel of the river blocked up with hulks, with the effect that the main southern channel deepened and cleaned itself. He also recommended that a permanent engineer was employed and this was taken up by the Commissioners.

Despite the improvements storms in the later part of the 18th century resulted in sand banks being deposited across the harbour mouth and a new pier on the north bank was proposed and built, firstly in wood but finished in stone by 1795. This opened up the channel to a depth of 16 feet and ships of 300-400 tons could now negotiate the harbour. The work of the piers was supplemented by a dedicated dredging vessel, manually powered initially but later replaced by the world's first steam dredger (Cookson 2010).

The nature of the artificial shifting of the channel(s) and 18th century ballast dumping and reclamation can be gauged by the increasing distance between St Peter's Church and the riverfront. This was originally 150 yards but this increased to 420 yards over the course of the century (Anon 2004).

The piers were extended and maintained and a lighthouse was built on the northern pier in 1802.

Matthew Shout took over the role of port engineer in 1804 and was responsible for many of the improvements. He put forward a plan for a fully enclosed dock big enough to hold 200-300 ships but died in 1817 before his scheme could be carried forward (Cookson 2010).

Bridging the Wear

The growing national importance of Sunderland was reinforced by the construction of the world's second single span iron bridge in 1796 between Monkwearmouth and Bishopwearmouth. Built under the direction of Thomas Wilson, the single span bridge was important because the piers of a multi-span structure would have hindered navigation on the river. The clearance at spring tide high water allowed all but the largest vessels passage, and even these could pass by lowering their top gallants. The new bridge revolutionised the interactions between the various components of the town without impacting on its lifeline, the Wear. The focus of roads changed: instead of heading down to the shore to the ferries, they converged on the high ground at each end of the bridge (Cookson 2010).

The original bridge was damaged by limestone-blasting in 1853 and the bridge was redesigned, dismantled, and rebuilt under the direction of Thomas Moore and Robert Stephenson. The new bridge was much stronger, and heavier at 900 tons of iron, and opened in 1859. This lasted until 1929 when, after deterioration caused by a massive increase in traffic following the introduction of trams, a third bridge was opened, built around the skeleton of the second.

The adjacent railway bridge was built in 1879, at which time it was the largest hog-back girder bridge in the world. It was designed by T E Harrison of the North Eastern Railway.

A second Wear crossing was finished in 1909, linking Southwick to Pallion and Deptford. The Queen Alexandra Bridge was inspired by a desire to transport coal from the Washington coalfield to the South Dock. A box girder lattice held a rail deck above a lower road but the rail deck was short lived and became disused by 1921.

Industrial changes

The town was transformed in the 1830s following the opening of Sunderland's first collieries. Prior to this the coal had been shipped downriver from the coalfields further west. Engineering limitations meant that the deeper coal seams near the coast remained out of reach until, in 1834, a significant seam was reached at a depth of 1578 feet at Wearmouth, on the site of what is now the Stadium of Light.

The Wearmouth Colliery started production immediately, feeding staithes on the riverbank at the Pemberton Drops via wagons on inclined planes. Others opened in Monkwearmouth, and further afield at Bishopwearmouth, Rhyope, Silksworth, and Hylton.

The manner in which the coal was transported to the port changed over the course of time. At the start of the 19th century the coal was still mostly transported by river by keels. Around 1810, 750 keelmen and 507 casters and trimmers were responsible for loading about 1 million tons of coal for export. The coming of the railways introduced a more efficient way of transporting the coal and loading the ships directly, via staithes or drops on the riverbank. The first railroad into Sunderland, in 1812, brought coal from the Newbottle Colliery to the Wear at Galley's Gill at Bishopwearmouth. By 1844 only 150 keel-loads were being delivered daily to 11 staithes and drops by rail. The increase in traffic on the Wear led one of the largest colliery owners, the Marquess of Londonderry, to forgo the river completely and build his own port at Seaham, six miles south of Sunderland (Cookson 2010).

Monkwearmouth Shore

The former monastic estate of Monkwearmouth was in the hands of the Williamson family at the turn of the 18th century. The family were aware of the money to be made from their right to impose charges on ferries, coal exports, wharfage, anchorage, and wrecks, and encouraged their tenants to engage in activities that generated revenue. Although restricted by the huge ballast heaps that proliferated on the riverfront, the settlement of Monkwearmouth Shore soon grew to be as big as that of Monkwearmouth itself. Improvements to, and expansion of, quays and wharves was fuelled by the coal trade and the export of lime from the Williamsons' quarries at Fulwell. After Labelye's channel improvements diverted the river to the south shore, the residents of Monkwearmouth Shore were able to reclaim land along the riverfront, building wharves and quays (Cookson 2010).

The settlements at Shore and Monkwearmouth itself expanded rapidly in the latter half of the 18th century and shipbuilding featured prominently in the development. Carpenters' yards, roperies, block makers, raff yards, and warehouses all proliferated (Anon 2004).

New Docks

By the early 19th century Sunderland was one of the most important ports in the country, with exports dominated by coal and coke, pig iron, glass bottles, machinery, and fire clay. Figures from 1817 show that 7,000 ships had used the port and around 1 million tons of coal were exported. Nevertheless, improvements could be made.

The Williamsons and the River Wear Commissioners disagreed over the way forward for the port and competing plans were put forward in the early part of the 19th century. Robert Stevenson proposed a scheme to create wet docks on each side of the river mouth, with another at Deptford. The scheme involved a great deal of re-engineering of the course of the Wear and never came to fruition.

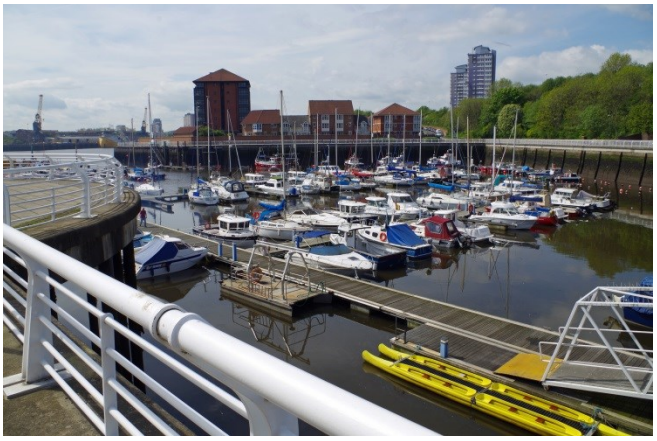

Fig 8 North Dock.

Fig 9 Part of Hudson Dock.

Isambard Kingdom Brunel proposed a simpler idea of a new facility at Monkwearmouth, North Dock. Although the dock was built, in 1837-40, it was never a success since it was too small (Cookson 2010).

Facilities on the south shore were proposed by the River Wear Commissioners' engineer John Murray, in post from 1832. An initial plan to turn the entire river into a floating harbour by installing a barrage was thwarted by the Admiralty but undeterred Murray continued with plans to transform the port. New piers were built in 1841, in the course of which the 1802 lighthouse was moved 150 yards to the end of the newly extended North Pier. A plan to build a South Dock attracted the attention of Sunderland MP George Hudson, a railway magnate, who appointed Murray engineer to the newly formed Sunderland Dock Company.

The dock was built on the eastern end of Town Moor in 1846-50. At first it consisted of a fully enclosed area of 18½ acres (7.5 hectares) with room for 300 ships, which opened to the north into a half tide basin then into a tidal basin, each of 2½ acres (1 hectare). The dock was served by railways from the south, which took up the remaining part of Town Moor. By 1856, the dock, now named Hudson Dock, was enlarged to 66 acres at a total cost of £750,000, a figure which led to the collapse of the Dock Company and the ruin of Hudson (Cookson 2010). However, the improvements allowed the export of coal to rise by 56% between 1851 and 1858. By 1889 the total amount exported annually had risen to 2 million tons (Anon 2004).

Around this time the River Wear Commission was reconstituted incorporating members from the Wearmouth Dock Co. (North Dock), local council, Customs, and the Admiralty. The Commission took over the control of the river, docks, and harbour, and the resident engineer became responsible for all works in the port. Thomas Meik took over from Murray and built the South Pier and lighthouse in 1856, followed by an extension to the Hudson Dock, Hendon Dock, with its own access to the sea, and a new outlet to the sea from the east side of the South Dock in 1867-8. The North East Pier and the South West Breakwater Pier were added to protect the South Outlet through which these two docks were accessed.

By the turn of the 20th century the docks covered an area of 203 acres. Meik's successor, Henry Wake, remodelled the docks and added the breakwaters to the river mouth. The northern breakwater, Roker Pier, took 20 years to build, from 1883 to 1903, and was 2800 feet long. The southern breakwater, New South Pier, was meant to be 2844 feet long but its full length was never completed (Cookson 2010). Roker Pier contained a tunnel so that the lighthouse at the end of it could be accessed in all weathers, whilst the New South Pier had a sheltering parapet wall. Although a lighthouse was planned for its end it was never built and a column with fixed lights adorned it instead. The construction of the Roker Pier altered the tidal flows against the North Pier resulting in damage and necessitating the removal of the octagonal lighthouse that had graced it for nearly 100 years.

The western dockside was dominated by staithes and drops, with few buildings. Two massive grain warehouses, demolished in 1992, stood on the western edge of the dock but these were solitary. Large areas to the west of the South Dock were occupied by railway lines and sidings, whilst an iron foundry and timber yards lined its eastern edge. Engine houses powering lock gates were dotted around the docks. Two graving or dry docks were situated on the northern and eastern sides of the Half Tide Basin and two shipbuilding yards were located on the northern shores of the South Outlet. A chain and anchor testing works could be found on the northeastern side of the Half Tide Basin. The Wear Fuel and Chemical Works, later the Wear Tar Works, lay at the southern side of Hendon Dock.

Two swing bridges crossed the north and south entrances to the dock, whilst a third crossed the channel between the South Dock and Hendon Dock. Immediately east of the northern Gladstone Bridge, was the Dock Office.

North Dock was served by a smaller, but still significant, number of railway lines.

The removal of rocks and extensive dredging were undertaken throughout the 19th century and the channel was deepened to 18 feet (5.5 metres) in this period. Safety services in the form of a pilots' lookout, a lifeboat station, and a rocket house were located on North Pier whilst another lifeboat station

Fig 10 Pallion shipyard.

Fig 11 Fish Quay.

was situated at Hendon (Anon 2004). The first lifeboat station dated to 1800 and had the distinction of being the first operational station in Great Britain (Tolan-Smith 2008). A pilots' house was also situated on the South Pier, which later in the 19th century saw the addition of lifeboat and coastguard stations. Another lifeboat house and Life Brigade watch house were located on the southern side of the Hendon Channel.

Shipbuilding

By 1815 Sunderland had overtaken Newcastle as the nation's largest shipbuilding port. The boom of the Napoleonic wars gave way to bust but the industry recovered and the relatively small scale nature of the enterprise at the start of the century soon expanded to much larger businesses. The ships had initially been constructed on the foreshore of the river but as wooden ships were replaced by iron, and then steel, larger vessels required larger facilities. Huge yards with their massive cranes transformed the river frontage at Monkwearmouth Shore, Deptford, Pallion, and Southwick.

At Monkwearmouth the facilities shown on the mid-19th century first edition Ordnance Survey (OS) map include the North Dock shipyard occupying Potato Garth to the south of North Dock. It appears to consist of two yards separated by a smithy and, on the foreshore, a breakwater. By the turn of the 20th century it has consolidated into a single yard with expanded facilities.

At Deptford the large Salt Grass Dock was built between 1826 and 1855. The dock covered an area of 11 hectares and its quays were lined with cranes and surrounded by various industries, such as shipyards, smithies, foundries, saw mills, and timber yards. By the end of the 19th century it had been filled in and replaced with a large shipbuilding yard, Laing's.

The Laing family, originally from Scotland, had been shipbuilding on the Wear, first at Monkwearmouth, then Southwick, since 1793. In 1808 they acquired new premises at Deptford. The premises expanded rapidly in the 19th century and by the end of it they had taken over, and infilled, the large Salt Grass Dock, and much of the remainder of the Deptford peninsula. They also owned the small Cornhill Dock on the opposite bank. Following a myriad of takeovers and mergers in the 20th century the company that absorbed Laing's, Sunderland Shipbuilder's Ltd, was one of the last to close in 1988.

Another of the great shipbuilding dynasties were the Doxfords. Originally timber merchants, they opened their first shipyard in the 1840s a long way up the river at Coxgreen, north of the Penshaw Monument. They moved downriver to a site at Pallion in 1857 and then, 12 years later, to their final site which is now immediately to the west of the Queen Alexandra Bridge on the south bank. The yard took naval and freighter commissions and successfully introduced a new type of vessel, the turret steamer, of which 176 were produced until 1911. The works were reorganised and upgraded following a fire in 1901 allowing for larger vessels to be built. The First World War proved productive for the yard, when it produced 21 motor torpedo destroyers.

The inter war years at Doxfords mirrored what was happening elsewhere on the Wear and the yard was mothballed on two occasions until a revival in the mid 1930s coincided with the introduction of a new type of steamer, the Doxford Economy Tramp. The post war years saw mergers and new facilities built but it wasn't enough to save the Wear shipbuilding industry and the yard closed in 1988.

Fishing

The fishing industry has been important to Sunderland since its medieval origins. Although the port has not been a major centre of the industry in the same way as, for example, at North Shields or, on a national scale, Grimsby, it has played, and continues to play, an important role in the history of the town. The Wear has even played a brief role in the history of whaling by hosting a whaling station at South Hylton in the last decade of the 18th century.

In the 19th century there were two landing places for Wear fishermen. Herring was landed into Hudson Dock whilst trawlers landed at the Custom House Quay on the river. Both fell out of use during the reconfiguration of the South Outlet in 1878 and as a result the booming herring fleet turned elsewhere. Undaunted the River Wear Commissioners planned new facilities inside the South Outlet and a new quay

and market were completed on the northern side of the new Hendon Channel by the end of 1879. This was connected to the rail network. The new facilities were used by Sunderland's ten local trawlers and by over 100 herring smacks (small sailing craft) from far and wide.

The Hendon Fish Quay was used until the beginning of the First World War when a blockship was sunk across the entrance to the South Outlet to prevent enemy vessels from approaching the port. The landing and sale of fish was then relocated to Thornhill Quay on the river until the 1930s when the construction of Corporation Quay forced it westwards to where the current facilities lie (On the Waterfront: Sunderland's new fish quay, Sunderland Echo website).

The present fishing fleet is small in numbers and size of boats. One of the most defining characteristics of the present river is the large numbers of old tyres lining the banks used to catch crabs for bait for the fleet.

Military

The growing importance of Sunderland led to moves to defend the port from enemy attack. The first permanent defences were built around 1742, at Coney Garth, with another battery following at Jockey Dike Nook to the south in 1745.

The Seven Years' War of 1756-63 saw the placement of gun batteries on the South Pier, north of the harbour, and on the cliffs at Roker.

During the American War of Independence a battery was built behind the South Pier. Initially called the John Paul Jones Battery, it was renamed the Black Cat Battery following enlargement in 1805. This was replaced by the larger Wave Basin Battery in 1873, equipped with muzzle-loading 80-pounders. These rapidly became obsolete.

A wooden barracks constructed on Coney Warren in 1795 was later destroyed by coastal erosion. It was rebuilt in the 1820s in stone and continued in use for much of the 19th century. However, it fell out of use in the 20th century and was demolished in 1930-34 to make way for Corporation Quay.

In the First World War Sunderland escaped the naval bombardments that devastated Hartlepool and Scarborough but did become the target of Zeppelin raids. One consequence of this was the installation of a series of concrete acoustic mirrors along the North Sea coast, one of which survives near Fulwell.

During the Second World War many anti-aircraft batteries were installed around the port including the upper deck of the Queen Alexandra Bridge. Aerial bombardment in the Second World War was much more serious as the shipyards and docks were targeted in a series of raids from 1940 to 1943. However, the bombers largely missed their industrial targets and far more damage was done to the town centre and residential areas (Cookson 2010).

To the present

The source of much of Sunderland's prosperity and importance, shipbuilding, also proved responsible for its downfall in the depression of the inter-war years. The town had become reliant on coal and shipbuilding as other industries such as glass and pottery declined and so it was sensitive to periodic highs and lows in demand. The first slump to hit the town was in 1908-9, but it was followed by the boom years of wartime and post war replacement of lost vessels. However, this was followed by a big crash in 1921 and by 1926 half of the skilled shipbuilding labour force was out of work. The loss of work was blamed on various factors, not least of which was the poor layout and facilities of the harbour compared to the other large North East ports of Newcastle and Teesside. Sixteen shipyards had been open in 1918 but by 1939 only eight were operational.

The River Wear Commissioners' response was to build a new deepwater quay to facilitate imports. Corporation Quay opened in 1934 at a cost of £450,000. The construction had required the demolition of the Barracks and also a large number of slum dwellings at the eastern end of Low Street, as well as the old Fish Quay and the 17th century Custom House (Cookson 2010).

Another response was to attempt to capitalise on an existing strength of Sunderland; crane-making. Two engineering firms, Coles and Steels, merged in 1939 to form a single company, taking over the Egis shipyard at Pallion and renaming it Crown Works. The British armed forces used Coles cranes and the Second World War proved productive for the company. The company struggled, with various name changes, through the post war years until production finally ceased in 1998 (Sunderland Echo website).

Following the boom years of the Second World War and its immediate aftermath recession hit again in the 1960s. Again the strong reliance on the twin industries of coal and shipbuilding made the town vulnerable to a decline in either. Despite the introduction of a cargo ship model designed and built on the Wear, the SD14, employment in the shipyards fell from 20,000 in 1964 to 2,000 in 1986. Shipbuilding on the Wear ended completely in 1988. Coal mining followed a similar trajectory and Wearmouth Colliery closed in 1993.

Sunderland became a city in 1992, coinciding with the clearance of virtually all above-ground reminders of these two industries. In their place amenity space has been created in the form of green spaces, modern sculpture, and cycle paths as well as the Stadium of Light, a University campus, and the National Glass Centre on the north bank. Opposite, on the south bank, student accommodation and a new Fish Quay have been built. North Dock has been converted to a marina whilst South Dock remains a municipally-owned working port.

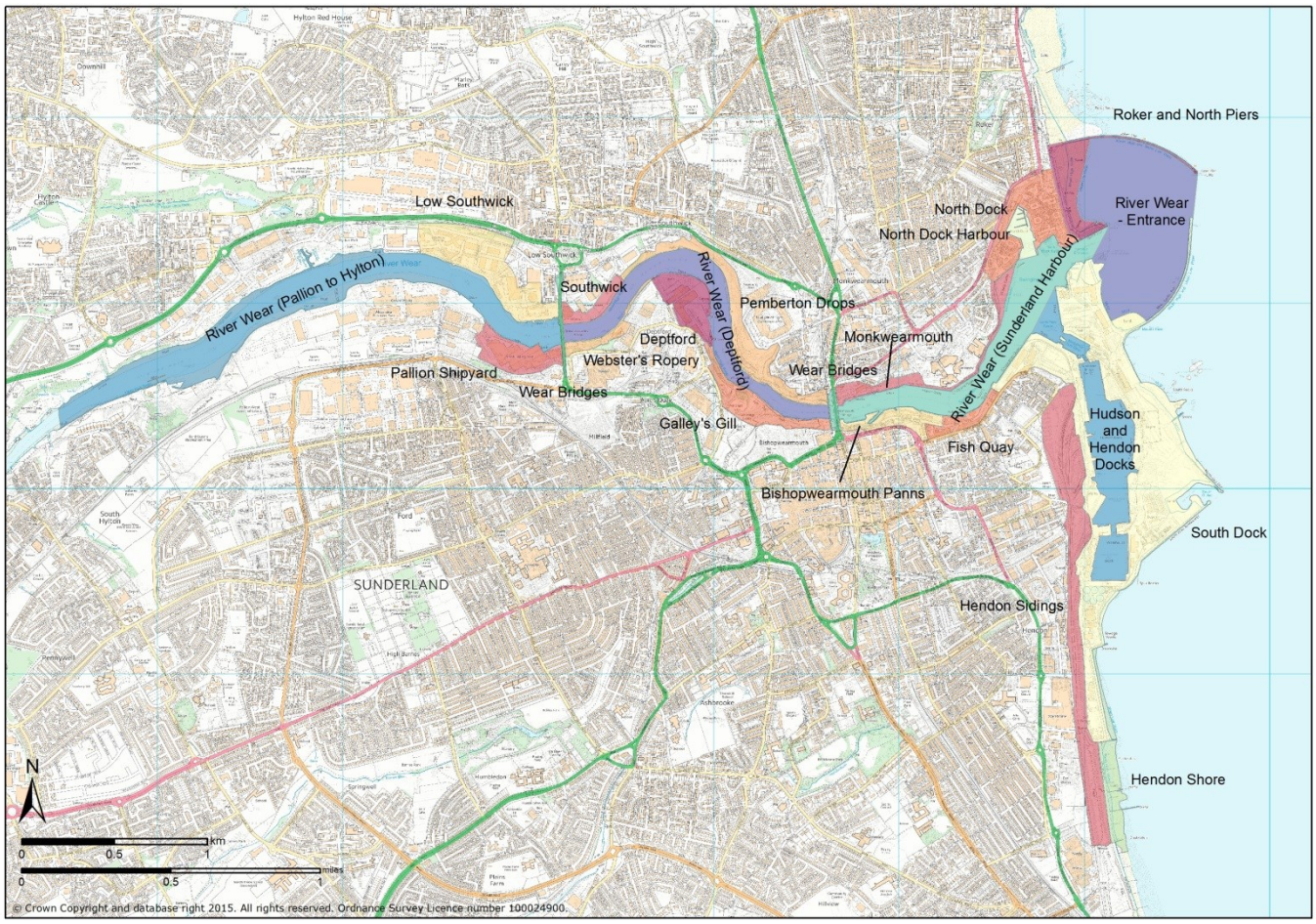

Fig 12 Character Areas

Port-related heritage assets and contributions to present character

Sunderland's port area has been divided into twenty two distinctive Character Areas (Fig 12).

The distinctive feel of a Character Area is shaped by its historical development and influenced in the present by the presence and patterns of the surviving heritage within it. That heritage can be many and various – place-names, street layouts, patterns of open space, whether public or private, or a sense of enclosure by closely spaced or large buildings, or the presence of readily recognisable historic buildings and features – they all provide a link to Sunderland'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 features 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 Sunderland 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 activity.

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

Character Area Summary

1. River Wear - Entrance

Where the River Wear meets the North Sea. The Area is defined by the Roker and North Piers to the north, and the Old South Pier and New South Pier to the south. Its present form and historic character dates mainly to the late 19th century when the River Wear Commission sought to improve the navigation of the port. It is a busy area used by larger commercial sea-going vessels, small inshore fishing boats, and smaller recreational craft. This was formerly a hazardous stretch of water with shifting shoals of sands but the depth of water has been deepened over the past 285 years by a programme of port improvements and dredging, and the entrance secured by the shelter of the surrounding piers.

2. Roker and North Piers

Between the North Pier and Roker Piers is a small stretch of beach that forms the southern part of Sunderland's coastal resort. It is a natural vantage point from which to watch the North Sea and

approaching vessels, making it a popular place for the public to visit. Both piers are also popular with anglers.

The tip of Roker Pier is guarded by a lighthouse built of Aberdeen granite at the turn of the 20th century. Since 1983, when the South Pier lighthouse was dismantled and moved to Roker, it has been the sole guard to the harbour mouth.

The promenade above the beach is largely modern, with the Inshore Lifeboat Station, sculptures, and street lights in the form of ships' masts. The promenade marks the eastern terminal of the long distance W2W and C2C cycle routes and this is prominently marked. Some isolated earlier buildings survive, including the Roker Pier Cottages at the western end of Roker Pier (originally the lighthouse keepers' accommodation), and a complex of buildings overlooking the promenade that include the Bungalow Café, lavatories, the Volunteer Life Brigade Watch House and a Rocket House, all dating to the early 20th century. The Watch House has been converted into a museum celebrating the Brigade's pioneering role in the provision of maritime safety on the British coast.

The old North Pier has a less glamorous feel to it, particularly the part facing the Wear. East of the harbour entrance it is fenced off and has a slightly dilapidated appearance, matching the opposite South Pier that lies within the commercial port area, but contrasting with Roker and the inner harbour banks, which have been largely redeveloped. The pier is overlooked by the modern headquarters of the Sunderland Yacht Club.

At the southern end of Marine Walk towards the foot of the Pier, large dressed stones that block off the Roker promenade are said to come from a Roman crossing at Hylton.

Overall, the promenade has a thoroughly modern feel, mostly through the use of street furniture and sculpture, but this modernity is framed by the 18th and 19th century piers and lighthouse, which give an air of Victorian solidity and dependability to this little stretch of Roker.

3. North Dock

Upriver from the North Pier is the old North Dock Basin and what remains of North Dock itself. Originally designed by Isambard Kingdom Brunel and covering an area of 6 acres, the area of the dock has been almost halved by land reclamation and development on its eastern side.

North Dock Basin retains original walling along its north-western edge, with more recent remodelling to the east and, infilling the original dock entrance, to the west. Now converted to a marina, it contains moorings for pleasure craft. A set of stone 'stairs', carved with the patterns of a carpet in 1992, are original dock features. Where the original quay walls are visible many of the dressed blocks can be seen to be cut by 'Lewis holes', rectangular holes used to lift masonry blocks and particularly associated with Roman bridge building. It seems likely that these

Character Area Summary

derive from the alleged Roman causeway or bridge at Hylton and give a subtle addition of time-depth to the area.

Beyond the recently remodelled dock entrance, with its broad promenade and modern sculptures and old navigation buoys, North Dock itself is now a marina, home to a multitude of pleasure craft and much of Sunderland's fishing fleet. Once a wet dock, the lock gates were removed in the 20th century and the dock is now tidal. The presence of working boats, with their associated pots and nets onshore, helps to maintain an active working atmosphere. This atmosphere is enhanced by the lifeboat station on the western side of the dock, which uses a small crane to launch the lifeboat from the high walls above the basin.

More modern sculptures along the western wall of the dock, a watersports activity centre, and a background of modern development add contemporary elements to the overall character of the dock without detracting from its essentially 19th century feel. Modern cycle routes pass around the dock and the main A183 road passes close by to the north west.

4. North Dock Harbour

The harbour basin itself is used by small leisure craft and small fishing and potting boats, mostly moored on buoys, but there is a modern floating pontoon running along the eastern side of the dock.

5. South Dock

The South Dock Character Area corresponds with the modern commercial port area of Sunderland. In its layout and plan the Dock retains much of its 19th century character and, despite being greatly modified as part of the modern port in places, the Area contains much historic character mainly dating to the 19th and early 20th centuries.

At the north eastern end of the Area, facing out to the North Sea, is the New South Pier. This was left unfinished in 1907 and now stands bereft even of its planned lighthouse, which was replaced by a fixed light instead. The pier is of slighter construction than the corresponding Roker Pier but in a similar style.

Towards the harbour entrance is the Old South Pier. This was first completed long before the South Dock, but has been subject to much alteration, including the eastern end which was demolished in 1982. The present 'stub' end of the foreshortened pier is faced with steel shuttering and topped with a beacon. The western end of the pier survives in the form of mid-19th century renovations. It is an under-used part of the modern port with several unroofed structures atop the pier. These give considerable time-depth to the Area's historic character, contributing to the story of securing the port in military and navigation terms. It includes the 18th century foundations of the pier and mid-19th century renovations to it, the Listed Wave Basin Battery, and a Second World War pillbox.

Greenwells Quay is a 20th century alteration to the Dock. Its construction eradicated the mid-20th

century lifeboat station but the slipway remains. A 20th century brick-built shed and a modern control centre complete the layout of this part of the port. Beyond this to the south a large area is given over to the storage of aggregates, whilst to the west are large modern warehouses. There are few signs of the shipbuilding yard and graving docks or the western end of the Old South Pier that once occupied this area apart from an indented wall where the smaller of the docks was situated.

The entrance to the Dock, through the North Tidal and North Half Tide Basins, includes an historic quay wall and pier, which, together with the Commissioners' Quay to the west, are of 19th century stone ashlar construction, and this lends some historical feel to this part of the port. The pier also has further time-depth in the form of blocked openings and not least the tide gauge in Roman numerals etched into the stone next to a more modern metric gauge.

The view back towards the Wear Dock and the Gladstone Bridge offers a good view of the port and its historic character. From left to right one can see surviving components of the brick-built Chain and Anchor Testing Works dating to the late 19th century, the Wear Dock graving yard (part of the Bartram and Sons shipyard), the original Dock Office and clock tower, and the Listed Gladstone Swing Bridge. The railings along the western side of the dock here are painted yellow, complementing the yellow of the swing bridge. Much of this is mid-19th century in date, forming a rare concentration of surviving heritage assets in the port.

The original Dock Office is disused, as is the housing for the hydraulic accumulator that once operated the Gladstone Bridge. The Gladstone Bridge also contains evidence for its technological development in the form of the engine that was once powered by the hydraulic accumulator. Disused rail lines cross the bridge.

The western edge of the Dock incorporates Corporation and Commissioners' Quays. This is a working area largely used for servicing the offshore energy industry. On Corporation Quay are modern sheds and massive mobile cranes. The Corporation Quay development originally dates to the 1930s, including the revetment wall behind, but possibly incorporating earlier elements such as Pottery Bank. The return of a massive stone revetment wall at the northeastern end of the quay also appears to date to the period of quay construction. The brick-built buildings of the former Moor Engineering and Pipe Works which lie above part of this revetment date to the 1920s or 1930s with later modifications.

The western side of the Hudson Dock was formerly dominated by two five and six storey grain warehouses and coal staithes of mid-19th century date. A reminder of the former is a brick-built outbuilding dating to the 1930s, formerly joined to the latter, which has survived with a section of warehouse attached to it. The western boundary of the Area is flanked by the 19th century massive

Character Area Summary

stone revetment walls that supported the railways to the staithes. Elements of the timber staithes protrude from the walls and there is evidence of multiple phasing in the walling.

The northern part of this section of dockside is largely under-used open space other than the premises of the Hudson Dock Boating and Yachting Association. The overall character now is dominated by disuse. A number of jetties in a series of bays created by the projection of the quays holding the staithes are occupied by fishing and leisure boats.

South of this, on a quay that formerly held a coal staithe, is a small working yard used to store steel. There are no clear signs of its previous use apart from a few old steel bollards.

Hendon Dock, at the southern end of this Character Area, was the last main component of the port, finished in the late 1860s. The dock itself is largely in good condition and most quays are occupied by various industries. The large stone walls of the original quays are dotted with steel bollards. The western edge of the dock, home to a Northumbrian Water berth and modern sewage treatment facilities, has been infilled and straightened with a modern concrete wall but much of the rest of the dock retains its 19th century character. The southern, overgrown, quay of the dock appears to be disused and is home to a large derrick, whilst the eastern quay is largely occupied by modern warehousing. The southern quay walls retain their original appearance whilst much of the east quay has been rendered with cement or, where the Hendon Channel once ran out to the North Sea, reinforced with steel shuttering.

The entrance lock and channel that led into the South Outlet and thence to the North Sea were blocked in the late 1970s, as was much of the Outlet itself, in an effort to reclaim more land for development. The South West Breakwater is built of massive concrete slabs whilst the North East Pier appears to be built of a multitude of materials, probably representing multiple alterations and repairs.

The sea lock that once provided access to the Hudson Dock was also filled in at the same time as the channels. The hog-back swing bridge and machinery survive. The faded yellow paint of the bridge complements the Gladstone Bridge to some extent but this part of the port has a dilapidated feel to it.

To the north, along the eastern side of Hudson Dock, the quay is used for the storage and loading/unloading of bulk materials, aggregate and scrap metal. The dockside area beyond this to the east is largely empty and barren, apart from one modern industrial plant.

Further north the quay is largely open space as far as the Gladstone Bridge. The area between the Dock and the North Sea is also largely empty apart from a couple of modern buildings and one surviving brick-built store or shed.

As a working port there is no public access and none is planned.

6. Hudson and Hendon Docks

The Character Area is an integral part of the modern commercial port area of Sunderland. In its layout and plan of inter-linked basins it retains much of its mid-19th century character, with early 20th century alterations to increase its size.

The two docks form large expanses of water. Small jetties, used for small pleasure and fishing craft, line the western side of the Hudson Dock. The working quays are used by medium-sized bulk tankers. The Sunderland Pilots moor next to Commissioners' Quay in North Half Tide Basin.

7. Hendon Shore

Located to the south of the South Dock Character Area, Hendon Shore is dominated by the Hendon Oil Deport. This is a late 20th century extension to the port, developed and reclaimed from the foreshore. It has several large oil tanks dominating the skyline and it is protected from the sea by substantial modern concrete-built breakwaters and groynes.

The public can gain access to the southern part of this Area but the Hendon Oil Depot is part of the port and entry is restricted.

8. Hendon Sidings

A long and linear Area reflecting its past as an integral part of the rail network that brought coal to the staithes in the South Dock. First developed in the mid-19th century, it remained an important connection to the working port until 1995 when several of the lines were removed. However, some lines are still in place and have recently been reconnected to the National Rail network in an interesting revival of past historic character.

The time-depth and past use of the Area is preserved in its large embankments which once supported the railways, and platforms that also once served it. Large stone revetment walls mark the boundary between the South Dock and these sidings.

It is now mostly a large area of neglected scrubland forming a green backdrop to Hendon Shore and the South Dock. Although there is no dedicated public access to this area it is used by dog walkers. The area also provides a good vantage place from which to view the port. Much of the remaining land is earmarked for development.

9. River Wear - Sunderland Harbour

This Area is made up of the River Wear between the Wearmouth Bridges and the River Wear – Entrance Character Area.

This is where the historic harbour pool of Sunderland was formed by the natural course of the River Wear before it entered the North Sea. This was the focus of port-related activity from the medieval period up until the 19th century.

To better develop the port this part of the River Wear was dredged and improved from the early 19th century, representing the effort needed to improve the port; the river here is still dredged to maintain depth.

The river is used by a bustling community of small fishing boats, particularly around Fish Quay. Dwarfing these vessels are the massive offshore energy industry ships that are serviced at Corporation Quay. The river banks are lined with the ubiquitous tyres used to catch crabs for bait.

10. Fish Quay

Located between Wylam Wharf and Corporation Quay on the River Wear this was formerly the heart of old Sunderland. Once full of warehouses, its former historic character has now been fragmented by extensive redevelopment and land clearance.

However, remnants of the old town do survive. This includes the Boar's Head and Butcher's Arms pubs, the latter with an adjacent shop. Further west down High St East, on the southern side of the road, are a cluster of older buildings, most former housing that have been converted to shops. These are dwarfed in scale by the later 20th century tower blocks that lie behind them.

Further west are more historic survivals, including an 18th century bonded warehouse at Wylam Wharf, an impressive four storey structure whose current isolation does not reflect its previous life, hemmed in by a shipyard to the west and Sunderland Brewery to the east. Another rare survival of a warehouse in the old town is located on the other side of Low Street. To the south of this, fronting High Street East, is the Sunderland Exchange Building, at one time the town hall but later home to the Mission to Seamen.

The riverbank is largely fronted by 19th century stone quays, including the River Wear Commissioners steps. To the west of Fish Quay the riverbank is fronted with Wylam Wharf, first recorded in 1601. The quay wall here is buried beneath an embankment of modern rock armour. Between the two is a stone quay with bricked up openings that is likely to be part of the Sunderland Brewery site. There is little to recall the former ferry landing at the northern end of Bodlewell Lane apart from a blue plaque but further west a flight of stone steps of 19th century date survives. This was formerly a boarding place for the ferry to Monkwearmouth

Much of the Area is open space or recently built student accommodation. Fish Quay itself is a modern redevelopment of the earlier 1930s quay and the update is reflected in its concrete and steel-built quay walls.

This Quay is now fairly quiet in terms of port-related activity except for its modern fish-landing facilities and fresh fish shop. Today the area is a peaceful riverside area of open public space and residential development in which the surviving historic structures form tangible markers of the area's varied roles.

11. Bishopwearmouth Panns

This Area stretches from the Wearmouth Bridges to Fish Quay along the southern side of the Wear. Much

of the layout of its riverside frontage owes its origins to the successive phases of reclamation of the inter-tidal area and the development of shipbuilding yards in the 18th and 19th centuries, including the Wear Dock Yard, and prior to that, the glassworks industry.

The Area is now dominated by modern high-rise student accommodation. However, the surviving Wear Dock graving yard and the shape of the riverbank itself attest to its past industrial history, which stretches back to some of the earliest records of shipbuilding on the Wear. The back wall of the former shipyard survives, with a bricked-up opening hinting at a tunnel into the steep escarpment behind.

The escarpment itself holds a cobbled lane that may have once led to a glassworks, although it might have been built in the mid to late 19th century to access a landing stage that once stood at the western end of the works.

The riverfront is now a mix of rock armour and steel shuttering backing on to a wide modern boulevard. There is full public access to the riverbank, with a wide riverside walk that continues on up the river.

12. Monkwearmouth

Running upriver from North Dock is the former shipbuilding powerhouse of Monkwearmouth Shore. Little of its history survives as above-ground built heritage other than sections of quay walls along the water's edge. A cycle path now runs along the north bank of the Wear, and close to the National Glass Centre and University campus modern sculpture celebrates the present day cultural vitality of the North East, as well as commemorating the great industrial past of the city.

Much of the former shoreline and slipways have been backfilled with the massive rock armour of recently-built river defences. A surviving exception is the Potato Garth slipway which is of mid to late 20th century date, but none of the historic access routes to the riverfront survive.

At Strand Quay the river visibly narrows and the North Sea is left behind as the river bends sharply to the west. The once bustling banks, which used to resound to the noise of the shipyards and whaling station, are now silent. The depth of the Wear Valley enhances its remove from the roads that line the tops of the gorge and much of the traffic noise is dissipated before it can reach the river.

Towards Wearmouth Bridge the Malting Cottages provide greater historic time-depth. Nearby, a modern redevelopment incorporates the original decorative brickwork of what appear to be offices and workshops of an early 20th century building, perhaps part of the Monkwearmouth Brewery that stood to the south east.

Old mooring bollards and other quayside furniture are in evidence here, maintaining a maritime element to the Area's character.

13. Wear Bridges

The three bridges that cross the Wear downriver of the modern A19 reflect Sunderland's past engineering prowess and the historic need to keep the River Wear navigable as a working port.

The Wearmouth road bridge, originally dating to 1796 but in its current form to 1929, is a strong statement of the industrial vigour of the Wear. The bridge had an unequalled role in the history of the city of Sunderland as a whole since it united the settlements on both sides of the river and greatly changed their subsequent urban development. The new North-South route rapidly became regionally important and Sunderland suddenly found itself on a main route from Newcastle to Stockton.

The bridge also had consequences for the nature of the river traffic beneath it for, although its height did not impact on east-west shipping movements, it devastated the river ferries and other cross-river traffic.

A mid-19th century brick-built building, once part of a timber yard, has been built around and incorporated within the stone abutments of the road bridge, which presumably date to 1796. This adds further time-depth and a narrative to the visible history of the bridge.

The Queen Alexandra Bridge, completed in 1909 is another distinctive Sunderland landmark, joining Southwick and Deptford. The buff granite piers and abutments contrast strikingly with the red sandstone viaducts and the steel superstructure. The distinctive nature is in part due to the dual nature of the bridge, with an upper deck designed for rail, and a lower road deck. There are walkways on both sides of the bridge.

14. Pemberton Drops

The Area is located on the northern riverbank, fitting into the space between the Wear gorge and the river as it turns down towards the Wear Bridges. It is mainly built on a narrow strip of land cut from the gorge and reclaimed from the river in the 18th and 19th centuries by shipyards, lime kilns, and the coal drops associated with Wearmouth Colliery. Although shipyards once lined much of this stretch of the river the Area is now dominated by landscaped areas of grassland and trees.

Close to Wearmouth Railway Bridge traces of the opening to the 'Bridge Dock' graving dock survive despite being largely infilled by modern redevelopment. A short length of original dock wall survives and is a reminder of the once extensive Bridge Dock shipyard that was once found here.

To the north of the dock the former stables of the North Eastern Railway can be found at the top of the gorge; a reminder of the importance of the railway to the development of the port.

The gorge has few accessible routes down to the riverside but one survives as a cobbled and walled trackway leading down from Stobart Street. This is a rare and remarkable survival of such an early feature in an area that has seen such large scale

transformations in the last 150-200 years.

On the riverside stretches of original quay wall survive in various states of repair. These are interspersed with long sections of more recent rock armour. The modern-built cycle path follows the river bank providing easy public access to this Area.

Traces of the port-related infrastructure of Wearmouth Colliery still survive, adding time-depth and hints of the past importance of coal to the port of Sunderland. The massive brick piers of the Pemberton's Drops are now overgrown and it is difficult to imagine the crash of the coal dropping into ships' holds at this point.

The importance of Wearmouth Colliery to Sunderland is celebrated in a modern sculpture which commemorates the ending of coal production in 1993. Its stone construction contrasts with the steel and glass of the Stadium of Light which now dominates the site of the former colliery.

Upstream of the staithes is the large stone-built Wreath Quay, site of shipyards and engineering works in the 19th century.

The massive lime kilns and quarried rock face of the Carley and Wear Lime Works confront the walker at the next bend in the river. An amalgam of different styles and periods, from the 18th century through to the early 20th, in both brick and stone, the kilns offer another survival from an important Wearside industry. The conjunction of the limestone quarries to the north of the river, and the river itself, offered a rare chance to use gravity and the natural topography to fuel the massive kilns and then remove the lime from the base to waiting ships moored on the river. The kilns are well-cared for and decorated with tablets commemorating the Wearside lime industry.

The gorge of the river opens up above the kilns as the river meanders again. The opening to Cornhill graving dock survives and is a reminder of the vanished late 19th century shipbuilding yard that once crowded against the river here.

15. Galley's Gill

This stretch of the southern bank of the Wear lies between Deptford and the Wearmouth Bridges.

Formerly the site of the Lambton and Hetton coal Staithes, the Area has been substantially re-landscaped to form Sunderland's Riverside Park. Amongst the relatively few earlier elements evident are the historic revetment walls for the former rail lines that once led down to the riverside Lambton Drops. The revetment walls themselves are covered by vigorous climbing plants and occasional sections are covered in graffiti.

The massive stone revetment walls of the former staithes, set on two levels and built around limestone outcrops, are dramatic in scale, towering over the cycle path which runs along the riverbank.

The riverbank is largely covered with modern rock armour although short stretches of relatively recent

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concrete walling are also visible. Occasional large bollards, used to moor the colliers beneath the coal drops, survive on the quay walls.

16. River Wear – Deptford

This Area is formed by the River Wear as it twists and turns through the gorge between the Queen Alexandra and Wearmouth Bridges.

The river is now quiet in terms of port-related activity and the bustle of the modern commercial port seems distant. Small craft moorings are located on the river, especially on the southern side of the river below Queen Alexandria Bridge.

This section of the river was once dredged to allow for the expansion and deepening of the port in the 19th and 20th centuries, but since the closure of the shipyards in 1998 this section of the river is no longer dredged.

The northern muddy foreshore is laid up with tyre crab traps whereas the southern rockier foreshore appears less suitable for these.

17. Deptford

This Area is located on the southern shore of the Wear between the Webster's Ropery and Galley Gill Character Areas.

It was once dominated by Laing's shipbuilding yard, latterly the Sunderland Shipbuilders Ltd, which closed in 1988. The large metal sheds of the final phase of Sunderland's shipbuilding industry survive, taken over by engineering firm Liebherr in 1989. This company now uses the site to make marine cranes. Poignantly located on the Wear, it is now the last surviving heavy industry in Sunderland itself.

The yards of the facility are dominated by large yellow cranes. The quays are modern, built with concrete and steel shuttering, and the large historic slipways have largely been blocked up to create more room on Ayre's Quay.

The site includes materials and components lain out neatly in the yards, with the low hum of machinery interspersed with the occasional clang piercing the air. There is no public access to this working site.

The area inland of the yard is largely light industrial and there is little sign of the myriad of terraced housing that existed here prior to the Second World War. Surviving historical components include the Saltgrass and T J Doyle's pubs and a commemorative drinking fountain, now outside the Saltgrass, donated in 1893 by John Laing to celebrate the centenary of the Laings' presence on Wearside.

18. Webster's Ropery

This stretch of the south bank runs from Queen Alexandra Bridge down to the Deptford Character Area. It has had a varied past, formerly occupied by shipyards, lime kilns, cement works, paper mills, and most famously, Webster's Ropery. The structure of the latter, Grade II Listed, is virtually all that remains visibly of the complex phases of successive industry.

Lush landscaped banks fall onto 20th century quays at the river's edge. The Ropery comprises two components: to the east there is the original four storey building, built in 1793; to the west is a 19th century extension to the original structure. Both are stone-built with slate roofs, distinctive and unusual historic elements in this area. The original building now houses offices whilst the extension has been converted to a pub and restaurant. Outside tables for the latter are strewn across part of the quay.

The overall effect of this change of use is one of a secluded place of unusual and distinctive character with its roots firmly in the 18th and 19th centuries but with a role in the 21st century.

A path continues along the river bank to the south, past the site of former slipways of the shipbuilding industry. Any survivals of these slipways will be largely buried under a large mound of rubble forming a river defence. The bank is pleasantly wooded and, again, there is little sense now of the port-related activity that this place once resounded to.

One potential surviving historic feature is a possible Second World War bunker overlooking the river. If so, this is a rare survival of a formerly relatively ubiquitous structure along the Wear.

19. Southwick

Located on the northern bank of the Wear up to the Queen Alexandra Bridge.

This former shipbuilding area is now populated by light industry and under-used areas with no relation to port-related activity. Huge galvanised sheds beneath the Alexandra Bridge are probably remnants of the final phases of the Southwick Engine Works.

Quays line the river below the bridge, some within industrial yards, but none appear in current use. The quays are mostly of 20th century construction using steel and wood. Below these, to the northern edge of the Pemberton Drops Character Area, the bank was partially protected by decaying wooden shuttering. This area was the site of a bottle works but there are no visible reminders of this apart from some limited sections of stone revetment walling.

Few of the former routes to the river, such as Ferry Lane, survive. Public access from the landward along this stretch of the riverbank is denied by enclosed light industrial yards, which the cycle path skirts, before joining the river again to the west of the bridge.

20. Pallion Shipyard

Pallion Shipyard, immediately upstream of the Queen Alexandra Bridge on the south bank of the Wear, is a working yard operated by Pallion Engineering Ltd. The works cover an area of 30 acres and include preparation and assembly areas, fabrication and construction halls, external stockyards and a short length of quay.

The modern facility follows the lines of the old Pallion Shipbuilding Yard and Engine Works, part of Doxfords, as laid out in the early part of the 20th century, distinctively aligned at 45° to the river. The present buildings are likely to date to the 1973 improvements which saw the construction of a Shipbuilding Hall big enough to hold two 30,000 ton vessels simultaneously.

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These improvements seem to have obliterated most of the earlier components of the shipyard, with only the alignment surviving. Components of the myriad industries that developed here prior to the construction of the shipyard, such as brick and tile yards, saw mills and pits, foundries, glass works, chemical works, lime kilns, Pallion Quarry (including tunnels that led from it to the riverbank), and earlier shipyards, have almost certainly vanished long ago.

The Character Area is a working area and there is no public access. Much of the riverbank is revetted by steel shuttering and concrete with occasional stretches of wooden shuttering.

21. River Wear – Pallion to Hylton

This stretch of the river runs upstream from the Queen Alexandra Bridge to the modern A19 road bridge. It is largely deserted until a modern boatyard for small pleasure craft is reached on the south bank at South Hylton. Apart from that there are only a few boats tied up on the foreshore at North Hylton on the opposite bank.

The hulk of the *Cretehauser*, a concrete tug built at the end of the First World War at Southwick, lies on the south bank of the river at West Pallion, where it has lain since it foundered in 1936. It is a rare visible sign of the former importance to the port of this stretch of the river. This area was previously bustling with small shipyards, a shipbreaking yard, and a short-lived whaling station at the end of the 18th century.

A track runs alongside the river on the north bank from Southwick west to Baron's Quay Wood, by North Hylton. There is also a path running east from Offerton Lane by the A19 bridge along the south bank to the site of the old Sunderland Golf Course at West Pallion, downriver of which there is no public access.

22. Low Southwick

An area dominated by modern-built industrial units and business parks located on the northern bank of the Wear, upriver of the Queen Alexandra Bridge. The Area had been developed on low-lying land reclaimed from the Wear from the 19th century onwards, first by a glassworks and ballast hill and later, the Castletown Shipyard.

The shipyards, including the Castletown Shipyard, expanded west along the river during the early 20th century. The Pickersgill yard became part of one of the biggest shipbuilding operations on the Wear when Austin and Pickersgill formed via a merger in 1954. The yard was eventually demolished in 1990.

As part of redevelopment much of the river edge has been reinforced by modern flood defence armour built of large blocks of stone rubble. A riverside path

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follows the Wear on the western edge of the Area whereas the eastern stretch has no public access. Off West Quay and Crown Roads, to the rear of a recently built Quaywest Business Village, are a quay and two short jetties which date to the mid to late 20th century, and the shipbuilding yard. The quay edge has recently been updated as part of the redevelopment of the former shipyard.

Conservation values of 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 Values (*ibid*). The following subsection uses that framework to present a preliminary assessment of the values and significance attached to Sunderland's present port-related heritage.

Evidential

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

Sunderland's later history of large scale change and successive phases of redevelopment on the sites of its earlier port activities gives the surviving earlier features significant evidential value, contributing strongly to the historic character and time-depth of the port's present landscape.

Sunderland had an important role in pioneering national coastal maritime safety with the first lifeboat station in Great Britain, opened in 1800. The surviving Volunteer Life Brigade watch house at Roker has direct and high evidential value in that respect. As a group the other buildings related to maritime safety surrounding the brigade's headquarters, such as the Rocket House, are also of significance in providing further context to the Brigade's story and the history of maritime safety in relation to Wearmouth. Few other structures relating to this activity survive at Sunderland.

In terms of navigation and maritime safety the North and South Piers, the Roker and New South Piers and the North East Pier and South West Breakwater give strong evidence for the improvements needed to develop the Wear and Sunderland as a modern port from the 18th century onwards.

The lighthouse on the end of Roker Pier is the only one left from a group that once included the Old North Pier, the Old South Pier, and the New North Pier. The lighthouse from the Old South Pier was transported in 1983 to Roker where it now stands on the cliff but the others have been lost. This makes the Roker Pier lighthouse a rare survival of this type of feature in the port.

The surviving elements of North Dock and the adjacent North Dock Basin offer a testament to both the design skills of Brunel and the folly of its proponents. Offering a clearly historic time-depth and splash of local colour is the reuse of stone from the alleged Roman crossing at Hylton. The dock and basin are significant elements in the story of Sunderland's development into a major port in the 19th century.

As a demonstration of Wearside's importance in the history both of Christianity in the British Isles and of international trade and communication in the early medieval period, the monastery at Wearmouth is of international significance. The long term excavations of the site, spanning a 27 year period from 1959 to 1986, have revealed much but many further remains will survive below ground.

The majority of the Character Areas on the river display limited tangible evidence for the Wear's most important industries, coal and shipbuilding. The former is almost confined to the retaining walls of staithes on both sides of the river above the Wearmouth Bridges in the Pemberton Drops and Galley's Gill Character Areas, whilst the latter is restricted to the occasional graving dock, slipways, and the shape and form of the river bank. These are now rare and significant material survivals from the huge roles that these industries played in the history of Sunderland. The more recent elements of the shipyards at Pallion and Deptford that survive with much of their later 20th century fabric intact could similarly become valuable markers of the historic development of the city.

Where elements of earlier industry survive they are generally in good condition and of immense value in providing the time-depth much of which has largely been removed by the large scale nature of 20th century industry. Webster's Ropery offers a rare but significant contribution to the history of rope making as well as providing an element of 18th century character to the river. The Southwick lime kilns on the north bank offer a similar perspective on another important industry of the 18th century.

The cobbled lane just west of the Wearmouth Bridges is a rare survival of pre-bridge routes down to the river. The Wear bridges are of immense value in the history of engineering and, in the case of the Wearmouth road bridge, offer evidence of time-depth in the form of successive rebuilding episodes. In many ways they have forged the modern city by offering links between settlements on the north and south banks, links that have also contributed to Sunderland's connections with the conurbations of the Tyne and Tees.

The stretch of the south bank of the river in the Fish Quay Character Area is the heart of old Sunderland. Few remains survive to inform the visitor of the once bustling quaysides and narrow winding streets. This makes the handful of surviving historic elements of great significance as markers of the area's cultural roots. These include two bonded warehouses, steps leading to the river at the eastern end of Wylam Wharf, much of the quayside itself, and assorted port furniture. Various stages of quay development are in evidence, offering an appreciation of the time-depth.

Fig 13 Roker Pier and lighthouse.


Fig 14 North Half Tide Basin.

Excavations in the old town have revealed 18th and 19th century cellars, which truncate many earlier deposits. Evidence for ballast dumping, earlier quay walls and slipways, industrial activity, and former riverine deposits containing artefacts were also noted at Wylam Wharf. The potential for significant finds and features related to waterfront activity is increased by the extensive ballast dumping and land reclamation that has occurred along both banks of the river.

The modern port at South Dock has seen many large scale changes in recent times, removing many elements of earlier historic fabric. However, enough survives to provide a clear time-depth to the present historic character. That chronological depth offers direct evidence for the later historic development of Sunderland as a port and the movement nearer to the North Sea of its port functions. Sequences of construction and redevelopment are visible in the fabric and form of the quays, channels, and piers. Several historic buildings and two swing bridges survive, largely concentrated around the head of the North Half Tide Basin, which helps to provide a clear historic focus to the port.

The history of tramways and railways has been fundamental to the development of Sunderland and this is represented within the port by the huge extent of the Hendon Sidings Character Area, as well as the Wearmouth Rail Bridge. The former contains evidence for the growth and diversity of the early railways, and their subsequent amalgamation and nationalisation. The Wearmouth Bridge represents both an engineering feat and the development of north-south links across the river rather than along it.

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'

The understanding of Sunderland's development as a port is critical to understanding the history of Wearside and the North East, 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 Port of Sunderland maintains continuity of that maritime role into the present and future.

The move away from the coal trade, shipbuilding and other heavy industry reflects local, regional, and national economic changes of the past fifty years but also the port's adaptability that has been a constant feature of its development.

The struggle for Sunderland to gain its fair share of the trade protected by its northern neighbour on the Tyne is a story which gives further insight into the regional and national politics of the time. This came to a head in the Civil War and led directly to Sunderland breaking the coal monopoly hitherto enjoyed by Newcastle. This success endured the Restoration despite Sunderland's strong Republican and Puritanical streak. The rivalry between the two cities continues to the present day, predominately, but not exclusively, through football culture.

The rapid expansion of the coal trade down the east coast of England and to North Sea ports on the continent led to a rapid expansion in trade that brought other raw materials into Sunderland in return. Sand used in glassmaking, and timber and iron for shipbuilding led to a boom in those industries. The use of dross coal unfit for export in home grown industries had already fuelled the salt pans and now powered the glass and lime industries.

The improvements to what was an unwelcoming river mouth by the River Wear Commissioners from the 18th century 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.

In the 19th century the Commission oversaw the building of new docks, setting in motion Sunderland's boom in maritime development in the late 19th and early 20th centuries.

This enabled Sunderland to become a nationally important centre for industrial design in the 19th century. Engineers such as Isambard Kingdom Brunel, George Stephenson, and John Murray constructed the railways and docks whilst industrial

dynasties such as the Austins, Pickersgills, Shorts, Laings, and Doxfords contributed massively to the development of Britain's and Sunderland's shipbuilding industry for which it was the world leader by the close of the 19th century. A quarter of the nation's total tonnage of warships and merchantmen were built on the Wear (The History of Shipbuilding in the North East webpage).

As with many other industrialised areas people were drawn to them and historically Sunderland drew tens of thousands because of its port-related industry. This not only included people from the North East but also fisherman from the length and breadth of the North Sea, and shipwrights and miners from Cornwall to Scotland.

Aesthetic

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

As a working port, Sunderland'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 scale of the port infrastructure and the ships using it visually dominate the riverside frontage, especially in and around the commercial harbour downstream of Fish Quay.

Although much of the rest of the commercial port is hidden from view in South Dock, the keen observer can gain good views from the Hendon Sidings.

There is also the interesting contrast of modernity with the historic features located in several of the Character Areas. While the individual heritage assets in Sunderland can be dwarfed in scale by modern buildings and redevelopment, the contrast of the historic elements with the modern combine in these area's historic character to give a distinctive landscape which owes much to their varied past. This is particularly strong in the Bishopwearmouth Panns and Fish Quay Character Areas where high rise student accommodation and the backdrop of Hendon's tower blocks contrast with the palimpsest of quays and occasional historic warehousing.

The contrast between genteel Roker, with its amalgam of Victorian and modern aesthetics, and the modern working port on opposite sides of the river mouth could not be greater. Modern sculpture adorns the seafront and continues up the north bank of the river to Wearmouth Bridge, part of the St Peter's Riverside Sculpture Project that ran for ten years. The sculptures celebrate Sunderland's industrial past, local myths, the legacy of Monkwearmouth monastery and Bede, and a murder mystery set in the local Red House (Talbot 2007).

The transformation of North Dock into a marina has been accompanied by the redevelopment of the surrounding area into housing, St Peter's Riverside. The irregularity of the modern housing lends a pleasing backdrop to the dock reminiscent of a fishing village, enhanced by the use of the dock by working fishing vessels and their colourful accoutrements. There is little obvious historical authenticity to this atmosphere in relation to the area's former historic character and distinctiveness. Much of the northern bank of the river, even that in the gorge between the Wear Bridges, is dominated by views of the Stadium of Light football ground, itself built on the site of the former Wearmouth Colliery.

The South Dock is largely out of bounds and invisible to the public but the giant cranes of the port are highly visible, as is the riverside component of the port at Corporation Quay. The bright colours of the cranes and the dockside facilities and visiting ships supply vibrancy and bustle to the river that is largely absent elsewhere. The smaller but colourful fishing boats moored off Fish Quay add to the character of this stretch of the river.

Views of the Wear Bridges are iconic and important to the identity of the city. Their form has been dictated by the topography of the river and gorge and by the historic requirement to leave sufficient room for ocean-going ships to pass through on their way to and from the shipyards and coal staithes.

The character of the Wear's higher tidal reaches is aesthetically quite different from the estuary: much more sheltered and the river smaller and at a more intimate scale. The mud and sand flats exposed at low tide make the bustle of the modern commercial port seem distant. There are few, but distinct, traces of past industry in the form of the Wearmouth and Lambton Drops, the Southwick lime kilns, and Webster's Ropery. The only two examples of well-preserved 20th century shipyards, at Deptford and Pallion, are now used for different purposes but still retain the feel of the now vanished industry.

Higher still the river is ever more tranquil, belying the heavy industry that once occupied the banks. Footpaths and cycleways meander through much of the riverbank on both sides of the river.

Communal

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

As a local authority-owned port, Sunderland is an important focus for the local area and its community. Its continued economic success is seen as vital to the city. Pride in the port is an important component of the local character.

Considerable pride is associated with the history of the River Wear; the coal trade, shipbuilding, fishing, glass making - a past which has the power to move the large number of local people who can still remember the not-so-distant past. On the internet are several in-depth websites regarding this past.

The area has very active heritage-focussed groups including the Monkwearmouth Local History Group, South Hylton Local History Society, Southwick History and Preservation Society, Sunderland

Antiquarian Society, Sunderland Civic Society, Sunderland Maritime Heritage, Sunderland Old Township Heritage Society, and Sunderland Volunteer Life Brigade. The North of England Civic Trust has been active in the city, having played a key role in the regeneration of the Eagle and Exchange buildings in High Street East.

Sunderland Museum and Winter Gardens maintains collections representing the many industries of Wearside, in particular those of shipbuilding, coal mining, and the glass and pottery trades.

Current levels of heritage protection

There are no Scheduled Monuments within the Sunderland Character Areas.

Sunderland has 14 Conservation Areas but only one of these falls within the port Character Areas. Old Sunderland Riverside, designated in 1994 and based on the medieval borough and fishing port of Sunderland, runs along the south bank of the Wear from Wearmouth Bridge to the western end of Corporation Quay spanning the Bishopwearmouth Panns and Fish Quay Character Areas.

The Character Areas contain 19 Listed Buildings, all Grade II, distributed fairly evenly throughout the study area.

The Roker and North Piers Character Area contain one Listed structure, Roker Pier and Lighthouse, and part of the promenade (LB 1279906).

The North Dock Character Area contains two Listed structures, the surviving walls of North Dock (LB 1207085) and the walls and four mooring posts of North Dock Basin (LB 1293182).

All three of the Wear Bridges are Grade-II Listed: the Queen Alexandra Bridge (LB 1207052); the Wearmouth Rail Bridge (LB 1207051); and the Wearmouth Road Bridge (LB 1279911).

In the Pemberton Drops Character Area the abutments for coal staithes at Wearmouth Colliery (LB 1218456) and the Carley Lime Works (LB 1292063) are both Listed structures.

The Webster's Ropery Character Area contains two Listed structures, the Ropery itself (LB 1207121) and its extension (LB 1209626), now a pub and restaurant.

The Fish Quay Character Area contains three Listed buildings: the warehouse on Wylam Wharf (LB 1208788); the warehouse on Low Street (LB 1207103); and the Sunderland Exchange (LB 1207089), formerly the Town Hall and Seamens' Mission, on High Street East.

Within the South Dock Character Area are several Grade II Listed Buildings: the Gladstone Bridge, lock, and the walls of the north end of Hudson Dock (LB 1207097); the swing bridge and walls (LB 1279892) of the channel that once led to the South Outlet; the machinery and pit (LB 1207096) for the latter; the Dock Office (LB 1279893), the wall and pier of the lock (LB 1207112) at the north-western end of North Half Tide Basin; and the Wave Basin Battery (LB 1207135) next to the Old South Pier.

In terms of non-heritage based designations, the foreshore up to and just above Mean High Water (MHW) around Parson's Rock at Seaburn, and the foreshore south of Hendon, fall within the Durham Coast Site of Special Scientific Interest (SSSI). Both areas lie outside of the port Character Areas. A short stretch of the northern river bank at Castletown, within the River Wear (Pallion to Hylton) Character Area, is designated as the Wear River SSSI.

The coastline around Sunderland has been designated as a Special Protection Area (SPA) under the European Birds Directive and is also listed as a RAMSAR site under the Convention on Wetlands of International Importance.

Pressures for change

The main pressure upon the port and other port-side operators is the economic need to remain commercially viable. The changing nature and focus of the area's industries, the increasing size of vessels, and major changes in port technology and provision, has meant that the port has had to regularly revise its business models - a situation which will continue in the future.

The increasing size of shipping and the absence of regular dredging have shaped the modern port dramatically as the middle and upper reaches of the tidal part of the Wear are no longer deep enough for larger commercial vessels. In recent years Pallion Engineering has paid for a partial dredging of the river in order to win a contract.

The lower reaches of the river are still regularly dredged. Due to economies in scale it is probable that the size of ships will continue to increase in future which in turn will have a direct effect on the type of port-side trade and industry able to use the Wear as a port.

Over the past fifty years the most dramatic changes to the port-side development and river frontage have been in the areas of the former shipyards, the coal staithes, and the North and South Docks. North Dock has been redeveloped as a marina and housing estate, whilst Monkwearmouth Shore has been transformed by the National Glass Centre and the University of Sunderland's Sir Tom Cowie Campus.

Much of the gorge between the Wear Bridges, formerly home to coal staithes and shipyards, has been taken out of development other than the installation of foot and cycle paths.

Two former shipyards at Pallion and Deptford now offer ship fitting services and engineering facilities respectively. Expansion of these facilities might be expected to put pressure on the historic fabric of the two sites. These are rare survivals of the more recent history of the city. Both sites may enjoy a period of expansion once the Sunderland Strategic Transport Corridor and new Wear Bridge have been completed.

The areas around these facilities are currently dominated by industries such as scrapyards and recycling facilities. The Sunderland Unitary

Development Plan makes it clear that this is an appropriate location for these vital facilities but advises against development that openly intrudes onto the riverside.

South Dock has seen the creation of space for redevelopment, largely through the demolition of redundant buildings but also through reclamation of the area around the South Outlet. The link to the national rail network was severed in the 1990s but has recently been reconnected. This can be expected to increase the volume of materials passing in and out of the port and to fuel expansion of the facilities there (Sunderland Echo website). This area surrounding the South Outlet is also seen as potential redevelopment land by the Port (Guthrie *et al* 2007).

Further expansion and an increase in through traffic might be expected once the new Wear Bridge has been built between Castletown and Pallion, along with an associated road link to the port, the Sunderland Strategic Transport Corridor. The construction of these schemes may lead to pressures on historic features, as will the increase in traffic through the port.

The railways were of fundamental importance in the development of the North East, but much of the trackside infrastructure of the old lines feeding the staithes has been removed, except for many of the cuttings, embankments, bridges and viaducts. The area of Hendon Sidings is earmarked for redevelopment, with a preference for industries requiring a lineside location.

The fishing industry is still of local importance to Sunderland. The Fish Quay area has seen recent redevelopment and appears to be successful.

The drive and desire for regeneration on Wearside is high in response to the difficult economic times of the recent past. It may be hard to view positively the currently disused, neglected structures and grain of the local landscapes inherited from the past times but where the will is there, with refurbishment and some imaginative understanding, those are the cultural elements that will give Wearside its future pride of place. The challenge is to revitalise the area and port while retaining the distinctiveness of place which builds on that pride in its past achievements: its heritage offers a positive asset in achieving that goal.

Another challenge the area must face is the threat of sea-level rise. 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 mouth of the Wear falls within the 'Sunderland Harbour' Management Area (MA) of the Northumberland SMP2 (MA 07, Policy Development Zone 3). The area south of New South Pier falls within the Sunderland Harbour to Pincushion Rocks MA (MA08, Policy Development Zone 3) (Guthrie *et al* 2007).

The SMP2 recommendations for the Sunderland Harbour area focus on largely holding the line of sea defences over the next sixty years by maintaining all of the piers and defences and improving the condition of North Pier.

The recommendations for the seaward edge of the South Harbour between New South Pier and North East Pier are more complex. Although 'hold the line' is recommended in the shorter term it is likely that the sea defences here will need substantial reinforcement and, potentially, some realignment in the longer term, especially if this part of the port is to see further development.

Further recommendations for the Sunderland Harbour to Pincushion Rocks area include maintaining the South West Breakwater and sea defences on the south face of the port, and to maintain defences and monitor erosion at Hendon (Guthrie *et al* 2007).

Heritage risk assessment and opportunities

This summary has highlighted the essential character and heritage assets that underpin Sunderland's port-related character. Regeneration planning which is informed and inspired by these elements can take a proactive approach to ensure that new developments are focused on enhancing Sunderland's distinctiveness and strong 'sense of place', and ultimately be more successful for the local community.

The Old Sunderland Riverside Conservation Area (spanning the Bishopwearmouth Panns and Fish Quay Character Areas) is on Historic England's 'Heritage at Risk' register due to the trend of deterioration in its heritage assets' condition which therefore leaves them more likely to be at high risk.

Also at high risk are the quays and piers of the South Dock. Some of these may have no current role in the modern port but many do, and many appear to be in a declining condition. This is particularly true in the case of Old South Pier but is also likely to apply to other components. Although this pier is not Listed, the Wave Basin Battery that lies upon it is, and relies upon solid foundations to maintain its integrity.

The Listed swing bridge and its associated machinery and pit at the entrance to the South Outlet are also in poor condition. The potential redevelopment of the area surrounding the South Outlet would be a good opportunity to conserve these Listed features, and other surviving heritage assets, to ensure they continue to give a sense of time-depth and historic character to the area.

The Listed pier between the two basins to the north of the Dock is not in a particularly good state of repair either, wooden fenders have been left to rot *in situ* and there is some degradation of the stone.

Other Listed structures within the port and river areas are generally in good condition and unthreatened by foreseeable development.

The number of passenger ferries crossing the Wear has declined dramatically over the past hundred years. Currently there is little river transport which the public can use as a means of communication, enjoy the Wear and view and appreciate its port activity. It would be of enormous benefit to the river, and the viewing of its associated heritage, if users could be brought on to the river through the establishment of ferries and/or water taxis.

The redevelopment and improvement of the North Dock and Monkwearmouth Character Areas, with both modern sculpture and heritage forming an integral part of the initiatives, is to be welcomed. North Dock contains a wealth of historic features associated with historic port-side activity.

The low visibility of shipbuilding activity on the river reflects the changing economics of the port. The few surviving graving docks and slipways would benefit from preservation and reuse where possible, and could perhaps benefit by designation. Expansion or redevelopment of the two surviving yards at Pallion and Deptford should be designed with the remaining heritage in mind.

It is probable that, with the sea-level predictions and the likely scenarios highlighted in the SMP2 reports, the Piers and the sea defences on Wearmouth, and the North East Pier and South West Breakwater near the South Outlet will require regular repair. It is also possible that there will be proposals for additions and updating, and therefore they will be at moderate to high risk of future change. If required in future, these construction projects should be designed and undertaken to minimise the impact on the heritage assets and the surrounding historic character.

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