

COASTAL SURVEY 1997-98

LOWER MILFORD HAVEN PEMBROKESHIRE

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SUMMARY

This project has established that most of the coastline of the lower reaches of Milford Haven is subjected to only slight coastal erosion, but there are locations where both natural erosion by the sea and human activity are threatening important archaeological sites. Two classes of site comprise the most important archaeological remains in the survey area: nineteenth century and twentieth century defensive structures, and iron age promontory forts; some of these sites are threatened by development and erosion, but simple neglect is their greatest enemy.

Long sections of the coast within the western end of Milford Haven are characterised by high, hard-rock cliffs. To the east the coastline becomes less severe, the cliffs generally lower and often clad with trees; it is here that the major settlements are to be found. Silts, alluvium and salt marsh are forming in some of the narrow sub-inlets of the Haven, others have been drastically modified by human agencies.

A total of 570 sites were examined; 379 of this total were discovered during the course of the survey. Most of the newly discovered sites are of post-medieval and modern date, and should be seen as important additions to the Dyfed Sites and Monuments Record in view of a previous bias towards non-post-medieval sites.

The importance of the more massive nineteenth century defensive structures has long been recognised; many are protected by statutory designation. However the very wide range of nineteenth and twentieth century defensive structures represented in the study area is only now beginning to be fully appreciated. These remains are without parallel in Wales, and can only be matched in Europe by the Solent defences. They are of international importance. The current poor condition of many of the structures is a cause for concern.

The eleven iron age coastal promontory forts in the survey area (eight of which are Scheduled Ancient Monuments), together with a larger number on the Pembrokeshire coast outside the Haven, comprise a group of prehistoric monuments difficult to match for size and degree of preservation and importance anywhere else in Britain.

In the face of the erosional threats to the coastal archaeological resource, management responses specific to a number of archaeological sites and site types have been made within the report. These recommendations will hopefully provide a means of either protecting sites from continued damage, or where that is impossible, at least ensure that a proper archaeological record is made before they are further damaged or wholly destroyed.

Equally importantly, it is hoped that this report, in conjunction with others in the series grant-aided by Cadw to cover the whole of the Welsh coastline, will draw attention to the coastal archaeological resource and ensure that its richness and variety is no longer overlooked. This may help avoid the unnecessary and unrecorded destruction of archaeological sites in future.

INTRODUCTION

This Cadw grant-aided project is part of a wider strategy designed to complete a rapid archaeological survey of the entire Welsh coastline. This strategy has been developed against an increasing awareness of the archaeological potential of previously under-surveyed coastal marginal land, and also to the threat to our coastal heritage and coastal archaeological resource from a number of directions.

This project was designed to carry out a desk-top and field study of the Milford Haven coast from the mouth of the Haven at the west to the Cleddau Bridge. This represents c. 100 km of coastline. The survey work was carried out in the spring and autumn of 1997. In 1995/6 the coastline from the mouth of the Dyfi estuary, Ceredigion, to Strumble Head was surveyed. In 1996/7, Strumble Head to Ginst Point, Carmarthenshire was surveyed. Concurrent with this project is a survey of the Carmarthen Bay coast and the Dyfi estuary. This will complete coverage of the whole of the coasts of Ceredigion, Pembrokeshire and Carmarthenshire. The three other Welsh archaeological Trusts have been undertaking similar projects on their respective coasts. 1997/8 will see the completion of the survey for the whole of the Welsh coast.

The survey included the recording of new archaeological sites and an assessment of the condition of known sites. Another important aspect of the survey was the recording of differing types of coastline and assessing the threat posed to archaeological sites by erosion from the sea and other agencies.

A wide range of site types are encountered along the lower Milford Haven coastline, ranging from those associated with prehistoric settlement to others associated with post-mediaeval coastal trade and fishing, but their common denominator is that they are threatened by a combination of natural and human agencies and this report is a timely statement on the extent and nature of these threats. To this end, the information gathered by the survey has been employed for the purpose of making recommendations for the future management of the archaeological resource, where appropriate.

The identification and recording of standing buildings is outside the remit of this study. However, structures that have a strong maritime connection, such as coastal defensive systems, lifeboat stations, customs houses, warehouses, lighthouses and boat-houses, were included in the survey. Because of the strong maritime/naval association at Pembroke Dock, all buildings within the dockyard wall were included in the survey.

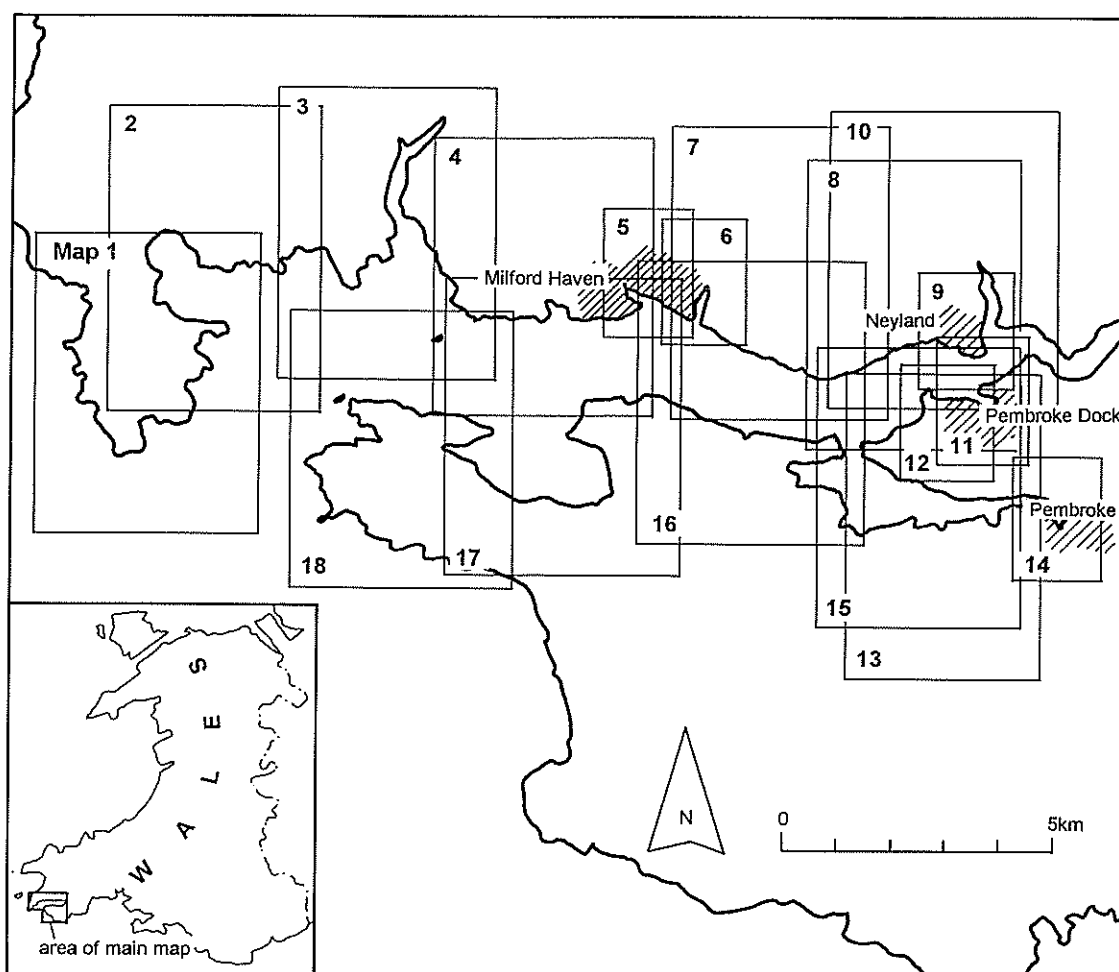


Figure 1. Map showing study area and location of gazetteer maps

Methodology

The desk-top and field survey was carried out by two persons. Initially, a thorough examination of the Dyfed Sites and Monuments Record (SMR) was made as well as a search of available aerial photographs relevant to the study area held by the RCAHMS, Aberystwyth and by Archaeoleg Cambria Archaeology. Information was also gathered from historic cartographic sources, both published and unpublished.

During fieldwork, 1:10,000 Ordnance Survey maps were used to record coastal and archaeological features, with 1st and 2nd edition 1:2,500 maps used for areas such as ports and harbours, where more detail was required.

Fieldwork consisted of rapid coverage of the coastal strip, with details of new and previously recorded archaeological sites, as well as the nature of the foreshore, coast edge, land edge and erosion class recorded in detailed written notes and photographs.

THE STUDY AREA

Definition of the study area

The study area was defined as the coastal strip and foreshore along the whole of the Milford Haven coast from its mouth in the west to the Cleddau Bridge in the east.

For the purposes of the study, the coastal strip included all land within 150m of the mean high water mark, excluding built up areas such as towns and villages. The foreshore was defined as the intertidal zone between the mean high and low tide marks.

Geology & Geomorphology

Milford Haven is a classic example, if not the classic example, of a ria, a drowned river valley. As such it forms one of the World's great natural harbours, with good deep water anchorages for the largest of modern ships.

The western end of the Haven on the northern side is characterised by high, vertical cliffs interspersed with sandy coves backed by cliffs with narrow inlets or pills leading into the main channel from the north. To the east from the town of Milford Haven, the cliffs become lower and less precipitous. The geology on the north side of the Haven is exclusively Old Red Sandstone. The pills on the north side of the Haven can penetrate inland for several kilometres. From west to east, the first pill encountered is at Gann Bay leading up to Mullock Bridge (Map 2). Though formerly of four kilometres, this pill is now choked with alluvium, much of which has been reclaimed and enclosed with an embankment. Sandy Haven (Map 3), the next pill to the west, is a long narrow inlet defined by steep, tree-covered rocky slopes. As the name suggests, this pill has much alluvium in it, though is still navigable to small ships and boats for much of its length. Milford Haven docks have been built in the mouth of Hubberston or Priory Pill on the western side of the town. Upstream of the docks the pill is currently being in-filled. The slopes on its higher reaches are tree covered and the pill is becoming alluviated and salt marsh is forming. On the eastern side of the town Castle Pill's steep and somewhat craggy slopes are also heavily tree-shrouded; this provides an impression of rural seclusion on its upper reaches, despite its proximity to Milford Haven. The final pill on the north side of the Haven is Barnwell or Westfield Pill, to the east of Neyland. Again the steep slopes of the pill are tree-covered. The pill has, however, now been dammed to form a long, narrow reservoir.

On the south side at the western end of the Haven, as with the north, high vertical cliffs dominate the coastal scenery. A more varied geology comprising Carboniferous Limestone, conglomerates, sandstones, marls and glacial deposits is reflected in the rapidly changing character of the coast. From west to east, the high cliffs descend rapidly into the sandy bay of West Angle then rise again rapidly to rugged crumbling cliffs. These in turn quickly give way to high, more gentle tree-covered slopes. Indeed the higher cliffs on the south side of the Haven are characterised by this type of tree-covered slope. The gentle sweep of Angle Bay interrupts two such stretches of cliff. Large exposures of mud and sand are revealed at low tide in this bay. Backing the bay are low, eroding cliffs of glacial tills and head. Pwllchrochan inlet is

a small pill now choked by salt marsh with a developing peat bog in its upper reaches. The pill is fronted by extensive mud flats known as Pwllcrochan flats. The Pembroke River is the only major inlet on the southern side of the Haven in the study area. Its narrow mouth widens out into extensive mud flats backed by steep sided slopes of sandstones and conglomerates or low cliffs of glacial till. Towards the town of Pembroke the valley narrows with craggy tree-covered limestone slopes prevailing. To the east of the Pembroke River the sides of the Haven are once again steep-sided and tree covered except for the site of Pembroke Dock. Here Carboniferous Limestone outcrops in a low cliff line.

ARCHAEOLOGICAL AND HISTORICAL BACKGROUND

Recording archaeological sites

The importance of maintaining an accurate and up to date record of known archaeological sites means that desk-top and field survey work such as that engaged during this project offer a valuable opportunity to enhance and extend the records held by the Archaeological Cambria Archaeology.

Information is collated into the regional Sites and Monuments Record (SMR) where it is stored both on a computer database and in hard-copy format. Each site is allocated an unique identification number known as a Primary Record Number (PRN). Throughout this report, the PRN of all sites mentioned in the text will be quoted.

Each PRN record includes all known details of a site, from its National Grid Reference number to details of its history, condition, ownership and status (i.e. whether or not it has statutory protection as a Scheduled Ancient Monument (SAM) or listed building (LB)). A description of the site is also usually provided if it has been visited in the field and sometimes a plan and /or photograph is included.

379 new sites were added to the SMR by this survey. The condition of many of the 191 previously known sites recorded along the coastal strip was also checked as fieldwork progressed and a large amount of new survey and documentary information added to their records.

The vast majority of the new sites were of post-mediaeval date, redressing an imbalance in favour of sites of earlier periods previously found in the SMR.

The defences of Milford Haven

During the course of this study the post-medieval defences, and in particular nineteenth and twentieth century structures, of Milford Haven were recognised of being of international importance. A separate section is therefore devoted to them, with descriptions of individual installations.

Apart from two sixteenth century blockhouses, the defences of Milford Haven date from a major period of building *circa* 1850-1875 down to World War 2. Prior to this, the vulnerability of Milford Haven from an attack from the sea had been commented on by military surveyors and lay-people on numerous occasions, reports commissioned and schemes of fortifications approved, but due to changes in the political or economic climate, these were never implemented, or halted soon after construction began. Even the massive fortification programme of 1850-75 had to undergo several modifications during construction due to technological developments, and by the turn of the century this system was virtually redundant.

Short histories on the defence of Milford Haven with descriptions of the forts, batteries and towers have been published: Wheeler n.d., Saunders 1989 and Beazley 1976. This short account is taken from these published sources and from Thomas 1994. Other references are acknowledged. All authorities agree that it was Thomas Cromwell, in 1539, who first drew attention to the need to defend Milford Haven. Rees (1957, 6) states that in 1543 orders were issued to provide ordnance for these bulwarks, though all other writers consider that Cromwell's proposals for a scheme of defences was not acted upon until 1580 when two blockhouses guarding the mouth of the waterway were constructed. These stone-built

structures were of three-storeys with a gun platform on the first floor. Of the two, only a small part of East Blockhouse (3061 - included in the 1996-97 survey programme) survives, and this in a perilous condition, perched on the edge of a cliff. West Blockhouse (Map 1 3050) has been destroyed.

Despite several surveys and proposals for an integrated system of defences for the Haven following the building of East Blockhouse and West Blockhouse nothing of substance was achieved until the nineteenth century, although some installations were defended in a piecemeal manner. In 1643, during the Civil War, Richard Steel, a Royalist engineer, constructed an encampment called Pill Fort (Map 6 7608) armed with '18 great ordnance' (Rees 1957, 10) to defend boats moored in Castle Pill, immediately to the east of the modern town of Milford Haven. This defence was located in a former iron age fort (3170) on high ground overlooking the mouth of the pill. Both the iron age fort and the Civil War fort have been destroyed by housing construction. During the Seven Years' War Lt. Col. Bastide proposed a system of forts, but for economic reasons only one was started, at Paterchurch (Map 12 34639), Pembroke Dockyard; building work on this was abandoned in 1759 when the threat of invasion passed. Later in the eighteenth century, because of the fear of American privateers operating out of France at the outbreak of the American War of Independence, a redan (Map 9 24428) was constructed to defend a private dockyard in Barnwell Pill, Neyland, which had been commissioned to build Royal Navy ships. Carlisle writing in 1811 states that two batteries were planned to defend these private dockyards but only one was built. Two barracks (Map 5 34633, Map 6 34634), each provided with seven guns, were built at Milford Haven soon after the construction of the Navy Board dockyards in 1796. Both are now destroyed; their positions are marked on a map of 1851 (Rees 1957, 128).

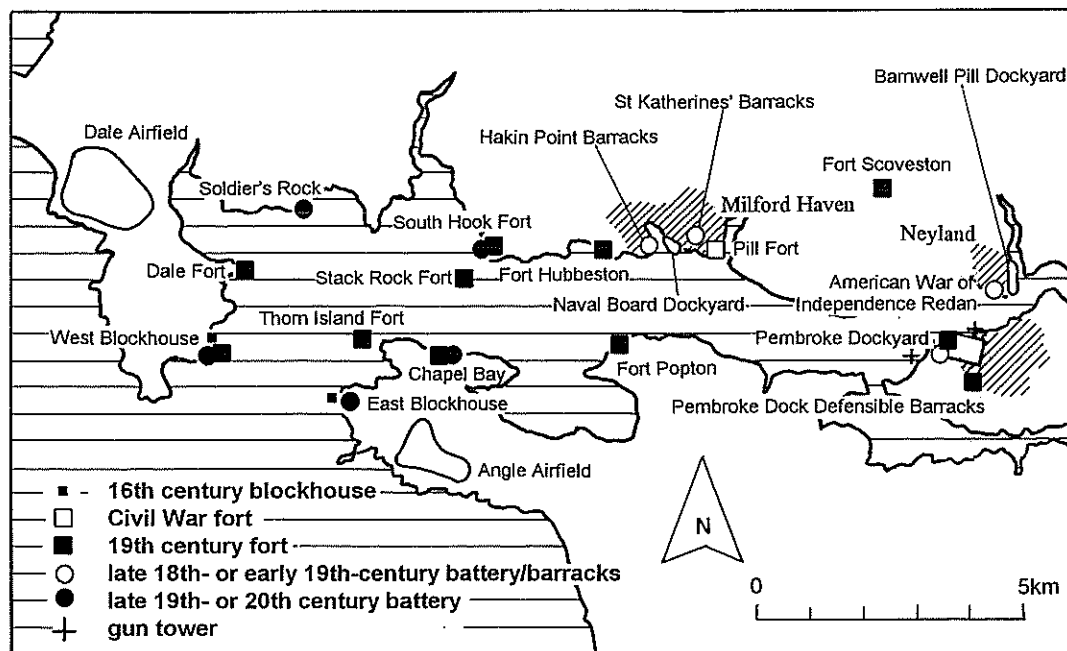


Figure 2. Location of major defensive sites on Milford Haven

Much thought was given to the defence of the Haven following the relocation of the Naval dockyards from Milford Haven to Pembroke Dock. A new chain of forts was proposed, but little was done except for the strengthening of Pater Fort (Map 12 34639), which had been reduced in size by the construction of the Dockyards. Pater Fort was dismantled in 1837 and replaced by Pater Battery (Map 12 24449) on the same site on the north-west corner of the dockyards, in 1842. This was further remodelled in 1852-53 and dismantled in 1903. Parts of Pater Fort and Pater Battery still survive. Dockyard defences were further strengthened in 1845 by the opening of the Defensible Barracks (set back from the coast) and by two gun towers (Map 12 3262-63) in 1849-57. The mouth of the Haven was also being defended at this time with four forts built during the 1850s: West Blockhouse (Map 1 9782) with six guns, Dale Point

(Map 1 7656) of nine guns, Thorn Island (Map 18 20602) of nine guns and Stack Rock (Map 3 4198) of three guns.

Developments in warship technology rendered these forts obsolete virtually before they had been completed. A 1858 Report to Parliament on the Sea Defences of Milford Haven and Pembroke Dock recommended the construction a system of forts to protect the waterway from attack by land and sea. As with other plans for the defence of Milford Haven, this scheme did not come to fruition, though it led to the construction of several new forts: South Hook (Map 4 7624), Hubberston (Map 4 7623), Popton (Map 17 7734) and Chapel Bay (Map 18 7655). Forts construction in the 1850s were also modified in light of the report. However, as with earlier forts, developments in warship and artillery technology rendered these new installations obsolete soon after their completion. The use of casemates was superseded by open batteries with guns hidden behind parapets on Moncrieff disappearing carriages. At Hubberston and Popton these new guns had to be used on top of casemates; at Chapel Bay, the last of the forts to be built, completed in 1891, these new developments in technology were accounted for in the design. By the end of the nineteenth century the concept of fixed defensive position was becoming outmoded, and these forts were becoming obsolete, although modifications were made down to the early years of the twentieth century; South Hook Fort had its major gun battery completely replaced in 1898 (see Map 28657 for battery) and at Chapel Bay new guns were added in 1899 (Map 18 35023 gun battery outside fort), it was rearmed in 1901. East Blockhouse Battery (24430 - included in 1996-97 survey) and West Block House Battery (Map 1 28701) were built in 1901-4.

Most of the installations constructed in the mid nineteenth-century continued to be used by the military up to and after World War 1. The major gun batteries constructed in the final years of the nineteenth century and early years of the twentieth century served until after the close of World War 2. In the 1930s most of the larger forts were disposed of, though some were requisitioned during World War 2 for use as barracks and training centres. From World War 1 onwards new installations were built, often on a massive scale: a submarine mining establishment (Map 18 35026) close by Chapel Bay Fort, a experimental submarine mining station, barracks and torpedo testing establishment at Pennar (Map 13 24445, 34987-93) gun batteries with searchlight batteries at Soldier's Rock (35080), a gun battery at Kilroom (Map 3 34643), an oil store at Llanreath (Map 14 8450), a mine depot at Blackbridge (Map 7 28801) and several searchlight batteries, anti-aircraft gun batteries, machine gun mountings, observation posts and minewatchers posts were positioned along the coast. At Pembroke Dock, in the former dockyard, a flying-boat station was established in 1930. Planes operating out of this station played a key role in guarding the western approaches to Britain during World War 2. The station closed in 1956. Two flying boat hangars survive (Map 12 28428-29) and bomb stores (Map 13 28456-58).

Gazetteer of major defensive sites in and around Milford Haven

Not all of the following are in a coastal location: they are included so as to provide an overall picture of the defensive systems of Milford Haven

3061 East Blockhouse (included in 1996-97 coastal survey)

Possibly first constructed and armed in 1543. Records show it was (?re)built in 1580. Three storeys. First floor gun floor. Parts of stone walls perched on top of cliffs survive.

3050 West Blockhouse (Map 1)

Possibly first constructed in 1543. (?Re)built in 1580. Three storeys. First floor gun floor. Destroyed.

7608 Pill Fort (Map 6)

Built in 1643. Earthwork construction with 18 guns and garrisoned by 300 men. Attacked and captured by Parliamentary forces who set up guns on the opposite bank. Site now occupied by housing.

34639 Pater Fort (Map 12)

Building work started in 1758, abandoned the following year. Partially destroyed during construction of Pembroke Dockyard in 1814. Refortified in 1830, dismantled in 1837. Reused as part of Pater Battery (24449), 1840-42.

24428 American War of Independence Redan (Map 9)

Built at the outbreak of the American War of Independence. Irregular, 5-sided artillery waterline fortification. Walls stand to 2.2m high. An adjacent building (34835) is contemporary, its cellars contain the magazine.

34634 St Katherine's Barracks (Map 6)

Built 1801-03 with seven guns. Abandoned following dockyards relocation to Pembroke Dock. Shown on 1851 map. Site destroyed.

34633 Hakin Point Barracks (Map 5)

Built 1801-03 with seven guns. Abandoned following dockyards relocation to Pembroke Dock. Still in use in 1821. Marked on 1851 map. Site destroyed.

24449 Pater Battery (Map 12)

Built in 1840-42 on site of Paterchurch Fort to protect Pembroke Dockyard. Rebuilt 1856. 23 guns. Dismantled in 1903. Part of embankments and gun emplacements survive.

4517 Pembroke Dock Defensible Barracks (not in survey area)

Built in 1844-45 for 500 men. Now council depot and golf club headquarters.

3262 South-West Gun Tower (Map 12)

Built 1849-57. 5 guns. Unused but in good condition.

3263 North-East Gun Tower (Map 12)

Built 1849-57. 3 guns. Now restored as a Tourist Information Office containing displays and information panels.

4198 Stack Rock Fort (Map 3)

Originally a 3-gun tower built between 1850-52. Rebuilt as a fort with 23 guns in 1871. Abandoned at the end of World War 1. Sold in 1932. Derelict but in good condition.

9782 West Blockhouse Fort (Map 1)

Built on or near site of the original West Blockhouse (3050) in 1852 with a six-gun open battery. Superseded by West Blockhouse Battery at end of 19th/early 20th century. Now holiday accommodation.

7656 Dale Fort (Map 1)

Constructed as a battery in 1855-56 for 9 guns. Dismantled in 1871. Later improved with mass concrete emplacements for gun trials in 1890. Sold after World War 1. Now a Field Studies Council centre.

20602 Thorn Island Fort (Map 18)

Originally built as a small battery of 9 guns between 1859 and 1864. Later converted to a small fort. Abandoned after World War 1. Sold in 1932. Now an hotel.

7624 South Hook Fort (Map 4)

Built between 1859 and 1865 for 20 guns in open batteries protected by earthworks. One battery rebuilt in 1898 to house new guns - see 28657. Abandoned in the 1930s and sold in 1936, it was briefly used by Royal Navy in World War 2. Formerly within Esso refinery. Now deteriorating.

7623 Fort Hubberston (Map 4)

Built 1860-65 to act in conjunction with Fort Popton. Designed to have a boom strung between them to prevent shipping travelling further up the Haven. The fort comprised an open battery, casemated battery and terreplein battery totalling 28 guns, and barracks all protected by ditches. Fell into disuse at beginning of this century. Now becoming derelict.

7734 Fort Popton (Map 17)

Built 1859-64 to act in conjunction with Fort Hubberston. Casemated battery, redesigned in 1900. Total of 31 guns. Includes a defended barracks. In grounds of oil refinery. Part is used as Field Studies Council research centre.

5804 Fort Scoveston (not in survey area)

Built 1861-65 with 32 guns. Designed to protect the Haven from landward attacks. Disused, but in good condition.

7655 Chapel Bay (Map 18)

A quick-firing battery built in 1880 (35025), with the main fort constructed in 1890-91, using mass concrete construction for 3 guns. A light coastal artillery battery of 3 guns (35022) was added in 1899. Original battery updated in 1901. Searchlight battery (35027) and submarine mining establishment (35026) later added. Disused after World War 1. Sold in 1932. In good condition.

35062, 35070 Llanion Barracks (Map 11)

Established in late nineteenth-century and modified many times. Most of the area of these barracks is now given over to housing and commercial development. Two magazines (35062, 35070), plus the remains of other buildings (35063-64), survive near the coast.

24430 East Blockhouse Battery (see 1996-97 coastal survey)

Built between 1901-04. The original guns supplemented by 2 six-pounders during World War 2 (32643). Armaments dismantled after World War 2, though used as a coastal artillery searchlight (32781) until 1956. Still in military ownership - condition good.

24431 West Blockhouse Battery (Map 1)

Built at the same time as the East Blockhouse battery on the opposite side of the mouth of the Haven. Guns replaced in 1930s. Dismantled after World War 2.

28657 South Hook Battery (Map 4)

Originally part of South Hook Fort, this major open battery was completely rebuilt in 1898.

34762 Soldier's Rock Battery (Map 2)

Coastal artillery battery of two guns and two searchlights with camp in fields behind. Built for World War 2. Late nineteenth-century maps show rectangular enclosures at this site - perhaps an earlier battery or other military installation, hence the name.

34643 Kilroom Battery (Map 3)

Open four-gun coastal artillery battery.

28428-29 Pembroke Dock Flying-Boat Station (Map 12)

Established in 1930 in former dockyards, disbanded in 1956. Two hangars survive in dockyard (28428-29) with bomb stores outside (Map 13 28456-58). The accommodation blocks for this establishment have recently been demolished.

Towns and ports

Of the four major settlements in the survey area, Milford Haven, Neyland, Pembroke Dock and Pembroke, only Pembroke is of any antiquity. Because all of these settlements have or had strong maritime connections their histories and material remains pertinent to this study are briefly described below.

Milford Haven

The main sources for this section are Rees (1957) and McKay (n.d.). Documentary sources prior to the establishing of the 'proprietary town' of Milford Haven in 1790 clearly indicate an increase in economic activity in and around the Haven from the 16th century. The strategic military importance of the Milford Haven waterway had been recognised as early as 1538 when Thomas Cromwell recommended that forts should be constructed for its defence. Naval ships were frequent visitors to the Haven's sheltered waters as a painting by J R Attwood of 1776 in the National Museum of Wales showing British fleet at anchor in Hubberston Road testifies. The absence of a major settlement to supply not just these naval ships but also coastal and long distance traders was of serious concern by the mid eighteenth-century. The nearest custom house was at Pembroke and there were no piers, quays or hotels close to deep water anchorages. The lack of hotels being a particular problem for the passengers of the packet service that was running on a regular basis between Hubberston and Waterford in Ireland. Up to the late nineteenth-century Hubberston was a village with fishing probably as its major economic activity. Smaller settlements had probably also grown up on the other sheltered creeks such as Castle Pill and Neyland Pill, though at the latter a small shipbuilding industry had been established by the mid-to-late eighteenth-century.

With this level of naval and economic activity it is hardly surprising that from 1764 William Hamilton was formulating development plans. In 1790 an Act of Parliament granted him permission to: 'make and provide Quays, Docks, Piers and other erections and establish Market with proper Roads and Avenues'. In 1796 the Navy Board located a dockyard near to the entrance of Hubberston Pill (Map 5 34635); seven ships were built here before it was relocated to Pembroke Dock. Jean Louise Barrallier, the man responsible for the ship building-programme, probably designed the grid-iron plan of Milford Haven town. In 1792 a small community of Nantucket whalers were persuaded to settle in the new town, and for a short time, until a collapse of the price of sperm whale oil in 1819, a successful whaling industry operated. Neither the dockyards nor the whaling industry bequeathed any physical remains of their presence to us. Several plans were proposed for the construction of quays, piers and all weather docks in the first half of the 19th century, but nothing was done. The transference of the Irish steam packet service from Milford Haven to the Hobbs Point on the opposite side of the waterway depressed the struggling town, as did the construction of a railway to Neyland in 1856. A spur line was opened to Milford Haven in 1863. In an attempt of kick start the town to life the Milford Improvement Bill of 1857 led to the construction of two wooden bridges: Black Bridge and Hakin Bridge (Map 515831 and Map 6 34851), both now replaced by modern structures and a pier (Map 6 34819). Small shipbuilding yards operated in Hubberston Pill and on the site of the old navy dockyards in the mid-to-late 19th century, 13 ships being built between 1867-74.

In 1872, the cast iron pier of Newton Noyes (Map 7 26089) was opened, linked by a railway (Map 6 34525). The pier was acquired in 1934 by the Admiralty for their mine depot at Blackbridge (Map 78801). Finally, after many false starts, in 1888, Milford Haven Docks were opened, with dry-dock facilities in Castle Pill. The docks were intended for the transatlantic passenger trade, but only one liner ever called. Instead a successful fishing fleet developed. Sheds designed for the transatlantic trade were converted to a fish market in 1890, these were extended in the 1930s, ice factories were constructed in 1890 and 1901 and a mackerel quay and market was built in the early 1900s. All these structures have now gone. By 1922 there were five herring smoking houses in and around the docks. One of these survives (Map 5 35091). The fishing industry survived World War 2, but went into severe decline in the later 1950s. At the time of writing there are no locally-owned boats operating out of Milford Haven, the majority of the old dockside buildings have been demolished and the docks have been converted to a marina.

Neyland

The main sources for the history of Neyland are Rees (1957), McKay (n.d.), Dyfed County Council (1983) and Mason (1986). It seems likely that in the mid eighteenth-century and earlier Barnwell Pill, on the east side of what is now Neyland, supported a small trading, fishing and ship building community. Between 1751 and 1782 Neyland was one of the largest herring ports in Wales. In c1760 the site was chosen by the Admiralty for the construction of their ships. Two ships were built in privately-owned yards: the Prince of Wales in 1760 and the Triumph in 1784 (Peters 1905, 16). These yards were defended by a small water-line gun fort (Map 9 24428). Two forts were originally planned. After spending £20,000 on the project the government withdrew their support. The dockyards continued in use, building civilian ships, and further yards were opened later in the century and in the nineteenth century. In the nineteenth century an average of two ships a decade were built at Neyland. The pill also had modest port facilities; a salt refining works was in operation at Barnwell in 1797 and imports of sugar and wool are reported in 1811.

The opening of GWR's terminus at Neyland in 1856 marked the real beginning of the town. Old facilities were swept away and the population rapidly increased. The fixed pier constructed for an Irish ferry service was extended in 1857 when a second boat was added. Cattle stages, gasworks and a hotel were as constructed. Development of the port was constrained by objections from the Admiralty who feared that further piers and other installations would interfere with ships launched from the Pembroke Dockyards. Transference of the Irish ferry service to Fishguard in 1906 led to Neyland reinventing itself as a fishing port: an ice factory (Map 10 34975) and fish market were opened in 1908. By the 1920s this industry had gone into decline and Neyland was becoming a backwater; a process hastened by the closure of the railway in 1964 and of the ferry service to Hobbs Point in 1975, although the opening of a marina in Barnwell Pill has provided employment in the tourist industry.

Pembroke Dock

The main sources consulted are Peters (1905), Carradice (1991) and Findley (1875). The partial construction of a fort at Paterchurch (Map 12 34639) in 1758 did not alter the fundamental agricultural aspect of this small peninsular in St. Mary's Parish, Pembroke as shown on an estate map of 1772 (Carradice 1991, 14), though it would seem that as with most inlets on the Haven small-scale ship building was being carried out Bentlass on the Pembroke River and at Pembroke Ferry. The Admiralty's decision to relocate their dockyards from Milford Haven to a new site at Paterchurch in 1812 marked the beginning of the new town of Pembroke Dock. Growth was rapid. The dockyards were opened in 1814, extended in 1830-32 and again in 1844. In 1832 a stone pier at Hobbs Point was opened and later an Hotel and stables for Irish steam packet passengers, the service being transferred from Milford Haven. In 1864, the first train ran from Pembroke Dock to Tenby. The line was later extended to the dockyards. Civilian dockyards on Water Street, Front Street (Map 11 35050) and Lower Meyrick Street all operated in the nineteenth century, as well as a substantial yard at Jacob's Pill (Map 13 34647) on the Pembroke River. This last installations was opened in 1874 and closed in 1884, when it was converted to an isolation hospital. Late in the nineteenth century a torpedo stores was established at Pennar Point (Map 13 34989-93) - submarine mining experiments were carried out here. Pembroke dockyard was one of the world's most important naval shipbuilding centres, with, in its 112 year life, over 260 ships launched. The development of bigger and bigger ships, culminating in the dreadnought class, signalled the end of Pembroke dockyard. The Admiralty was unwilling to invest in new facilities, and in 1907 men were laid off. The dockyard were abruptly closed in 1926. In 1930, the establishment of a RAF flying-boat base (Map 12 28428-29) in the eastern part of the former dockyard provided some employment until its closure in 1959. More recently, a ferry service to Ireland has been operating at a new base in the former dockyard.

Pembroke

The sources used in this section are Soulsby (1983), Ludlow (1993) and Carradice (1992). Pembroke, the only major settlement of antiquity in the study area, is located on an elongated Carboniferous Limestone promontory at the head of one of the many creeks of Milford Haven. There is no hard evidence to suggest a settlement on the site prior to the foundation of a Norman Castle and town, but the discovery of Roman

coins in the 1880s indicates a Roman presence in the area. Also, the manner in which Roger de Montgomery made straight for Pembroke in 1093 to found his castle implies the presence of a pre-Norman Welsh administrative centre on the site. Pembroke's town charter was granted in 1135, but it is likely that a settlement had begun to form near to the castle from 1093. The charter contains a clause pertinent to the current study: 'ships with merchandise shall come to the bridge of Pembroke and buy and sell things there'. The town prospered and grew rapidly. Two churches lay within the circuit of the town walls with Monkton Priory outside to the south. By the sixteenth century the town was in decline. Though the county town following the creation of Pembrokeshire in 1536, Pembroke's role seems mainly to have been titular with many of the functions taken by Haverfordwest. However, a customs house was established at Pembroke in 1599 following reorganisation of maritime legislation, though few vessels were registered to the town; it seems to have functioned more as a merchant seat than as a dock. Donovan, writing in 1806, expressed the hope that the port of Pembroke 'might one day rise to consideration'. The growth of Milford Haven, Pembroke Dock and Neyland dashed these hopes. Hopes that were finally laid to rest with the coming of the railway in 1863. Even so, sailing ships occasionally called at Pembroke's quay, the last being 'Kathleen & May' which made regular visits to the North Quay down to the 1960s.

Constructions such as bridges, dams, mills and quays were established at various times in the history of Pembroke. Because these have a direct bearing on the current study they are described in some detail below. As mentioned above a bridge was mentioned in the town charter of 1135 - this is taken to be a reference to the north bridge (Map 14 20035). A mill is first mentioned in 1199. It is considered that this mill stood close to the north bridge. By 1678, the mill was a substantial stone-built tidal corn-mill, (Map 14 4515) with the bridge acting as dam for the mill-pond. This mill continued to function to after World War 2. It burnt down in 1956 and its remains demolished in 1968. A second mill, mentioned in fourteenth century accounts lay to the south side of the castle. Though South Quay (Map 14 20042) has always been the main quay of the town it does not seem to have possessed any form of formal structure until c. 1800. The present quay and slip was built in 1818 and four warehouses established on it by the mid nineteenth-century. Most authorities (Carradice 1992, 43) consider that the customs house established in 1599 stood on the south quay, but the lack of a formal quay prior to 1800 makes this unlikely. By 1772, a wharf had been established at North Quay; this was replaced by a stone structure in the mid nineteenth-century when a warehouse was also constructed (Map 14 16968). This quay and warehouse functioned until the 1960s.

Period summaries of the archaeological record

The Palaeolithic The only sites in the survey area that have the potential for producing evidence for man's presence prior to the last glaciation are caves in the Carboniferous Limestone at and near to Pembroke. Artefacts of this period have been found at two caves: Catshole Cave (Map 14 14211, 12187) and Wogan Cave (Map 14 7933). Further caves, now buried beneath colluvium and other later debris, may be awaiting discovery, but this is perhaps unlikely given the extensive limestone quarrying that has taken place. At periods in the past when sea level was lower than the present, the tidal estuary at Pembroke would have been an sheltered inland valley. It is possible, therefore, that caves may exist below present sea level, buried beneath estuarine silts and sediments.

The Mesolithic Finds of mesolithic date (c. 8500 - 4000 BC) have been made in the survey area. These finds fall into two categories: chance finds and concentration of flints found during field walking. Only eight sites in total are known of; all of them are located towards the western end of the study area (Maps 1, 2, 17, 18). The reasons for this uneven distribution are unclear, but it is probably apparent rather than real - flint collectors seem to have concentrated their activities on the extreme western coastal fringes of Pembrokeshire. The distribution of mesolithic sites across Britain indicates that the exploitation of the littoral was a major economic activity of man at this period. As sea level was considerably lower at the beginning of the mesolithic, rising to near modern levels towards the end, there is potential for the discovery of occupation and flintworking sites below water level, particularly in sheltered coves and estuaries of Milford Haven.

The Neolithic (c. 4000 - 2500 BC) Very few sites of the Neolithic Period are known of in the survey area. Those that have been recorded are comprise chance finds of flints or scatters of flints in the western part

of the survey area. Generally these finds are not of diagnostic flints; they may be of mesolithic or neolithic date. This paucity of known sites is in contrast with the wealth of neolithic monuments in Pembrokeshire generally, and in other coastal areas of the county in particular.

The Bronze Age The Bronze Age (c. 2500 - 700 BC) is generally well represented in south-west Wales by field monuments in the form of round barrows and other funerary and ritual sites. This is not the case in the coastal zone, where relatively few sites of bronze age date are to be found. The only known site of any importance in the survey area is a burial with associated hoard from Catshole Cave (Map 14 4520)

The Iron Age It is the Iron Age (700 BC to the first century AD) which provides the most important class of prehistoric monument in the survey area in the form of coastal promontory forts. Eleven forts have been recorded in the survey area. Eight of these are Scheduled Ancient Monuments (Map 1 2986; Map 3 3006, 3024, 3025; Map 4 3027; Map 16 3220, 3226, 3227), one has been destroyed by housing development (Map 5 3107) and two have been discovered during in course of this survey (Map 16 35093, Map 18 35019). Dale Point fort is the only one in the survey area to have been excavated (Map 1 2986). Here Professor Grimes undertook training excavations over several summer seasons in the 1970s and early 1980s. Unfortunately no report was produced on this work. The excavations demonstrated the complex nature of site and revealed a wealth of artefacts from the bronze age, iron age and Romano British period. Radiocarbon determinations demonstrated that the first defences to the site were erected in the Later Bronze Age (Benson and Williams 1987).

The Romano-British Period Unlike the wealth of sites available for the study of iron age communities in the survey area, there are no obvious type-sites associated with the Romano-British period. Excavations on inland hillforts and defended enclosures of the Iron Age often produce evidence of occupation stretching into the Romano-British Period, and beyond. Finds of Romano-British date from Dale Point fort (Map 1 30170) indicate that this site was used later than the Iron Age; a similar pattern is probable for other coastal promontory forts. The provenance of the coin hoard from Pembroke is uncertain (Map 14 3284).

The Dark Ages Occupation sites of dark age date (early fifth-century - eleventh century) in Wales are notoriously difficult to identify; the coastal zone of Milford Haven is no exception; no occupation sites of this period are known of in the study area. Ecclesiastical and burial sites are generally easier to recognise, though there is a paucity of evidence from the Haven area. The most definite site is at West Angle where the earthwork enclosure bank of a small cemetery was extant until very recently (Map 18 7595) associated with which was St Anthony's Chapel (3092). Recent discoveries of a cist grave (35095) eroding out of a low cliff close the cemetery emphasis the importance of this group of sites. Other sites of this period are less easily defined. Traditions and more definite evidence of chapels, churches and holy wells (such as Map 3 9814; Map 18 3094, 7596) usually considered to refer to establishments of medieval date may indicate earlier usage.

The Medieval Period There can be little doubt that many of the communities that have developed and grown on the shores of sheltered bays and inlets of Milford Haven in the last three to four centuries were founded by at least the Medieval Period, but because of the more recent expansion of these settlements and redevelopment of individual sites, material remains from the Medieval Period are now virtually non-existent. Even at Pembroke, where the magnificent castle attests to the town's former importance, nothing remains in the form of quays, wharfs or buildings from the this period to indicate its former status as a port. Similarly at Angle, where several medieval buildings, including a tower house (Map 17 3088), testify to the former wealth of the settlement, a wealth that must, for such a remote settlement, have been founded on maritime industries, no direct evidence of medieval maritime trade and industry is now apparent. The presence of fishing industries and trading stations at other places such as Dale, Hubberston (Milford Haven), Neyland and Pwllcrochan can be inferred, but material remains and specific documentary sources are lacking. Ecclesiastical sites do occur on the coast, but apart from Llanstadwell parish church (Map 8 3186) and Paterchurch tower (Map 12 3216), no remains are known. St Thomas's Chapel (Map 4 12464), St Ann's Chapel (Map 14 3218), St Anthony's Chapel (Map 18 3092), St Mary's Chapel (Map 18 3093) and Ellen's Well (Map 18 3094) are all recorded only in documentary sources. The character of these sites, and in most cases their exact location, is unknown.

The Post-Medieval Period There is not doubt that the greatest number and widest variety of archaeological sites in the study area are of post-medieval date. Defensive sites and sites associated with ports and docks comprise the most numerous and important monuments of this period in the study area. These sites are dealt with under separate headings (see above).

It is an unusual stretch of coast that does not have some physical evidence of former stone quarrying. Often, on the high cliff stretches of coast at the western end of the Haven this evidence comprises small, now overgrown pits - pits that were probably used as a source of building stone by farmers and the local community. On the Pembroke River close to Pembroke limestone outcrops have experienced longer and more intensive episodes of exploitation. Bush Quarry and Catshole Quarry (Map 14, 20084; Map 15, 17866) probably provided stone for Pembroke Castle and Pembroke town walls. Their most productive period was in the eighteenth- and nineteenth-century when they provided not only building stone but also the raw material for burning in limekilns. Some of these kilns are situated at or near to these quarries (Map 15, 34590), but most are located at the heads of the numerous inlets of the Haven and testify to the once active intra-Haven water-borne trade. At Sandy Haven (Map 3, 34478, 34479) and Westfield Pill (Map 10, 17847, 34553) limekilns are located beyond the limits of what is now considered feasible for commercial traffic and clearly demonstrate the degree of inland penetration possible by small ships and boats up these minor water-ways. The extent of this former trade is supported by further physical remains. For instance, small quays or wharfs which served corn mills (Map 3, 35082; Map 10, 34981) stand at the heads of both Sandy Haven and Westfield Pill. Maritime trade at Milford Haven, Neyland, Pembroke Dock and Pembroke has been dealt with separately. The physical evidence for these industries elsewhere in the study area is slight. Mention has been made of the small quays at Sandy Haven and Westfield Pill; other remains are virtually none existent.

The importance of the Naval shipbuilding industry in the Haven from the late eighteenth-century has been described in the sections on towns, the civil industry is less easy to define. There can be no doubt that a civil shipbuilding industry existed, perhaps just to serve local needs, but the only surviving remains are of late nineteenth-century and twentieth century date and comprise the crumbling structures in Jacob's Pill (Map 13, 34647, 34996-7) and a well-preserved yard at Pembroke Dock (Map 11, 35050-53).

The distribution, quantity and type of shipwrecks can also provide evidence of past maritime and trade activity. Unfortunately in the Haven it has not been possible to locate with certainty wrecks of post-medieval date or earlier. The location of where the only man-of-war to founder in the Haven - The Leda in the early nineteenth-century (Map 18, 35094) - is known, but physical remains of wrecks of this period is equivocal, with perhaps only (Map 2, 34574) being a possibility.

As with the shipping industry, the physical evidence of the fishing industry outside the towns is slight. Every coastal community would have been involved in fishing to some degree, if only on a seasonal basis. Oyster beds are known to have existed at the mouth of the Pembroke River and in Priory Pill, Milford Haven - the latter until the end of the nineteenth century - but nothing now remains. The best evidence for small-scale fisheries is in the form of fish weirs and fish traps. A good example of a fish weir can be found on the upper reaches of Sandy Haven (Map 3, 34632). The date of this structure is unknown, it may be earlier than post-medieval. It is probable that the mill (34481) situated close to this weir had the rights to harvest fish from it. Upright stakes - the remains of fish traps - survive at two locations in Castle Pill (Map 6, 34960, 34973). The date of these is also unclear, though site 34960, close to the mouth of the pill, is probably of recent date as it is unlikely that such slight structures would have survived the high level of pre and post World War 2 industrial activity that has taken place. An early nineteenth-century drawing by Charles Norris (Cardiff City Library) shows fish traps being set out in this pill.

Modern Apart from shipwrecks and some minor monuments, sites of major interest in this period are provided by the military. These are described elsewhere in this report. Wrecks tend to be relicts of ships or boats that have been laid-up and left to decay rather than true wrecks, though HMS Barking (Map 1, 34783) is an example of the latter. Most of the wrecks identified in the survey are timber built and though probably built before World War 2 were laid-up more recently. Some are in fair condition (Map 13, 34995 - Appendix 2 Photo 22) and may useful sources of evidence for identifying local boat-building traditions.

DESIGNATION OF ARCHAEOLOGICAL IMPORTANCE

Each site in this study has been evaluated in order to assign it a value of importance - see gazetteer. Five categories of importance are utilised. Consideration to period, rarity and condition was given when assigning a site to a particular category. The assignment of such sites as iron age hillforts to category A (the highest category of importance) presented no problems. However, other types of site are more problematical, for instance, the recent interest in World War 2 defensive installations has promoted them from, perhaps, category D or C to C and B. Thus, the designation of importance of any one site is not fixed in time; it may change with our changing perceptions. The five categories of importance are:

A - Sites of national importance, usually Scheduled Ancient Monuments or Listed

Buildings

B - Sites of regional or county importance

C - Sites of district or local importance

D - Sites which are so badly damaged that little remains to justify their inclusion in a higher grade

E - Unknown, sites for which current information is insufficient to assign another category

SITE CONDITION

This classification in the gazetteer indicates the present state of preservation of each site. The coding follows that used on the county SMR. Seven categories are used:

A - Intact

B - In good condition

C - Damaged

D - Badly damaged

E - Destroyed

R - Restored

U - Unknown

Generally, where no additional information is known, sites that are only known through finds have been assigned to the U - Unknown category.

RECORDING THE COASTLINE

With a study area extending over 100km of coastline, it is not surprising that a variety of coastal types were encountered. For the purposes of this study the coastline was divided into 129 units. Each unit was defined by four categories:

Coast edge

Land edge

Foreshore type

Erosion class

These categories are based on the model established by the Gwynedd Archaeological Trust in their survey of the coastline between Aberdaron Bay and Great Orme Head (GAT, 1995). Not all the categories as devised by GAT are relevant to the current survey area; they are however listed in full below. Details of each unit are given in the gazetteer, with the position of the units shown on the relevant map.

Coast edge type

- Man-made wall
- Man-made bank
- Man-made mixed rubble dump
- Man-made boulder dump
- Man-made other
- Mainly rock
- Rock with drift cover
- Drift; boulder clay
- Drift; sand/blown sand
- Alluvial/marine mud
- Storm beach (Storm bank)
- Other

Land edge type

- Man-made structures
- Arable
- Improved pasture
- Scrub/heath/rough pasture
- Coppice/woodland
- Golf course
- Military
- Dunes
- Other

Foreshore type

- Rock
- Boulder
- Shingle
- Sand
- Mud
- Marsh
- Mixed
- Other

Erosion class

Class 1. Stable differs slightly from GAT's category as it allows for some accretion and the possibility that man-made protect may be present.

- 1. Stable - No erosion. Some accretion. Man-made protection may be present.
- 2. Slight - Some soil exposure but well vegetated and post-medieval

boundaries intact.

- | | |
|-------------|---|
| 3. Medium - | Widespread soil exposure, intermittent slumping. Post-medieval boundaries mainly gone. |
| 4. Major - | General soil exposure, frequent slumping, little vegetation, no post-medieval boundaries. |
| 5. Severe - | Widespread slumping, no vegetation, recent boundaries undercut. |

THREATS TO THE ARCHAEOLOGICAL RESOURCE OTHER THAN COASTAL EROSION

Threats to the cultural heritage of the survey area other than that posed by coastal erosion are few. Any threat to a site has been listed in the gazetteer under threats. Four distinct threats to the cultural heritage have been identified:

Tourism

Vegetation/Cultivation

Development

Neglect

The threat classified under the category *Tourism* comprises mainly visitor erosion. This is a particular problem where the Pembrokeshire Coast Path crosses earthworks of iron age forts.

Vegetation growth obscuring or damaging important archaeological remains is not generally a problem, though tree and shrub growth on West Popton Camp (Map 16 3220) is clearly obscuring earthworks and may possibly be damaging below ground archaeology. At Great Castle Head (Map 3, 3006) vegetation is also obscuring the earthworks and needs to be managed. *Cultivation* on the cemetery site Map 18, 7595 and hillforts Map 16, 3226-27 continues to threaten these monuments.

Development is a threat which is very difficult to quantify. Much of the cultural heritage relating to 19th century ports and docks has already been lost at Milford Haven, Neyland and Pembroke Dock. It is likely that development of a marina at Castle Pill, Milford Haven will have a detrimental affect on the archaeological and cultural heritage remains identified in this report. Some of the historic elements of Pembroke Dockyard - including the shipbuilding slips - must also be considered as threatened, despite their listed building status, as the port here continues to expand. The only surviving civil shipbuilding yard of any substance in the survey (Map 11, 35050) is currently for sale for redevelopment. The dry dock (35051) of this yard is a listed building.

Neglect is the biggest threat to many of the substantial military forts, docks, gun batteries and other structures listed in this report. Fortress Haven Initiative has been established to address the problems of how best to maintain and find new uses for ten of the forts; minor structures may also be considered.

PLANNING AUTHORITIES, STATUTORY AND NON-STATUTORY DESIGNATED AREAS, AND OTHER CONSERVATION/PLANNING POLICES

Not all of the following statutory and non-statutory designations are directly relevant to the protection of cultural heritage. They are, however, listed below as the aims of nature conservation and the preservation of the built heritage are not usually incompatible, and many archaeological sites in the gazetteer enjoy no specific protection as Schedule Ancient Monuments or Listed Buildings but are afforded a degree of security by the virtue that they lie with a Site of Special Scientific Interest or other designated area.

Scheduled Ancient Monuments

Scheduled Ancient Monuments (SAMs) are notified under the Ancient Monuments and Archaeological Areas Act 1979. The register of SAMs is maintained and administered by Cadw. There are 24 SAMs in the survey area. Some of the scheduled areas encompass more than one site; for example the SAM of South Hook Fort also encompasses a gun battery (Map 4, 7624, 28657). Eight of the SAMs are iron age hillforts and nine are 19th century forts or gun towers. The remainder comprise: the American War of Independence Redan (Map 9, 24428), Paterchurch Tower (Map 12, 3261), Pembroke Dock Military Chapel (Map 12, 4523), Pembroke Castle and Pembroke town walls (Map 14, 4518, 3282), Cathshole Cave (Map 12, 14211) and Angle Tower House (Map 18, 3088). See Figure 2 for the location of SAMs.

Listed Buildings

Listed buildings are notified under section 1 of the Planning (Listed Buildings and Conservation Areas) Act 1990. The list is maintained and administered by Cadw. As noted earlier, extant buildings are not in the remit of this study, though some are included because of their strong maritime association, or because their location warrants it. Two of the buildings in the survey are listed grade I: Paterchurch Tower (Map 12, 3261) and Pembroke Castle (Map 14, 4518). Both are also SAMs. 53 other structures are listed Grade II* or Grade II. The majority lie within Pembroke Dockyard, with other concentrations at Milford Haven and Pembroke. These concentrations reflect not only the importance of the built heritage at these locations but also the result of the recent re-listing exercise recently undertaken at Milford Haven and Pembroke Dock.

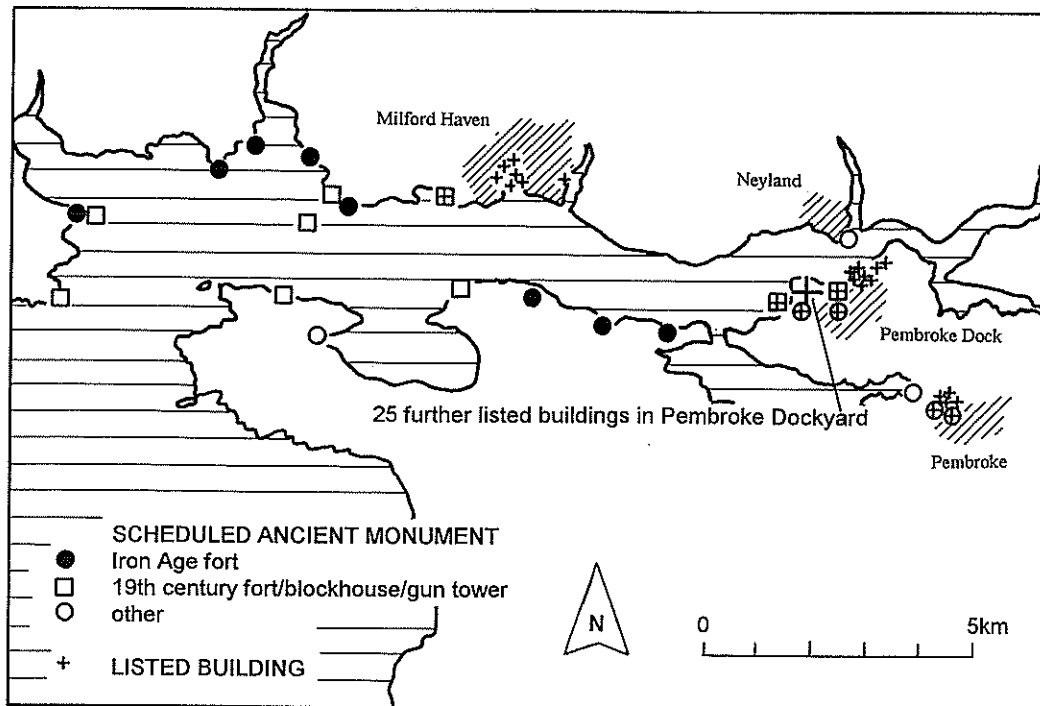


Figure 3. Location of Scheduled Ancient Monuments and Listed Buildings

Register of Landscapes of Exceptional and Great Historic Interest

This is a non-statutory designation. The register is being compiled by Cadw in partnership with the International Council on Monuments and Sites and is concerned with the man-made, historic elements of the landscape. The whole of the survey area lies within the Milford Haven Waterway designated landscape.

Sites of Special Scientific Interest

Sites of Special Scientific Interest (SSSI) are notified under the National Parks and Countryside Act 1949 and Wildlife and Countryside Act 1948 for geological and/or biological importance. The Countryside Council for Wales (CCW) is responsible for selecting and administering SSSI's. There are seven SSSIs in the study area of varying sizes: St Ann's Head (Map 1), Dale Point (Map 1), the Gann Estuary (Map 2), Little Castle Head (Map 3), Pembroke River and Pwllcrochan Flats (Maps 15 & 16), Angle Bay (Map 17) and West Angle Bay (Map 18).

Pembrokeshire Coast National Park

National Parks are extensive tracts of countryside selected for their natural beauty and the opportunity offered for open-air recreation. They originate in the National Park and Access to the Countryside Act 1949, modified by the Environment Act 1995 which ensures that national parks act as local planning authorities. The coastline from the mouth of the Haven to South Hook Fort on the north side and from Pwllcrochan to the mouth of the Haven on the south side is in the Pembrokeshire Coast National Park.

Heritage Coasts

Heritage Coasts originated in 1970 and are areas selected as having exceptionally fine scenic quality exceeding one mile in length, with features of special interest, and largely undeveloped. It is a non-statutory designation agreed between the Countryside Council for Wales and local authorities as an aid to planning and managing coastlines. The high cliffs at the mouth of the Haven falls within a designated Heritage Coast.

Special Areas of Conservation

A result of the European Habitats Directive and Species Directive, SACs aim to maintain the diversity of European wildlife by protecting specified areas. The candidate SACs will take effect in the year 2000. The Pembrokeshire coast is a candidate for a SAC under European directive.

Coastal Cells and Shoreline Management Plans

The coast of Britain has been divided into Coastal Cells (which are further divided into sub-cells) using the criteria of sediment transportation. The Welsh Office is promoting the production of Shoreline Management Plans for each Coastal Cell or division thereof in order to set out a strategy for coastal defence taking account of 'Natural coastal processes and human and other environmental influences and needs'. A progress statement for the Sub-Cell in which Milford Haven is situated is currently being worked on.

MANAGEMENT RECOMMENDATIONS

An integrated approach to the re-use, conservation and display of the nineteenth and twentieth century defensive remains along Milford Haven is the single most pressing heritage management problem in the study area. This problem is partially being addressed by the Fortress Haven Initiative. It is recommended that this Initiative should consider examining not only the management

problems posed by the larger nineteenth century forts, but also explores possible the means of recording, conserving and managing smaller structures. It is also recommended that consideration should be given to including the historic remains at Pembroke Dockyard within the Initiative's remit. Recommendations for individual structures/sites are provided below.

The recommendations for individual sites are listed under the column 'Action' in the gazetteer. Management recommendations fall into several categories; these are listed below starting with the least intensive.

Publish

Excavations over several seasons at Dale Point Hillfort (Map 1, 2986) have not been fully published. The excavation archive is lodged with the National Monuments Record, RCAHMW. Cambria Archaeology would support RCAHMW in helping identify sources of funding to bring the Dale Point Hillfort records and other excavation records in the Grimes's archive up to publication standard.

Monitoring

It has been recommended that numerous sites identified and recorded in the survey should be subjected to regular monitoring for two reasons: a) to check the condition to ensure no further damage is occurring to the site, b) to record archaeological information as continued erosion exposes it.

Display/information/interpretation

The provision of display or information panels is not considered appropriate for most of the sites in this survey, particularly when located in the Pembrokeshire Coast National Park. There are, however, several nineteenth and twentieth century military sites in the National Park that would benefit from a discretely located information panel. Similar sites outside that National Park would be enhanced if a general programme of restoration was accompanied by information panels (see 'Restoration' below). Sites recommended for display/information: Map 1, 28701; Map 2, 35080; Map 3, 28657.

Survey

Sites for which archaeological survey is urgently required are: Map 1, 3006 Great Castle Head hillfort; Map 4, 7623 Fort Hubberston; Map 4, 7626 South Hook Fort, 28657 gun battery & 34791 searchlight battery; Map 9, 34835 part of American War of Independence Redan, Map 10, 34836 shipwreck; Map 12, 3261 Paterchurch Tower; Map 13, various military structures; Map 18, 3092, 7595 & 35095 burial and chapel site. It is also recommended that the Fortress Haven Initiative addresses the need for survey work on military sites.

Restoration, conservation and re-use

The Fortress Haven Initiative is currently addressing this problem for the larger nineteenth century forts. Several smaller military installations and other types of site are listed in the gazetteer as requiring restoration/conservation: Map 1, 28701 coastal artillery battery; Map 2, 34464 summerhouse; Map 5, 17899 monument; Map 11, 35050-53 shipbuilding yard; Map 12, 3262 gun tower; Map 12, 26777, 79-82 shipbuilding slips; Map 18 - various sites associated with Chapel Bay Fort.

The gun tower (Map 12, 3262), the naval shipbuilding slips (Map 12) and the civil shipbuilding yard (Map 11, 25050-53) are all located at Pembroke Dock, now a major tourist port. Pembroke Dockyard was one of the world's major naval shipyards in the nineteenth century. The restoration and conversion of these remaining structures into a recreation resource, perhaps complete with restored period ships, would provide strong tourist attraction. The Fortress Haven Initiative should consider bringing these sites into their remit, and consider the possibility of initiating a programme of restoration and reuse, perhaps in conjunction with the appropriate local authority.

GAZETTEER OF ARCHAEOLOGICAL SITES AND LIST OF COASTAL UNITS

Abbreviations used in gazetteer:

PRN - Primary Record Number - the unique site number allocated on the Dyfed Sites and Monuments Record

NGR - National Grid Reference

Condition - Site Condition (see relevant section above)

Importance - Designation of Archaeological Importance (see relevant section above)

Action - a recommendation as to the appropriate archaeological response

O.Struct - other structure

Meso/Neo - mesolithic and/or neolithic

Post Med - post medieval

P. Med/Mod - post medieval and/or modern

SAM - Scheduled Ancient Monument

LB2 - Listed Building Grade II

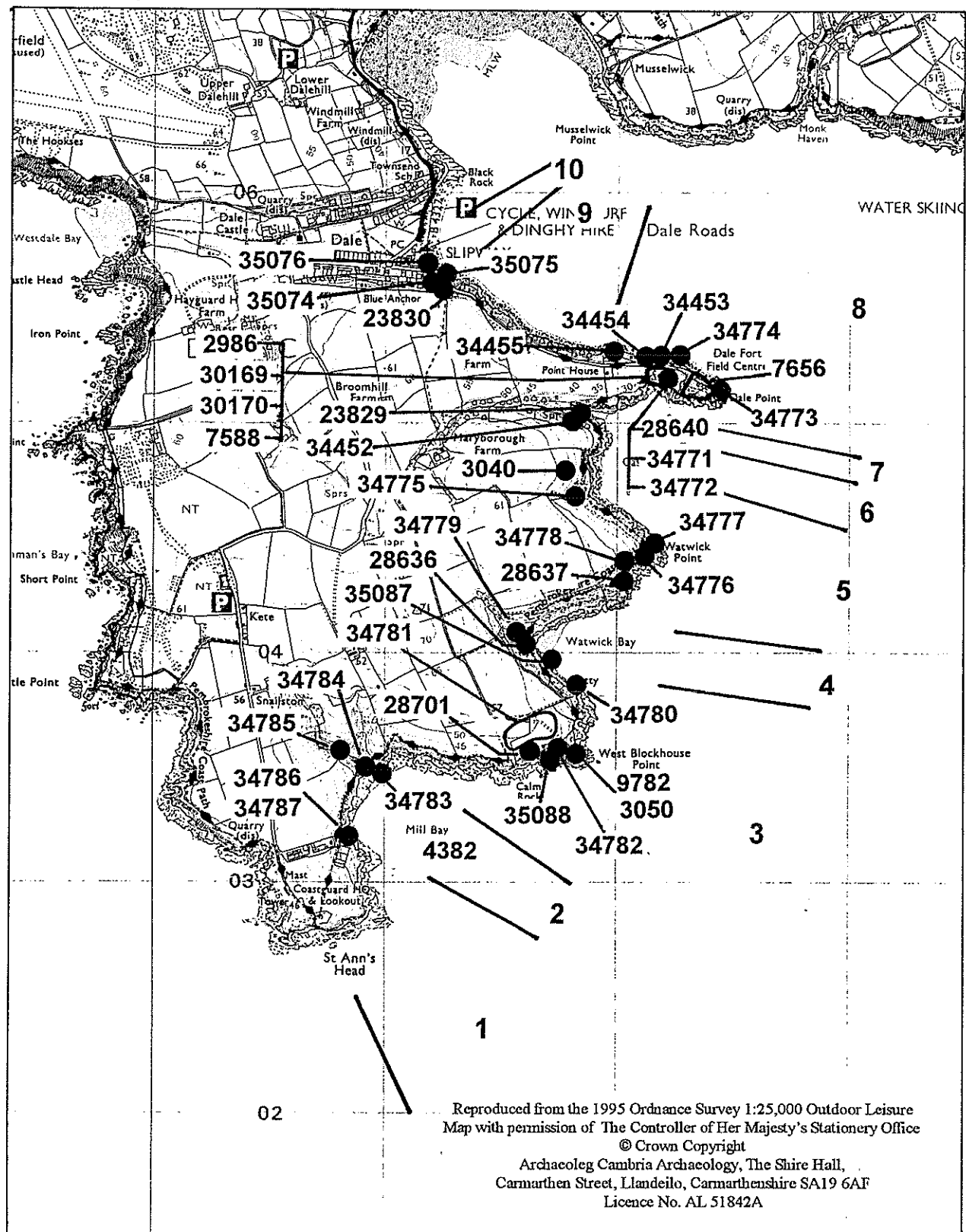
WOGLS code - Welsh Office General Level Survey. The code provides a concordance with the coastal units designated in this study and those determined by the Welsh Office (see Appendix 1 for the Welsh Office data).

*Map 1. St Ann's Head to Dale***Archaeological sites****Bold PRNs = new sites****Underlined PRNs = photograph of site in Appendix 2**

PRN	NGR	Description	Type	Period	Condition			Threats	Action
Importance									
Erosion class									
Status									
2986	SM82120521	Dale Point hillfort	Earthwork	Iron Age	C	A	2	SAM	Publish
3040	SM81780478	Finds	Finds	Meso/Neo	U	U	2		
3050	SM818037	West Blockhouse - 16th century	Documents	Post Med	E	U	2		
4382	SM81020357	Invasion site - Henry Tudor	Documents	Medieval	U	U	2		
7588	SM82120521	Finds	Finds	Iron Age	U	U	2		
7656	SM823052	Dale Point Fort	Building	Post Med	A	A	2		
9782	SM81820356	West Blockhouse - 19th century	Building	Post Med	R	A	2		
23829	SM81650505	Limekiln	O.Struct	Post Med	C	B	2		
23830	SM81290559	Public house	Building	Post Med	C	B	2		
28636	SM81630403	MoD test hut	Building	Modern	B	C	2		
28637	SM82000430	Decoy gun battery	Documents	Modern	E	U	2	SAM	Display/ Restore
28640	SM82240520	Observation post	Documents	Modern	E	D	2		
28701	SM81650360	Coastal artillery battery	O.Struct	Modern	C	A	2		
30169	SM822052	Finds	Finds	Bronze Age	A	A	2		
30170	SM822052	Finds	Finds	Roman	A	A	2		
34452	SM81780502	Building	Earthwork	Post Med	C	U	2		
34453	SM82180527	Building	Documents	Post Med	E	U	2		
34454	SM82100526	Building	Documents	Post Med	E	U	2		
34455	SM81970531	Building	Documents	Post Med	E	U	2		
34771	SM82190521	Searchlight battery	Documents	Modern	E	D	2		
34772	SM82300514	Light anti aircraft battery	Documents	Modern	E	D	2		
34773	SM82450516	Boom defence anchorage	O.Struct	Modern	B	C	2	Monitor	
34774	SM82250527	Quay	O.Struct	Post Med	A	B	2		
34775	SM81810469	Reservoir	Earthwork	Modern	A	D	2		
34776	SM82140442	Lighthouse	O.Struct	Modern	A	D	2		
34777	SM82170444	Boom defence anchorage	O.Struct	Modern	C	C	2		
34778	SM82100441	Reservoir	Earthwork	Modern	A	D	2		
34779	SM81590408	Track	Earthwork	Modern	C	D	2		
34780	SM81750389	Quay	O.Struct	Modern	C	C	2		
34781	SM81470369	Camp for battery 28701	Earthwork	Modern	D	B	2		
34782	SM81760358	Navigation markers	O.Struct	Modern	A	D	2		
34783	SM81000349	Shipwreck - HMS Barking	O.Struct	Modern	D	C	2	Monitor	
34784	SM80900351	Anti tank wall	O.Struct	Modern	D	D	2		
34785	SM80800354	Reservoir	Earthwork	Modern	A	D	2		
34786	SM80820320	Quay	O.Struct	Post Med	B	B	2		
34787	SM80810318	Mod storage shed	Building	Modern	B	C	2		
35074	SM81190561	Terrace of cottages	Building	Post Med	C	B	1		
35075	SM81270558	MoD hut	Documents	Modern	E	D	2		
35076	SM81170566	Sea wall	O.Struct	Post Med	A	B	1		
35087	SM81220396	Shipwreck	O.Struct	Unknown	C	U	2		
35088	SM80870279	Searchlight battery	Building	Modern	A	B	2		

Coastal units

No.	Length	Coast edge type	Land edge type	Foreshore type	Erosional class	WOGLS code
1	0.7km	Rock	Scrub/heath/pasture	Mainly rock	2	5170
2	0.5km	Rock	Scrub/heath/pasture	Sand	2	5170
3	1.3km	Rock	Scrub/heath/pasture	Mainly rock	2	5170
4	0.5km	Rock	Scrub/heath/pasture	Sand	2	5170
5	1.1km	Rock	Scrub/heath/pasture	Mainly rock	2	5170
6	0.2km	Rock	Coppice/woodland	Mainly rock	2	5170
7	0.1km	Rock	Coppice/woodland	Sand	2	5170
8	1.3km	Rock	Scrub/heath/pasture	Mainly rock	2	5170
9	0.9km	Rock	Coppice/woodland	Mainly rock	2	5170
10	0.2km	Man-made wall	Man-made structures	Shingle	1	5172, 5770



Map 1. 1:25,000 map showing archaeological sites and coastal units

*Map. 2 Dale to Lindsway Bay***Archaeological sites****Bold PRNs = new sites****Underlined PRNs = photograph of site in Appendix 2**

PRN	NGR	Description	Type	Period	Condition		Importance		Threats	Action
							Erosion class	Status		
2953	SM84130674	Finds	Finds	Bronze Age	U	U	2			
2978	SM81050632	Finds	Finds	IA/Roman	U	U	1			
2980	SM820066	Flintworking floor	Finds	Meso/Neo	U	U	3			
2985	SM81530692	Flintworking floor	Finds	Meso/Neo	U	U	3			
2987	SM81270708	Finds	Finds	IA/Roman	U	U	1			
2994	SM84130674	Flintworking floor	Finds	Mesolithic	U	U	2			
2995	SM836066	Finds	Finds	Meso/Neo	U	U	2			
4377	SM81230831	Mullock Bridge	O.Struct	Medieval?	R	A	1			
11745	SM814072	Finds	Finds	Prehistoric	U	U	1			
16090	SM80900695	Gravel pit	Earthwork	P.Med/Mod	C	C	1			
16092	SM81560691	Quarry	Earthwork	Post Med	C	C	3			
16420	SM816077	Stepping stones	O.Struct	Post Med	C	D	1			
16428	SM813070	Stepping stones/footbridge	O.Struct	Modern	A	D	2			
23852	SM82450630	Quarry	Earthwork	Post Med	C	C	2			
34457	SM80850660	Limekilns	O.Struct	Post Med	B	A	1			
34458	SM81080626	Trackway	Documents	Post Med	E	D	1			
34459	SM81430694	Limekiln	Documents	Post Med	E	D	3			
34460	SM812073	Sea defensive bank	Earthwork	Post Med?	C	C	1			
34462	SM81390813	Stepping stones	O.Struct	Post Med	D	D	1			
34463	SM82800646	Building	Documents	Post Med	U	U	3			
34464	SM82920635	Folly - summerhouse/lookout	Building	Post Med	C	A	2		Neglect	Restore
34465	SM83400627	Military installation? pre-35080	Documents	Post Med	E	U	2			
34752	SM808066	Barbed wire entanglement blocks	O.Struct	Modern	C	D	1			
34753	SM810065	Sea defence	Earthwork	Modern	A	D	1			
34754	SM81290724	Shipwreck	O.Struct	Unknown	C	U	1			
34756	SM81950635	Building	Building	Post Med	C	B	2			
34757	SM80840678	Bridge	O.Struct	Post Med	A	B	1			
34759	SM82820644	Garden/sea wall	O.Struct	Post Med	B	B	3		Neglect	
34760	SM82090634	Quarry	Earthwork	Unknown	C	C	2			
34761	SM82890643	Quarry	Earthwork	Unknown	C	C	3			
34762	SM83400640	Military camp with 35080	Earthwork	Modern	D	D	2			
35068	SM81450693	Flintworking floor	Finds	Prehistoric	U	U	3			
35080	SM83320628	Coastal artillery battery	O.Struct	Modern	B	A	2			Display

Coastal units

No.	Length	Coast edge type	Land edge type	Foreshore type	Erosional class	WOGLS code
11	0.4km	Man-made bank	Man-made structures	Shingle	1	5770, 5775
12	0.3km	Man-made wall	Man-made structures	Rock	1	5174
13	0.3km	Mainly rock	Man-made structures	Rock	1	5175
14	0.3km	Man-made wall	Man-made structures	Mixed	1	5780
15	0.6km	Man-made dump	Other	Mixed	1	5780, 5180
16	3.0km	Man-made bank	Improved pasture	Marsh	1	
17	1.0km	Rock with drift cover	Improved pasture	Mixed	3	5183
18	0.1km	Man-made wall	Other	Mixed	1	5188
19	0.1km	Rock with drift cover	Scrub/heath/rough pasture	Rock	2	5188
20	0.9km	Mainly rock	Scrub/heath/rough pasture	Rock	2	5188
21	0.2km	Mainly rock	Coppice/woodland	Rock	2	5188
22	0.1km	Man-made wall	Coppice/woodland	Mixed	3	5188
23	1.1km	Mainly rock	Scrub/heath/rough pasture	Rock	2	5188
24	0.5km	Mainly rock	Scrub/heath/rough pasture	Mixed	2	5188
25	0.1km	Mainly rock	Scrub/heath/rough pasture	Rock	2	5188
26	1.2km	Mainly rock	Scrub/heath/rough pasture	Sand	2	5188

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Map 3. Lindsway Bay to South Hook Point**Archaeological sites****Bold PRNs = new sites**

PRN	NGR	Description	Type	Period	Condition		Importance		Threats	Action
									Status	
Erosion class										
2949	SM848061	Finds	Finds	Prehistoric	U	U	2			
3006	SM84830603	Great Castle Head hillfort	Earthwork	Iron Age	C	A	2	SAM	Neglect	Survey
3024	SM85460650	Little Castle Head hillfort	Earthwork	Iron Age	C	A	2	SAM		Monitor
3025	SM86600625	South Hook Camp hillfort	Earthwork	Iron Age	B	A	2	SAM		
4198	SM864049	Stack Rock Fort	Building	Post Med	C	A	2	SAM	Neglect	Monitor
7590	SM85460650	Finds	Finds	Prehistoric	U	U	2			
9814	SM84830603	Vallum enclosure- poss church site	Documentary	Dark Age	U	U	2			
12099	SM86400705	Invasion site - Owain Glyndwr	Documents	Medieval	U	U	2			
12809	SM846064	Finds	Finds	Prehistoric	U	U	2			
34466	SM84710600	Lighthouse & ancillary buildings	Building	Post Med	A	A	2			
34467	SM84790608	Lighthouse - site of	Documents	Post Med	E	D	2			
34468	SM85800800	Stepping stones	Documents	Post Med	E	D	2			
34469	SM85560750	Footbridge/stepping stones	O.Struct	P.Med/Mod	A	D	2			
34470	SM85310750	Limekiln, weighbridge and hut	O.Struct	Post Med	A	A	2			
34471	SM85660743	Limekiln	Documents	Post Med	E	D	2			
34472	SM85890794	Limekiln	O.Struct	Post Med	B	A	2			
34474	SM85790868	Limekiln	O.Struct	Post Med	C	C	2			
34475	SM85400751	Chapel	Building	Post Med	D	C	2			
34478	SM86150885	Limekiln	O.Struct	Post Med	C	B	2			
34479	SM86200877	Limekiln	Documents	Post Med	E	D	2			
34480	SM86350869	Limekiln	Earthwork	Post Med	C	C	2			
34481	SM86570903	Mill	Documents	Post Med	D	U	1			
34482	SM86600910	Mill pond	Documents	Post Med	U	U	1			
34576	SM86860601	Mine	Documents	Post Med	E	U	2			
34578	SM86870578	Mine	Documents	Post Med	E	U	2			
34631	SM86220872	Building	Documents	Modern	E	U	2			
34632	SM86330883	Fish weir	O.Struct	Unknown	C	A	1			Monitor
34637	SM86550888	Quarry	Earthwork	Unknown	B	C	1			
34643	SM86820572	Coastal artillery battery	O.Struct	Modern	B	A	2			
34644	SM85530781	Shipwreck	O.Struct	Modern	D	C	2			
34645	SM86050846	Shipwreck	O.Struct	Modern	C	C	2			
34763	SM84650647	Heavy anti aircraft battery	Documents	Modern	E	D	2			
34764	SM84980600	Quay	O.Struct	Post Med	A	B	2			
34765	SM84780608	Searchlight battery	Documents	Modern	E	D	2			
34766	SM85530785	Shipwreck	O.Struct	Modern	D	C	2			
34767	SM85480751	Sandy Haven Quay	O.Struct	Post Med	A	A	2			
34768	SM84710594	Minewatchers post	Building	Modern	D	D	2			
34769	SM85300664	Navigation marker	O.Struct	Modern	A	D	2			
34770	SM85780823	Stepping stones	O.Struct	Post Med	C	D	2			
34792	SM86780617	Quarry	Earthwork	Unknown	C	C	2			
34793	SM85680746	Slip	O.Struct	Modern	A	D	2			
35067	SM86160882	Barbed wire entanglement blocks	O.Struct	Modern	C	D	2			
35081	SM86010842	Jetty	O.Struct	P.Med/Mod	D	C	2			
35082	SM86570900	Quay for mill 34481	O.Struct	Post Med	C	C	1			

Coastal units

No.	Length	Coast edge type	Land edge type	Foreshore type	Erosional class	WOGLS code
26	1.2km	Mainly rock	Scrub/heath/rough pasture	Sand	2	5188
27	2.0km	Mainly rock	Scrub/heath/rough pasture	Rock	2	5188
28	0.2km	Mainly rock	Scrub/heath/rough pasture	Sand	2	5188
29	1.1km	Mainly rock	Scrub/heath/rough pasture	Rock	2	5188
30	0.3km	Mainly rock	Scrub/heath/rough pasture	Shingle	2	5188
31	0.9km	Mainly rock	Coppice woodland	Mixed	2	5188, 5190
32	5.0km	Mainly rock	Other	Mud	2	
33	1.4km	Rock with drift cover	Improved pasture	Marsh	1	
34	0.2km	Mainly rock	Other	Sand	2	5190, 5193
35	0.6km	Mainly rock	Other	Shingle	2	5193
36	0.2km	Mainly rock	Scrub/heath/rough pasture	Sand	2	5193
37	2.8km	Mainly rock	Scrub/heath/rough pasture	Rock	2	5193

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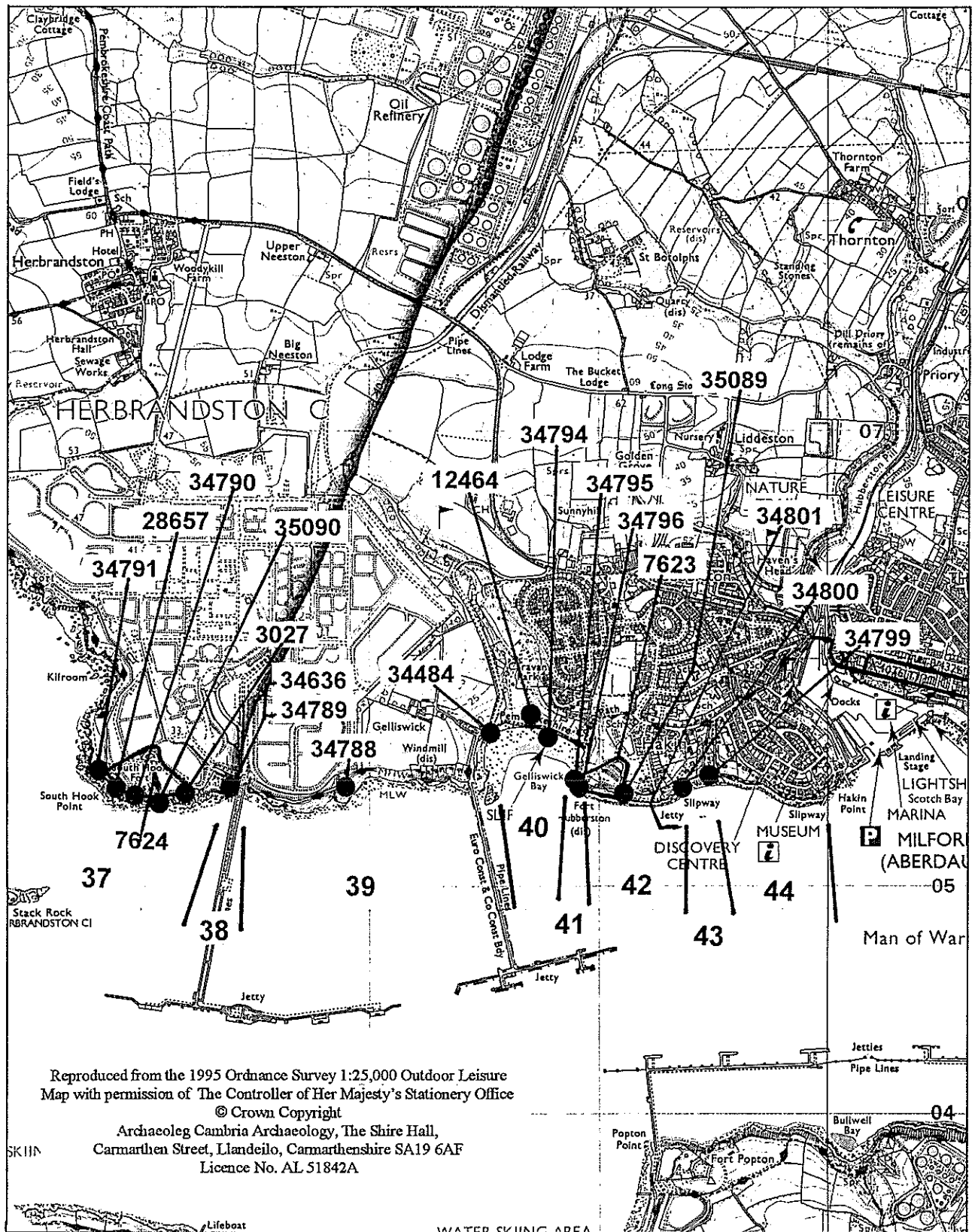
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Map 4. South Hook to Milford Haven**Archaeological sites****Underlined PRNs = photograph of site in Appendix 2****Bold PRNs = new sites**

PRN	NGR	Description	Type	Period	Condition			Importance		Threats	Action
					Erosion class			Status			
3027	SM87050541	Cliff Castle hillfort	Earthwork	Iron Age	C	A	2	SAM			
<u>7623</u>	SM890054	Fort Hubberston	Building	Post Med	B	A	1	SAM+ LBII*	Vandalism	Survey and restore	
<u>7624</u>	SM870055	South Hook Fort	Building	Post Med	B	A	2	SAM	Neglect	Survey	
12464	SM889057	St Thomas's Chapel - site of	Documents	Medieval	U	U	1				
<u>28657</u>	SM86880550	Coastal gun battery	O.Struct	P.Med/Mod	B	A	2	SAM	Neglect	Survey + display	
34484	SM88500565	Limeclin	Documents	Post Med	E	D	1				
34636	SM87380545	Building	Documents	Post Med	E	U	2				
34788	SM87920545	Building	Earthwork	P.Med/Mod	D	U	2				
34789	SM87400543	Slip built to serve fort 7624	O.Struct	Post Med	C	C	2				
34790	SM86980543	Light anti aircraft battery	O.Struct	Modern	B	C	2				
34791	SM86770552	Searchlight battery	Building	Modern	B	A	2			Survey	
34794	SM88810565	Slip	O.Struct	Modern	A	D	1				
34795	SM88880545	Jetty	O.Struct	Modern	A	D	1				
34796	SM88900541	Slip built to serve fort 7623	O.Struct	Post Med	C	C	1			Monitor	
34799	SM894054	Sea wall and boathouse	O.Struct	Post Med	B	A	1				
34800	SM89360542	Slip	O.Struct	Modern	A	D	2				
34801	SM89200531	Jetty	O.Struct	Modern	A	D	2				
35089	SM89100540	Minewatchers post	Building	Modern	B	C	2				
35090	SM87140534	Military building	Building	Modern	U	U	2				

Coastal units

No.	Length	Coast edge type	Land edge type	Foreshore type	Erosional class	WOGLS code
37	2.8km	Mainly rock	Scrub/heath/rough pasture	Rock	2	5193
38	0.1km	Main-made wall	Man-made structures	Sand	1	5193
39	1.4km	Mainly rock	Scrub/heath/rough pasture	Rock	2	5193
40	1.0km	Man-made wall	Man-made structures	Shingle	1	5195, 5785
41	0.2km	Man-made dump	Man-made structures	Shingle	1	5200
42	0.4km	Mainly rock	Other	Rock	2	5200
43	0.2km	Man-made wall	Man-made structures	Mixed	1	5200
44	0.6km	Mainly rock	Scrub/heath/rough pasture	Rock	2	5200



Map 4. 1:25,000 map showing archaeological sites and coastal units

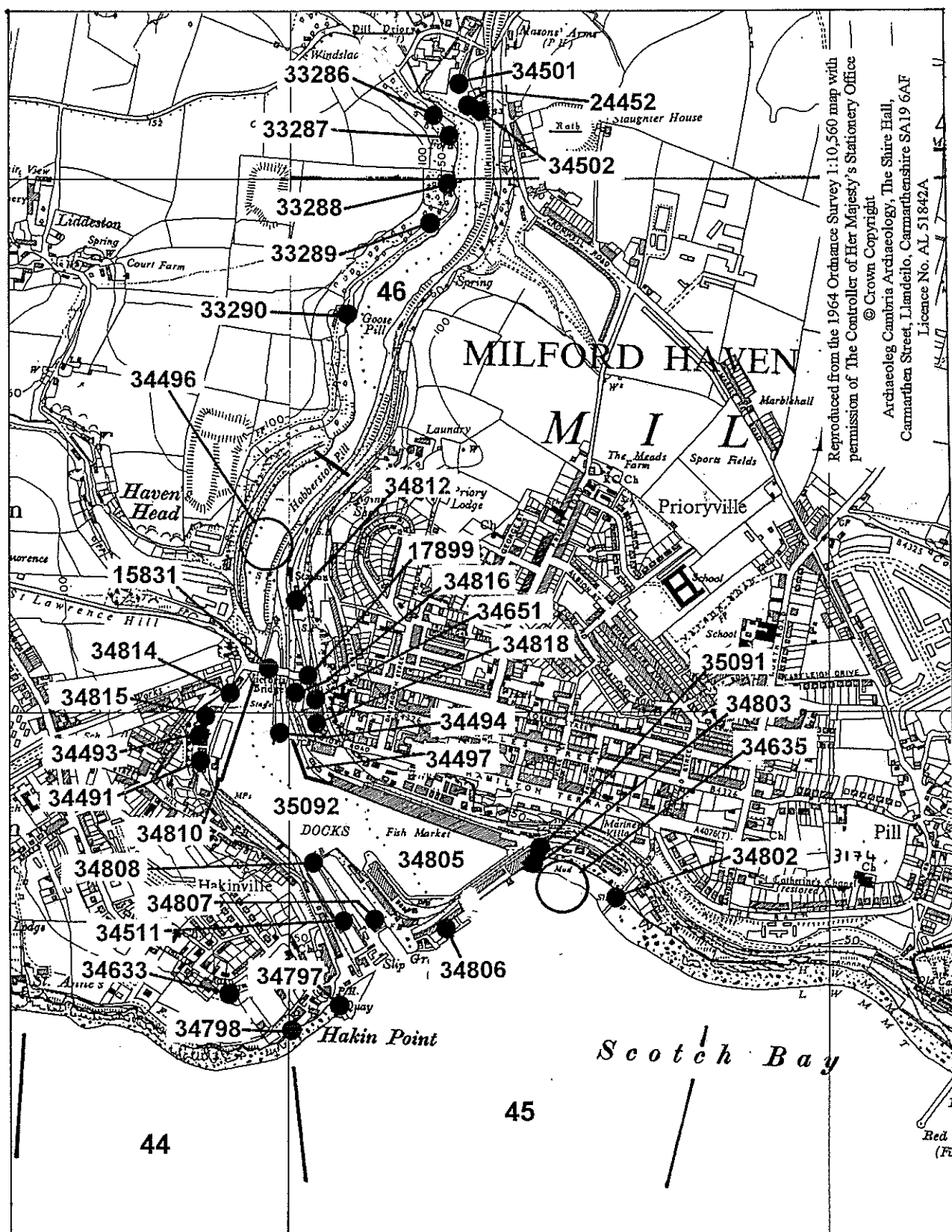
*Map 5. Western Milford Haven and Hubberston Pill***Archaeological sites****Bold PRNs = new sites**

PRN	NGR	Description	Type	Period	Condition			Threats			Action
					Importance						
					Erosion class						
					Status						
15831	SM89970608	Victoria Bridge	O.Struct	Modern	A	B	1	LBII	Demolition	Neglect	Restore
17899	SM90030607	Monument	O.Struct	Post Med	B	A	1				
24452	SM903071	Limekiln	O.Struct	Post Med	B	A	1				
33286	SM90270711	Well	Documents	Post Med	E	U	1	LBII	Develop	Develop	
33287	SM90310708	Limekiln	O.Struct	Post Med	R	B	1				
33288	SM902069	Quarry	Earthwork	Post Med	B	C	1				
33289	SM903069	Quarry	Earthwork	Post Med	B	C	1				
33290	SM90090674	Farmhouse	Building	Post Med	D	C	1				
34491	SM89820591	Foundry	Building	Post Med	B	B	1				
34493	SM89820595	Iron works	Building	Post Med	B	B	1				
34494	SM90000608	Quay/slip	O.Struct	Modern	A	D	1				
34496	SM897062	Oyster beds	Documents	Post Med	E	U	1				
34497	SM90040600	Quay	O.Struct	Modern	A	C	1				
34501	SM90310718	Sawmill	Documents	Post Med	D	C	1	LBII			
34502	SM90360716	Well	Documents	Post Med	E	U	1				
34511	SM900057	Graving dock	O.Struct	Post Med	B	A	1				
34633	SM89880553	Hakin Point gun battery	Documents	Post Med	D	U	1				
34635	SM90520570	Navy Board Dockyards	Documents	Post Med	E	U	1				
34651	SM90020598	Customs House	Building	Post Med	A	A	1				
34797	SM90090545	Quay	O.Struct	Post Med	A	B	1				
34798	SM90020539	Concrete building	Building	Modern	A	D	1				
34802	SM90610566	Slip	O.Struct	Modern	B	C	1				
34803	SM90440571	Slip	O.Struct	Modern	A	D	1				
34805	SM90270571	Marina	O.Struct	Modern	A	D	1	LBII			
34806	SM90300577	Landing stage	O.Struct	Modern	A	D	1				
34807	SM90060558	Lock	O.Struct	Post Med	A	A	1				
34808	SM90050572	Caisson	O.Struct	Post Med	A	A	1				
34810	SM89900596	Quay	O.Struct	Modern	A	C	1				
34812	SM90010631	Milford Haven Railway Station	O.Struct	Post Med	C	B	1				
34814	SM89890604	Warehouses/shops	Building	P.Med/Mod	A	B	1				
34815	SM89850598	Gasometer - relocated	O.Struct	Post Med	C	C	1				
34816	SM90010614	Building - office	Building	Post Med	A	B	1				
34818	SM90060592	Warehouse	Building	Post Med	A	A	1				
35091	SM90460575	Former smoke house	Building	Modern	R	A	1	LBII			
35092	SM902057	Milford Haven Docks	O.Struct	Post Med	A	A	1				

Note: included under the general number for Milford haven Docks are several subsidiary features including quay-side bollards and a crane all of which are listed buildings.

Coastal units

No.	Length	Coast edge type	Land edge type	Foreshore type	Erosional class	WOGLS code
44	0.6km	Mainly rock	Scrub/heath/rough pasture	Rock	2	5200
45	3.2km	Man-made wall	Man-made structures	Other	1	5790,5205,5210,5212
46	1.7km	Other	Other	Marsh	1	



Map 5. 1:10,000 map showing archaeological sites and coastal units

Coastal Survey 1997-98: Lower Milford Haven

Map 6. Castle Pill and eastern Milford Haven

Archaeological sites

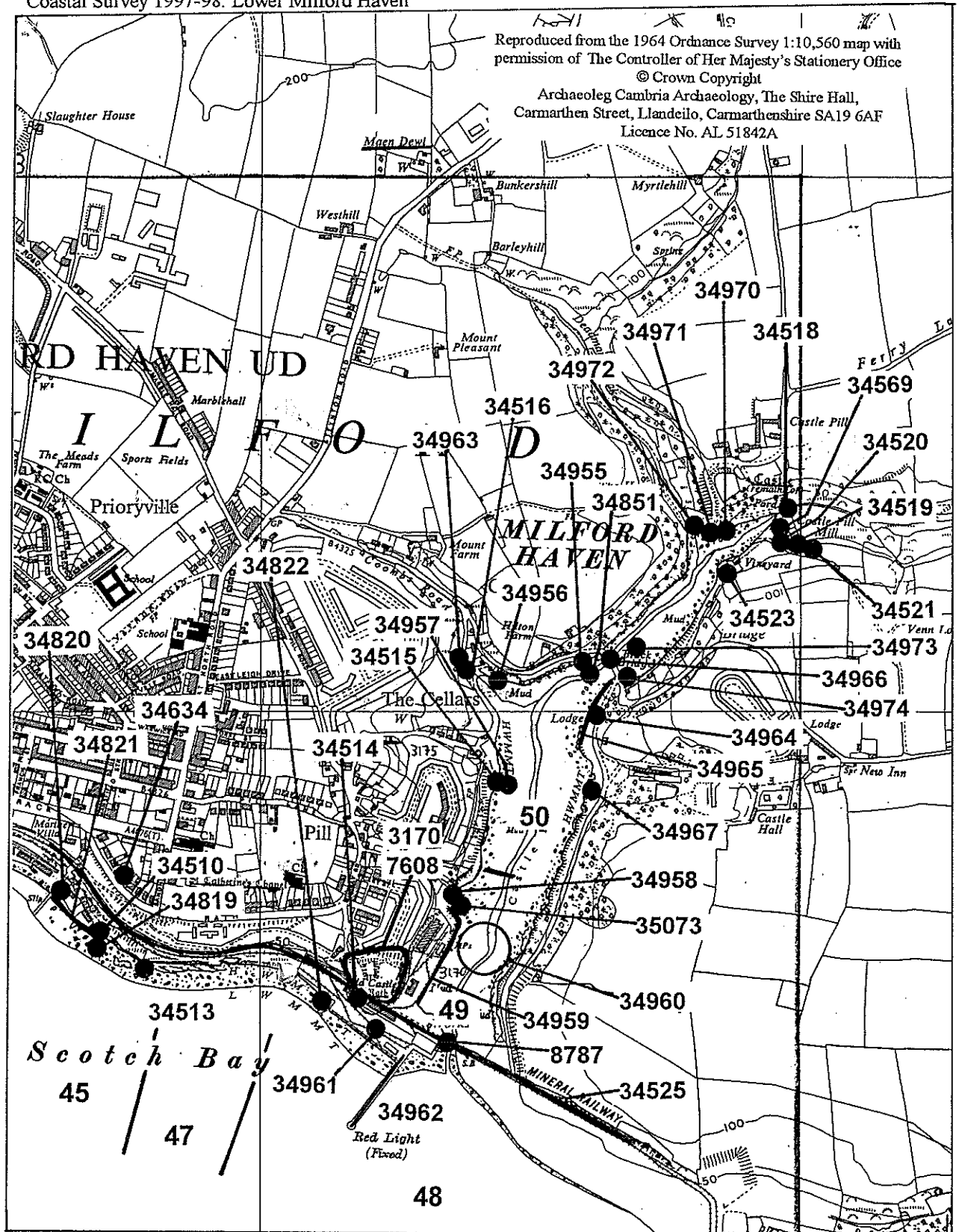
Bold PRNs = new sites

Underlined PRNs = photograph of site in Appendix 2

PRN	NGR	Description	Type	Period	Condition	Importance	Erosion class	Threats	Action
					Status				
3170	SM91200548	Old Castle - iron age fort	Earthwork	Iron Age	E	U	1		
7608	SM91200548	Pill Fort - Civil War fort	Documents	Post Med	E	U	1		
8787	SM91330537	Swing bridge	O.Struct	Modern	B	B	1	Develop	
34510	SM90700558	Toll house to pier 34819	Building	Post Med	A	B	1		
34513	SM90770551	Pier	O.Struct	Modern	D	D	2		
34514	SM91230539	Cutting - hollow-way	Earthwork	Post Med	D	D	1		
34515	SM91440587	Quay	O.Struct	Post Med	D	D	2	Develop	
34516	SM91380607	Limekiln	O.Struct	Post Med	B	A	2	LBII	
34518	SM91960637	Ford	Landform	P.Med/Mod	A	C	1		
34520	SM91950633	Limekiln	Earthwork	Post Med	C	C	1		
34521	SM91990632	Dam for mill pond	Earthwork	Post Med	C	C	1		
34523	SM91880628	Vineyard	Documents	Post Med	E	D	2		
34525	SM91700518	Railway	O.Struct	P.Med/Mod	B	C	1		
34969	SM91950635	Cottage	Building	Post Med	C	B	1		
34634	SM90800566	St Katherine's gun battery	Documents	Post Med	E	U	1		
34819	SM90700556	Pier - remains of	O.Struct	Post Med	D	D	1		
34820	SM90620566	Limekiln	O.Struct	Post Med	D	D	1		
34821	SM90700557	Sea wall	O.Struct	Post Med	A	B	1		
34822	SM91100545	Wreck	O.Struct	Modern	D	D	1		
34851	SM91630608	Foundations of old Blackbridge	O.Struct	Post Med	D	C	2	Develop	
34955	SM91600609	Quay	O.Struct	Post Med	C	C	2	Develop	
34956	SM91440606	Quay	O.Struct	Modern	A	D	2		
34957	SM91450587	Pier - concrete filled wreck	O.Struct	Modern	A	C	2	Develop	
34958	SM91370563	Quay	O.Struct	Modern	B	D	2	Develop	
34959	SM913055	Quay	O.Struct	Modern	A	C	2	Develop	
34960	SM91450562	Fish trap	O.Struct	Unknown	C	U	2	Develop	
34961	SM911054	Quay	O.Struct	Modern	A	C	1		
34962	SM91170523	Pier	O.Struct	Modern	A	C	1		
34963	SM91370608	Well	O.Struct	Modern	B	D	2		
34964	SM93070456	Dwelling	Building	P.Med/Mod	A	B	2		
34965	SM91630601	Sea wall	O.Struct	Post Med	A	B	2		
34966	SM91650609	Blackbridge	O.Struct	Modern	A	B	2		
34967	SM91610586	Quay	O.Struct	Post Med	B	B	2		
34519	SM91970632	Mill	Building	Post Med	C	B	1	Neglect	
34970	SM91860634	Quarry	Earthwork	Post Med	B	C	1		
34971	SM91830633	Quarry	Earthwork	Post Med	B	C	1		
34972	SM91790635	Dam	Earthwork	Post Med	C	C	1		
34973	SM91730615	Fish trap	O.Struct	Unknown	C	U	2		Monitor
34974	SM91680605	Barbed wire entanglement blocks	O.Struct	Modern	C	D	2		
35073	SM91370563	Wreck	O.Struct	Modern	D	D	2	Develop	

Coastal units

No.	Length	Coast edge type	Land edge type	Foreshore type	Erosional class	WOGLS code
45	3.2km	Man-made wall	Man-made structures	Other	1	5790,5205,5210,5212
47	0.3km	Mainly rock	Scrub/heath/rough pasture	rock	2	5215
48	1.1km	Man-made wall	Man-made structures	Rock	1	5216,5220
49	0.5km	Man-made wall	Man-made structures	Mud	1	
50	2.8km	Mainly rock	Coppice/woodland	Mud	2	



Map 6. 1:10,000 map showing archaeological sites and coastal units

Map 7. Wear Point to Castle Pill

Archaeological sites

Bold PRNs = new sites

Underlined PRNs = photograph of site in Appendix 2

PRN	NGR	Description	Type	Period	Condition	Importance	Erosion class	Status	Threats	Action
26089	SM91820472	Newton Noyes pier	O.Struct	Post Med	A	A	1		Neglect	Monitor
<u>28801</u>	SM913053	RNAD Blackbridge - mine depot	Building	Modern	A	A	1			
<u>34964</u>	SM93070456	Minewatchers post	Unknown	Modern	U	U	2			
35086	SM93220460	Searchlight battery	Unknown	Modern	U	U	2			

Note: Most of the buildings of RNAD Blackbridge (PRN 28801) are extant, totalling over 120 sites. These have been individual recorded and assigned PRN numbers 26000 to 26122.

Coastal units

No.	Length	Coast edge type	Land edge type	Foreshore type	Erosional class	WOGLS code
48	1.1km	Man-made wall	Man-made structures	Rock	1	5216,5220
51	1.2km	Mainly rock	Scrub/heath/rough pasture	Rock	2	5223
52	0.5km	Man-made other	Man-made structures	Other	1	5225



*Map 8. Wear Point to Neyland***Archaeological sites****Bold PRNs = new sites****Underlined PRNs = photograph of site in Appendix 2**

PRN	NGR	Description	Type	Period	Condition		Importance		Threats	Action
Erosion class										
Status										
3186	SM95520502	Llanstadwell Church	Building	Medieval	A	A	1			
34526	SM93920433	Building	Foundations	Post Med	C	B	2			
34527	SM93910437	Building	Documents	Post Med	E	D	2			
34528	SM93940435	Boathouse	Building	Post Med	E	D	2			
34529	SM93980436	Sea wall	O.Struct	Post Med	B	C	2			
34531	SM94710482	Limekiln	O.Struct	Post Med	E	D	1			
34532	SM95470503	Vicarage	Building	Post Med	A	A	1			
34533	SM94850484	Quay	O.Struct	Modern	A	D	1			
34534	SM95540506	Llanstadwell graveyard	Buried features	Med-Mod	A	A	1			
34817	SM95380439	Quay	O.Struct	Post Med	D	D	1			
34823	SM95080490	Shipwreck	O.Struct	Modern	C	C	1			
34824	SM95320495	Cistem?	O.Struct	Post Med	C	U	1			
34825	SM95330493	Sea wall	O.Struct	Post Med	C	C	1			
34826	SM95470499	Sea wall protecting 3186, 34534	O.Struct	Post Med	A	B	1			
34827	SM95550501	Groynes	O.Struct	Unknown	D	U	1			
34828	SM95610502	Building	Building	Post Med	C	U	3			
34843	SM94060439	Building	Earthwork	Post Med?	D	U	2			
34844	SM94000439	Building	Earthwork	Post Med?	D	U	2			
34845	SM94000434	Sea Wall	Foundations	Post Med?	D	D	2			
34846	SM94050434	Pipeline	O.Struct	Modern	A	D	2			
34847	SM93850428	Navigation marker	O.Struct	Post Med	A	A	2			Monitor
34848	SM93820430	Minewatcher's post	Building	Post Med	B	C	2			
34849	SM94750474	Minewatcher's post	Building	Modern	E	D	2			
34850	SM94750437	Lighthouse	Documents	Modern	E	D	2			

Coastal units

No.	Length	Coast edge type	Land edge type	Foreshore type	Erosional class	WOGLS code
53	0.5km	Mainly rock	Scrub/heath/rough pasture	Rock	2	5230
54	0.1km	Man-made other	Copice/woodland	Mud	2	5230
55	1.0km	Mainly rock	Coppice/woodland	Rock	2	5230
56	0.3km	Man-made wall	Man-made structures	Rock	1	5795
57	0.3km	Mainly rock	Man-made structures	Boulders	1	5235
58	1.5km	Man-made wall	Man-made structures	Mixed	1	5235,5800,5801

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Coastal Survey 1997-98: Lower Milford Haven

Map 9. Neyland

Archaeological sites

Bold PRNs = new sites

Underlined PRNs = photograph of site in Appendix 2

PRN	NGR	Description	Type	Period	Condition			Threats		Action
Importance										
Erosion class										
Status										
16739	SM9505	Salt refining factory	Documents	Post Med	U	U	1			
16740	SM9505	18th century dockyard	Documents	Post Med	U	U	1			
<u>24428</u>	SM964047	American War of Independence Redan	O.Struct	Post Med	B	A	1	SAM	Monitor	
34541	SM96680478	Slip	O.Struct	P Med/Mod	C	B	1			
34542	SM96780481	Hydraulic table	Documents	Post Med	E	D	1			
34543	SM96800487	Pontoon	Documents	Post Med	E	D	1			
34544	SM96690498	Railway terminus	Documents	Post Med	E	D	1			
34546	SM96830528	Ferry crossing point	O.Struct	P Med/Mod	C	D	1			
34548	SM96780541	Railway building	Documents	Post Med	E	D	1			
34558	SM96770565	Storage tanks	Documents	Post Med	E	D	1			
34829	SM95790507	Military boundary stones	O.Struct	Post Med	C	C	1			
34830	SM95900517	Limekiln	O.Struct	Post Med	C	C	1			
34831	SM95890511	Slip	O.Struct	Modern	A	D	1			
34832	SM96330478	Pontoon	O.Struct	Modern	A	D	1			
34833	SM96390475	Hard - for flying boats	O.Struct	Modern	A	C	1			
<u>34834</u>	SM96540474	Hard - for flying boats	O.Struct	Modern	A	C	1			
<u>34835</u>	SM94960476	Building - part of fort 24428	Building	Post Med	C	A	1	Develop	Survey	
34836	SM96570475	Shipwreck - the 'Sela'	O.Struct	P Med/Mod	C	A	1		Survey	
34837	SM96650485	Slip	O.Struct	Modern	A	D	1			
34838	SM96560487	South Wales Hotel	Documents	Post Med	E	D	1			
34839	SM96640487	Customs House	Documents	Post Med	E	D	1			
34840	SM96730490	Brunel Quay	O.Struct	Post Med	R	A	1		Monitor	
34841	SM96710483	Barlow and Brunel rails	Finds	Post Med	B	A	1		Monitor	
34842	SM96880515	Bridge	O.Struct	Modern	A	D	1			
34978	SM96810593	Marina	O.Struct	Modern	A	D	1			

Coastal units

No.	Length	Coast edge type	Land edge type	Foreshore type	Erosional class	WOGLS code
58	1.5km	Man-made wall	Man-made structures	Rock	1	5235,5800,5801
59	1.0km	Man-made wall	Man-made structures	Other	1	5240,5243,5244
60	0.7	Man-made dump	Man-made structures	Mud	1	

Map 9. 1:10,000 map showing archaeological sites and coastal units

Map 10. Barnwell Pill to Cleddau Bridge**Archaeological sites****Bold PRNs = new sites****Underlined PRNs = photograph of site in Appendix 2**

PRN	NGR	Description	Type	Period	Condition	Importance	Erosion class	Status	Threats	Action
17844	SM9607	Railway	Earthwork	Post Med	C	C	1			
17845	SM96210727	Westfield com mill	Building	Post Med	C	B	1			
17847	SM96250715	Limekiln	O.Struct	Post Med	U	U	1			
34549	SM96450656	Railway building	Documents	Post Med	E	D	1			
34550	SM96050705	Reservoir	O.Struct	Post Med	U	B	1			
34551	SM96190733	Dam for mill pond of 17845	Earthwork	Post Med	B	B	1			
34553	SM96100736	Limekiln	O.Struct	Post Med	C	B	1			
34554	SM96200729	Pumping station for 34550	O.Struct	Post Med	D	C	1			
34555	SM96130733	Ford/bridge	O.Struct	P Med/Mod	A	D	1			
34556	SM96840637	Limekiln	Documents	Post Med	E	D	1			
34557	SM96820637	Boathouse	Earthwork	Post Med	D	C	1			
34975	SM96920523	Ice Factory	Documents	Modern	E	D	1			
34976	SM96850523	Dock loading dock for ice factory	O.Struct	Modern	B	B	1			
34977	SM96840562	Bam/barrage	O.Struct	Modern	A	D	2			
34979	SM96760625	Dam	Earthwork	Modern	A	C	1			
34980	SM96680631	Dam	Earthwork	Modern	A	C	1			
34981	SM96190727	Quay - to serve Westfield mill	O.Struct	Post Med	B	B	1			
34982	SM96210729	Leat for mill 17845	Earthwork	Post Med	C	C	1			
34983	SM96810633	Slip from boathouse 34557	O.Struct	Post Med	C	D	1			
34984	SM96880559	Modern building?	O.Structure	Modern	D	D	2			
34985	SM968053	Track and slip	Earthwork	Modern	B	D	2			
34986	SM96910516	Slip	O.Struct	Modern	A	D	1			

Coastal units

No.	Length	Coast edge type	Land edge type	Foreshore type	Erosional class	WOGLS code
61	3.8km	Other	Other	Other	1	
62	1.0km	Mainly rock	Coppice/woodland	Mud	2	
63	0.3	Man-made other	Man-made structures	Mud	1	5250
64	0.4km	Mainly rock	Man-made structures	Mud	2	5255

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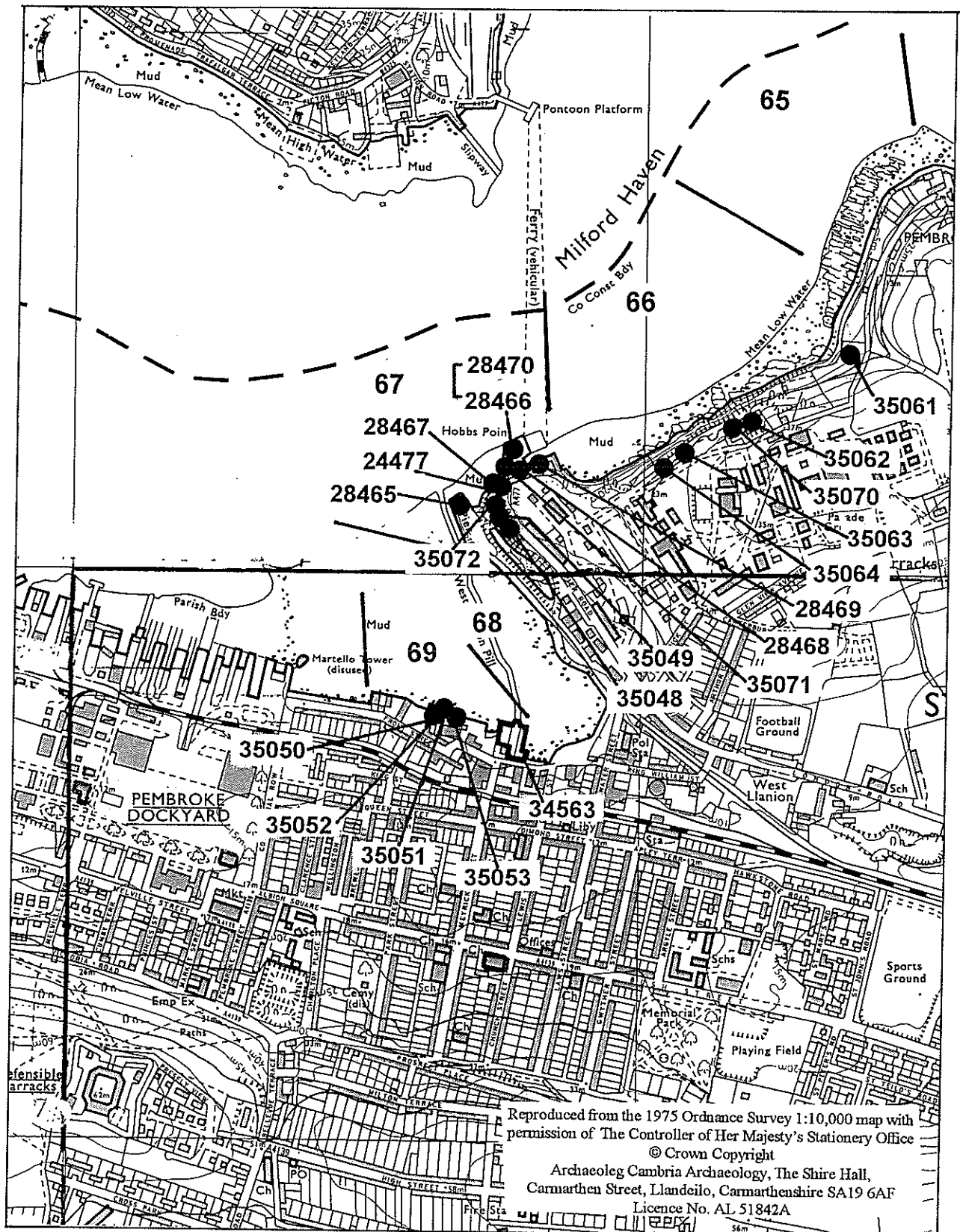
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Map 11. Cleddau Bridge to Pembroke Dockyard**Archaeological sites****Bold PRNs = new sites****Underlined PRNs = photograph of site in Appendix 2**

PRN	NGR	Description	Type	Period	Condition			Threats	Action
					Importance				
					Erosion class				
					Status				
24477	SM967042	Telephone call box	O.Struct	Modern	A	A	1	LBII	
28465	SM96760422	Dockyard	O.Struct	Post Med	C	B	1		
28466	SM96760422	Fitting-out quay	O.Struct	Post Med	R	A	1		
28467	SM96740415	Office	Documents	Post Med	E	D	1		
28468	SM96770417	Coastguard Station	Building	Post Med	R	A	1	LBII	
28469	SM96790418	Workshop	Building	Post Med	A	C	1		
28470	SM96820420	Hobbs Point Quay and slip	O.struct	Post Med	R	A	1	LBII	
34563	SM96770370	Shipbuilding yard	O.Struct	Post Med	D	D	1		
35048	SM96770480	Pier House - former hotel	Building	Post Med	R	A	1	LBII	
35049	SM96690410	Quay	O.Struct	P.Med/Mod	A	B	1		
35050	SM96610378	Shipbuilding yard (35051-53)	O.Struct	P Med/Mod	B	A	1		Restore
35051	SM96650375	Dry dock part of 35050	O.Struct	P Med/Mod	B	A	1	LBII	Restore
35052	SM96630373	Crane part of 35050	O.Struct	P Med/Mod	A	B	1		Restore
35053	SM96680374	Slip part of 35050	O.Struct	P Med/Mod	A	B	1		Restore
35061	SM97340436	Site of barrage ballon	O.Struct	Modern	D	D	2		
35062	SM97180427	Main magazine	O.Struct	Post Med	B	A	2	LBII	
35063	SM97070421	Military building	Building	Modern	C	D	2		
35064	SM97040418	Military building	Building	Modern	D	D	2		
35070	SM97180427	Cartridge magazine	O.Struct	Post Med	B	A	2	LBII	
35071	SM96820420	Bollards - reused canon	O.Struct	Post Med	A	A	1	LBII	
35072	SM96740412	Former storehouse	Building	Post Med	R	A	1	LBII	

Coastal units

No.	Length	Coast edge type	Land edge type	Foreshore type	Erosional class		WOGLS code
65	0.3km	Rock with drift cover	Man-made structures	Rock	1		5002
66	0.6km	Rock with drift cover	Coppice/woodland	Mixed	2		5003
67	0.2km	Man-made wall	Man-made structures	Other	1		5005
68	0.3km	Man-made dump	Man-made structures	Other	1		5010
69	0.2km	Man-made wall	Man-made structures	Other	1		5014,5015,5016



Map 11. 1:25,000 map showing archaeological sites and coastal units

Map 12. Pembroke Dockyard**Archaeological sites****Bold PRNs = new sites****Underlined PRNs = photograph of site in Appendix 2**

PRN	NGR	Description	Type	Period	Condition			Importance		Threats	Action
								Erosion class	Status		
3261	SM95760356	Paterchurch tower	Building	Med	B	A	1	SAM+	LBII	Neglect	Survey
<u>3262</u>	SM95520361	Gun tower	Building	Post Med	A	A	1	SAM+	LBII*	Neglect	Restore
<u>3263</u>	SM96400384	Gun tower	Building	Post Med	R	A	1	SAM+	LBII*		
4511	SM96010360	Superintendent's office	Building	Post Med	C	A	1	LBII			
4512	SM96030364	Guard house	Building	Post Med	C	A	1	LBII			
4516	SM95800352	Dockyard walls	O.Struct	Post Med	A	A	1	List II			
4523	SM96270348	Chapel	Building	Post Med	B	A	1	SAM+	LBII*		
7213	SM96030374	Military store	Building	Post Med	A	A	1	LBII			
7214	SM96020372	Military stores	Building	Post Med	A	A	1	LBII			
7224	SM960037	Pembroke Dockyard		Post Med						Neglect	
7225	SM96010353	Dwelling - No 1 The Terrace	Building	Post Med	A	A	1	LBII*			
7226	SM96070350	Dwelling - No 2&3 The Terrace	Building	Post Med	A	A	1	LBII*			
7227	SM96110348	Dwelling - No 4&5 The Terrace	Building	Post Med	A	A	1	LBII			
7228	SM96020352	Dockyard lodges and gates	O.Struct	Post Med	B	A	1	LBII*			
7229	SM95780382	Oakum store	Building	Post Med	B	A	1	LBII			
7230	SM96060373	Office	Building	Post Med	A	A	1	LBII			
24449	SM95640393	Pater Battery see also 34639	O.Struct	Post Med	A	A	1	LBII			
26768	SM96000353	The Port Hotel	Building	Post Med	A	A	1	LBII*			
<u>26769</u>	SM96380383	Sentry post	O.Struct	Post Med	B	A	1	LBII			
26777	SM95950390	Ship-building slip	O.Struct	Post Med	A	A	1	LBII			Restore
26778	SM95730381	Military building	Building	Modern	U	U	1				
<u>26779</u>	SM95830391	Graving dock	O.Struct	Post Med	A	A	1	LBII			Restore
26781	SM95780396	Ship-building slip	O.Struct	Post Med	A	A	1	LBII			Restore
26782	SM95730395	Ship-building slip	O.Struct	Post Med	A	A	1	LBII			Restore
<u>26783</u>	SM95700414	Carr Jetty - ship fitting-out jetty	O.Struct	Post Med	A	A	1	LBII			
26785	SM95660392	Military building	Building	Modern	U	U	1				
26788	SM95770382	Guard house	Building	Post Med	B	A	1	LBII			
26791	SM95660369	Timber pond - pickling pond	O.Struct	Post Med	B	A	1	LBII			
26792	SM95670376	Military building	Building	Modern	U	U	1				
26793	SM95640402	Military building	Building	Modern	U	U	1				
26797	SM95600359	Military building	Building	Modern	B	C	1				
26798	SM95610364	Military building	Building	Modern	B	C	1				
28411	SM95750355	Military building	Building	Modern	B	C	1				
28426	SM96120384	Ship-building slip	O.Struct	Post Med	A	A	1				
<u>28428</u>	SM96110368	Flying boat hangar	Building	Modern	B	A	1	LBII			
28429	SM96290363	Flying boat hangar	Building	Modern	B	A	1	LBII			
28430	SM96130373	Military workshop	Building	Modern	B	C	1				
28431	SM96070375	Military building	Building	Modern	B	C	1				
28437	SM95670360	Engine shed	Building	Modern	B	C	1				
28438	SM95910395	Dock	O.Struct	Post Med	A	A	1	LBII			
28439	SM95940388	Shed	Building	Post Med	A	B	1				
34627	SM955037	Groynes	O.Struct	Post Med	D	D	1				
34628	SM955037	Timber-lined pond	O.Struct	Post Med	D	D	1				
34639	SM95640393	Pater Fort - see also 24449	O.Struct	Post Med	A	A	1	LBII			
35039	SM95540372	Outflow	O.Struct	Modern	A	D	1				
35040	SM95550364	Gun	Finds	Post Med	A	B	1				

See Map 13 for Coastal Units

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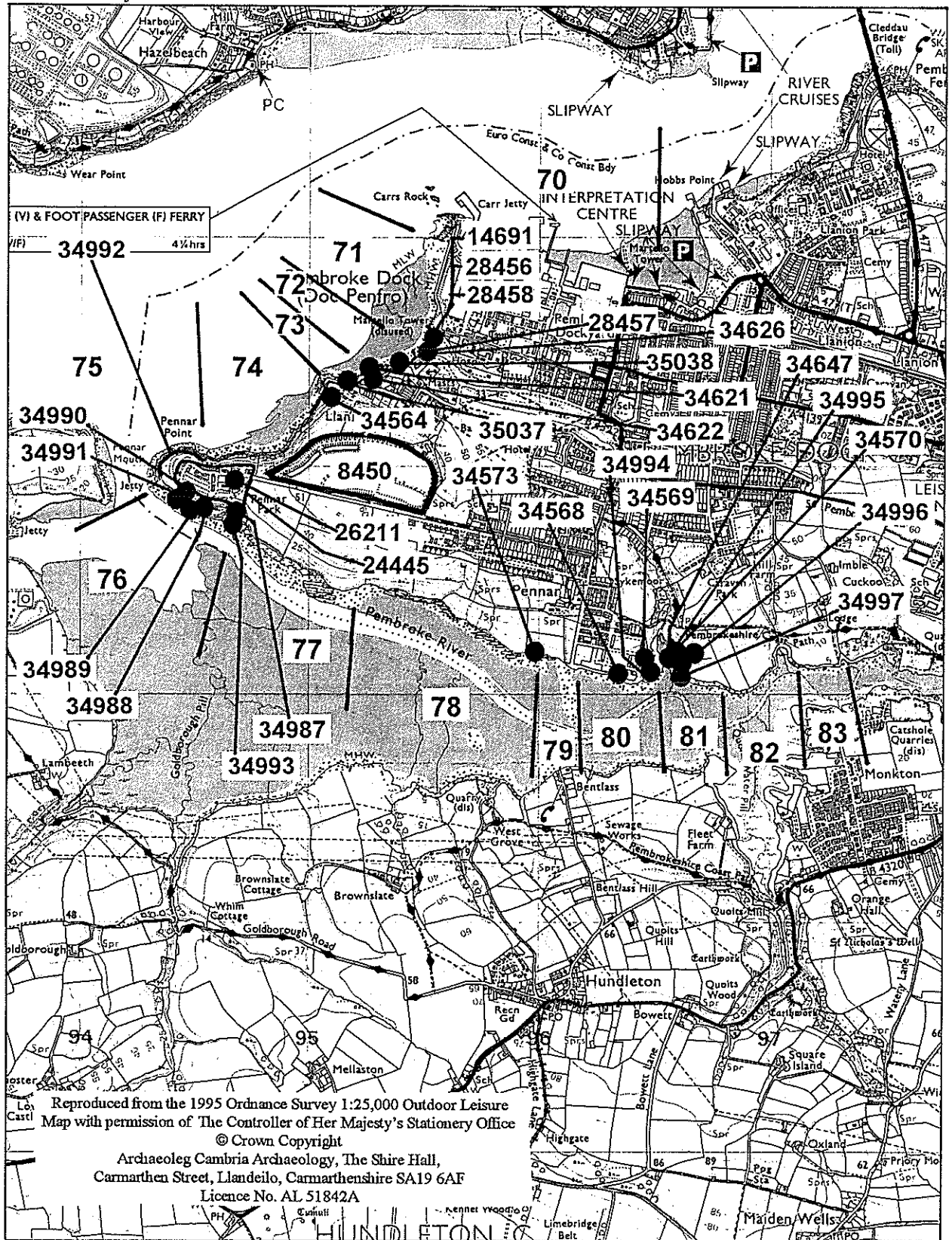
Map 13. Pembroke Dock to Bush Quarry**Archaeological sites****Bold PRNs = new sites****Underlined PRNs = photograph of site in Appendix 2**

PRN	NGR	Description	Type	Period	Condition	Importance	Erosion class	Status	Threats	Action
8450	SM95520307	Llanreath MoD oil store	O.Struct	Modern	E	D	2			
14691	SM95500357	Causeway/rubble dump	Earthwork	Modern	C	D	1			
24445	SM94350304	Pennar barracks	Building	Modern	C	B	2		Develop	
26211	SM94680294	Barrage ballon anchor point	Documents	Modern	E	D	2			
28456	SM95560356	Bomb store	Building	Modern	B	B	1		Neglect	
28457	SM95550354	Bomb store	Building	Modern	C	C	2		Neglect	
28458	SM95540356	Blast wall for bomb store 28456	O.Struct	Modern	A	B	1		Neglect	
34564	SM95070329	Well	Documents	Unknown	U	U	2			
34568	SM96350208	Quarry	Earthwork	Post Med	C	C	2			
34569	SM96480313	Limekiln	Documents	Post Med	E	D	2			
34570	SM96600216	Limekiln	Documents	Post Med	E	D	2			
34573	SM95990216	Gravel pit	Documents	Post Med	E	D	4			
34621	SM95220337	Boathouse	Documents	Post Med	E	D	2			
34622	SM95250377	Well	Documents	Unknown	E	D	2			
34626	SM95510352	Limekiln	Documents	Post Med	E	D	1			
<u>34647</u>	SM96570213	Floodgates/shipyard dockgates	O.Struct	Post Med	C	B	2		Neglect	Survey
<u>34987</u>	SM94660281	Mine/torpedo store	Building	Modern	C	B	2		Neglect	Survey
34988	SM94560281	Military buildings	Building	P.Med/Mod	C	B	2		Neglect	Survey
34989	SM94460282	Military slipway	O.Struct	Modern	B	D	2		Neglect	Survey
34990	SM94460287	Military building	Building	Modern	C	D	2		Neglect	Survey
<u>34991</u>	SM94360286	Torpedo launching pads?	O.Struct	Modern	C	B	2		Neglect	Survey
34992	SM9444030	Track	Earthwork	Modern	B	D	2			
<u>34993</u>	SM94640275	Torpedo launching pad	O.Struct	Modern	C	B	2		Neglect	Survey
34994	SM96490208	Quarry	Earthwork	Post Med	C	C	2			
<u>34995</u>	SM96590212	Shipwreck	O.Struct	Modern	C	B	2			
34996	SM96680218	Building of shipyard/hospital	Building	P.Med/Mod	D	C	2			
34997	SM96610207	Shipyard quay	O.Struct	Post Med	C	C	2		Neglect	
35037	SM951033	Sea wall	O.Struct	Post Med	C	D	2			
35038	SM954034	Pipeline	O.Struct	Modern	A	D	2			

Coastal units

No.	Length	Coast edge type	Land edge type	Foreshore type	Erosional class	WOGLS code
70	1.0km	Man-made other	Man-made structures	Other	1	5018-19,5025
71	0.5km	Man-made other	Man-made structures	Mixed	1	5027,5035,5040
72	0.3km	Mainly rock	Coppice/woodland	Mixed	2	5042
73	0.2km	Mainly rock	Man-made structures	Mixed	2	5044,5047
74	0.8km	Mainly rock	Coppice/woodland	Mixed	2	5047
75	0.5km	Mainly rock	Scrub/heath/rough pasture	Mixed	2	5047
76	0.4km	Mainly rock	Man-made structures	Mixed	2	5048
77	0.7km	Mainly rock	Scrub/heath/rough pasture	Mixed	2	5048
78	1.0km	Mainly rock	Improved pasture	Mixed	2	5048
79	0.2km	Drift, boulder clay	Improved pasture	Mixed	4	5048
80	0.5km	Mainly rock	Improved pasture	Mixed	2	5048
81	0.8km	Rock with drift cover	Improved pasture	Mixed	2	5048
82	0.5km	Drift, boulder clay	Improved pasture	Mixed	2	5048
83	0.2km	Rock with drift cover	Improved pasture	Mixed	2	5048
84	1.1km	Mainly rock	Coppice/woodland	Mud	2	5048

Coastal Survey 1997-98: Lower Milford Haven



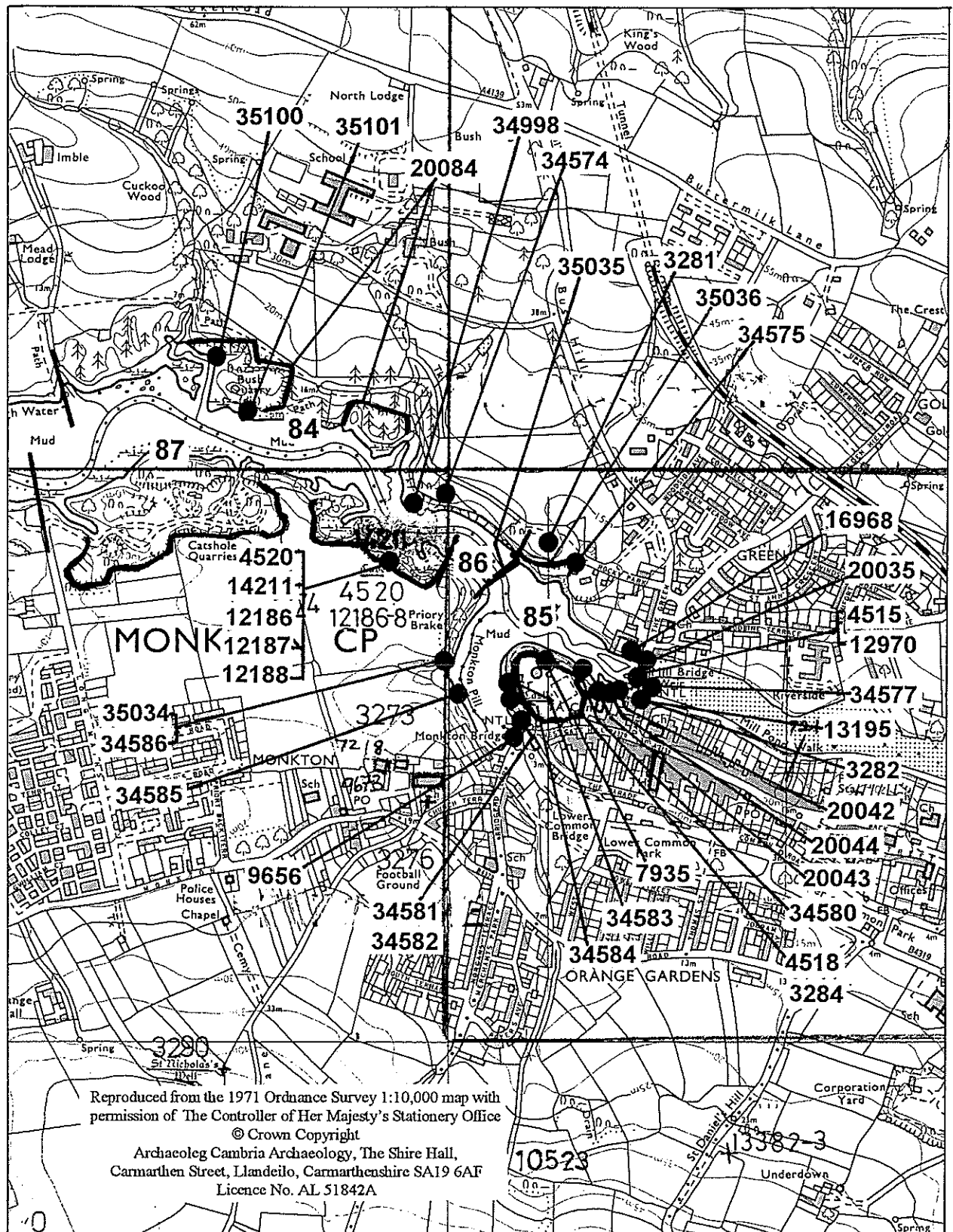
Map 13. 1:25,000 map showing archaeological sites and coastal units

Map 14. Bush Quarry to Catshole Quarry including Pembroke Town**Archaeological sites****Bold PRNs = new sites****Underlined PRNs = photograph of site in Appendix 2**

PRN	NGR	Description	Type	Period	Condition			Importance		Threats	Action
								Erosion class	Status		
3281	SM980019	St Anne's Chapel	Documents	Medieval	U	E	1				
3282	SM9801	Town defences	O.Struct	Medieval	R	A	1		SAM+ LBII		
3284	SM98170160	Coin hoard	Finds	Roman	U	A	1				
4515	SM98330163	Corumill	Building	Post Med	C	B	1				
<u>4518</u>	SM98150165	Pembroke Castle	Building	Medieval	R	A	1		SAM+ LBI		
4520	SM9801	Catshole Cave hoard and burial	Finds	Bronze Age	U	A	1				
7935	SM98170166	Finds from Wogan's Cave	Finds	Palaeo	U	A	1				
9656	SM98120151	Bridge/dam	O.Struct	Post Med	A	B	1				
12186	SM978018	Catshole cave midden	Finds	Medieval	U	A	1				
12187	SM978018	Catshole Cave - finds	Finds	Palaeo	U	A	1				
12188	SM978018	Catshole Cave - finds	Finds	Mesolithic	U	A	1				
12970	SM98330163	Commill replaced by 4515	Documents	Medieval	E	E	1				
13195	SM98330159	Medieval gateway	Documents	Medieval	U	E	1				
14211	SM97890183	Catshole Cave (4520, 12186-88)	Landform	General	A	A	1		SAM		
<u>16968</u>	SM98330168	North Quay wachouse	Building	Post Med	B	A	1		LBII	Develop	
20035	SM983016	Bridge/Dam	O.Struct	Post Med	A	A	1		LBII		
<u>20042</u>	SM982016	South Quay	O.Struct	Post Med	R	A	1		LBII		
<u>20043</u>	SM98260161	Warehouse	Building	Post Med	R	A	1				
<u>20044</u>	SM98280161	Warehouse	Building	Post Med	C	C	1		LBII		
20084	SM976021	Bush Quarry	Earthwork	Med/P Med	B	B	1				
<u>34574</u>	SM97990196	Dwelling	Building	Post Med	C	B	1				
<u>34575</u>	SM98230184	Building	Building	Post Med	D	D	1				
<u>34577</u>	SM98350161	Cesspit	Documents	Post Med	E	D	1				
<u>34580</u>	SM98240164	Boat house	Documents	Post Med	E	D	1				
<u>34581</u>	SM98110156	Quay	O.Struct	Post Med	C	C	1				
<u>34582</u>	SM98120155	Crane	Documents	Post Med	E	D	1				
<u>34583</u>	SM98100163	Limekiln	Documents	Post Med	E	D	1				
<u>34584</u>	SM98100160	Boathouse	Documents	Post Med	E	D	1				
<u>34585</u>	SM98010159	Boathouse	Documents	Post Med	E	D	1				
<u>34586</u>	SM97990187	Cottage	Documents	Post Med	E	D	1				
<u>34998</u>	SM97940194	Shipwreck	O.Struct	Post Med	D	E	1				
<u>35034</u>	SM97990164	Quarry	Earthwork	Unknown	C	C	1				
<u>35035</u>	SM981018	Dam/barrage	O.Struct	Modern	A	D	1				
<u>35036</u>	SM98160185	Quarry	Earthwork	Unknown	B	C	1				
<u>35100</u>	SM97580218	Revetment/quay	O.Struct	Post Med	C	C	1				
<u>35101</u>	SM97640209	Revetment/quay	O.Struct	Post Med	C	C	1				

Coastal units

No.	Length	Coast edge type	Land edge type	Foreshore type	Erosional class	WOGLS code
84	1.1km	Mainly rock	Coppice/woodland	Mud	2	5048
85	1.1km	Man-made other	Man-made structures	Other	1	5805
86	0.1km	Man-made dump	Man-made structures	Mud	1	5050
87	0.9km	Man-made other	Coppice/woodland	Mud	1	5050



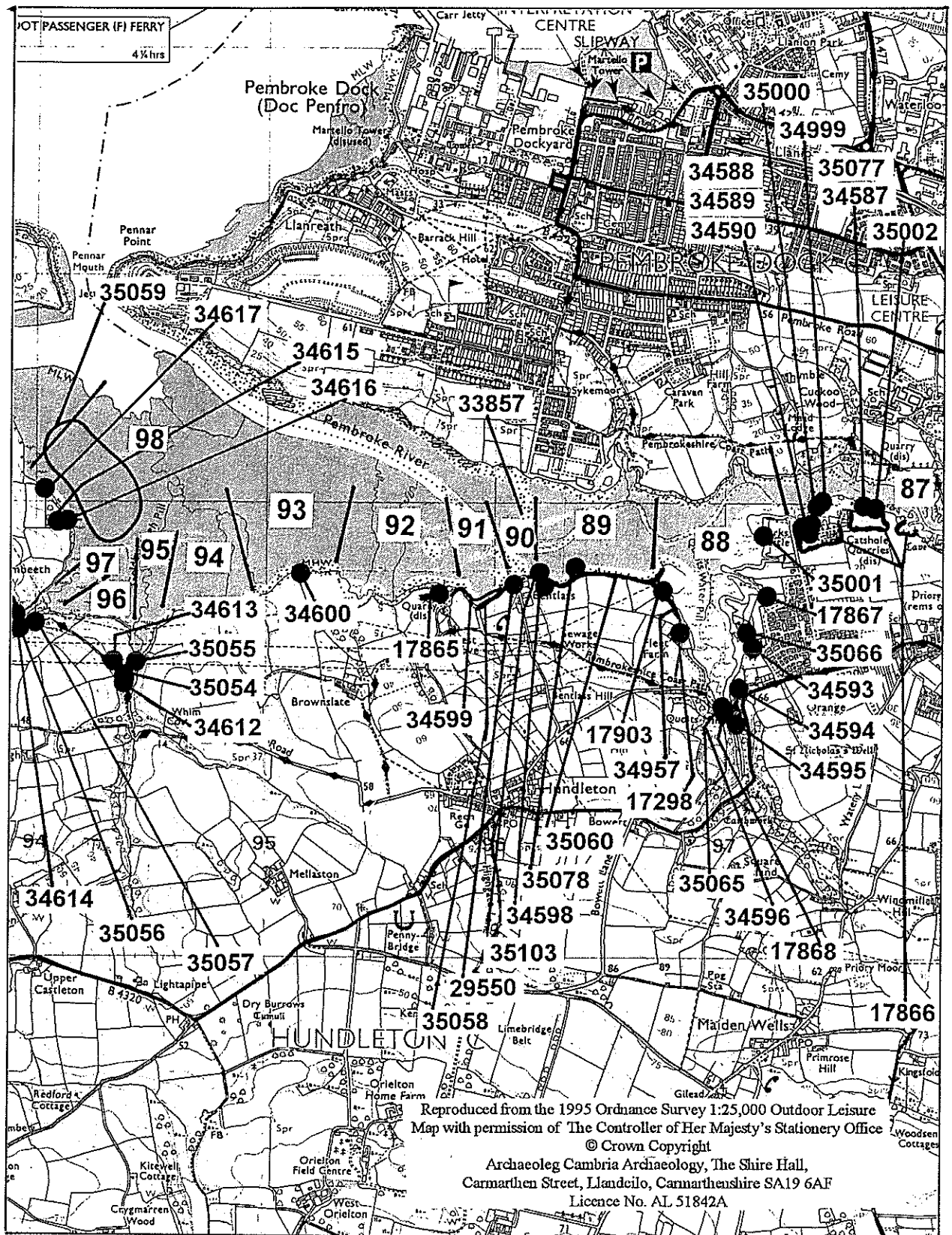
Map 14. 1:10,000 map showing archaeological sites and coastal units

Map 15. Catshole Quarries to Pembroke Power Station**Archaeological sites****Bold PRNs = new sites****Underlined PRNs = photograph of site in Appendix 2**

PRN	NGR	Description	Type	Period	Condition	Importance	Erosion class	Threats	Action
Status									
17298	SM967013	Fleet Farm - mansion	Building	Post Med	R	A	1		
17865	SM95750160	Quarry	Earthwork	Post Med	B	C	2		
17866	SM975019	Catshole Quarry	Earthwork	Med/P Med	R	B	1		
17867	SM972016	Quarry	Earthwork	Post Med	D	D	1		
17868	SM970010	Quoits Mill	Documents	Med/P Med	E	U	1		
17903	SM96740162	Limekiln	O.Struct	Post Med	B	A	1		
29550	SM96090164	Warehouse	Building	Post Med	B	A	1	LBII	Monitor
33857	SM961018	Ferry/crossing point	Documents	Med/P.Med	U	U	1		
34587	SM97630200	Quay	Documents	Post Med	E	D	1		
34588	SM97370190	Quarry building	Documents	Post Med	E	D	1		
34589	SM97340187	Quarry building	Documents	Post Med	E	D	1		
34590	SM97320192	Limekiln	O.Struct	Post Med	D	C	1		
34593	SM97150136	Building	Documents	Unknown	E	U	1		
34594	SM97040115	Well	Documents	Unknown	E	U	1		
34595	SM97050106	Dam/mill pond	O.Struct	Post Med	A	A	1		
34596	SM97050107	Mill race	Documents	Post Med	E	U	1		
34598	SM96250165	Pond?	Documents	Post Med	E	D	2		
34599	SM960016	Track	Documents	Post Med	D	D	3		
34600	SM95160168	Limekiln	Documents	Post Med	E	D	4		
34612	SM94401018	Limekiln	O.Struct	Post Med	A	A	2		
34613	SM94340128	Building	Earthwork	Post Med	D	U	2		
34614	SM93840144	Lambeth mill	Building	Post Med	C	B	2		
34615	SM94110189	Limekiln	Documents	Post Med	U	U	2		
34616	SM94130190	Quarry	Earthwork	Unknown	C	C	2		
34617	SM94050200	Quarry	Earthwork	Unknown	C	C	2		
34957	SM967016	Track	Earthwork	Post Med	C	D	1		
34999	SM97430200	Shipwreck	O.Struct	Modern	C	D	1		
35000	SM97410199	Shipwreck	O.Struct	Modern	C	B	1		
35001	SM97190185	Shipwreck	O.Struct	Modern	C	D	1		
35002	SM97670201	Timber revetment	O.Struct	Unknown	D	U	1		
35054	SM94390122	Quarry	Earthwork	Unknown	B	C	2		
35055	SM94430128	Shipwreck	O.Struct	Modern	C	D	2		
35056	SM93860140	Bridge associated with 34614	O.Struct	Post Med	B	B	2		
35057	SM93950144	Quarry	Earthwork	Unknown	B	C	2		
35058	SM960016	Sea wall	O.Struct	Post Med	D	C	2		
35059	SM942021	Finds - from WWII warships	Finds	Modern	C	U	2		
35060	SM962167	Sea wall	O.Struct	Post Med	D	C	2		
35065	SM96790110	Barbed-wire entanglement blocks	O.Struct	Post Med	B	D	1		
35066	SM97100141	Limekiln	O.Struct	Post Med	B	A	1		
35077	SM97630203	Quay - replacement of 34587	O.Struct	Modern	B	C	1		
35078	SM96540170	Groyne - stone built	O.Struct	Post Med	D	D	2		
35103	SM97230168	Groyne - stone built	O.Struct	Post Med	D	D	2		

Coastal units

No.	Length	Coast edge type	Land edge type	Foreshore type	Erosional class	WOGLS code
87	0.9km	Man-made other	Coppice/woodland	Mud	1	5050
88	2.5km	Drift, boulder clay	Improved pasture	Mud + marsh	1	5050
89	0.6km	Man-made wall	Improved pasture	Mixed	2	5050
90	0.1km	Man-made wall	Man-made structures	Mixed	1	5050
91	0.4km	Man-made wall	Improved pasture	Mixed	3	5050
92	0.8km	Rock with drift cover	Improved pasture	Mixed	2	5050
93	0.4km	Drift, boulder clay	Improved pasture	Mixed	4	5050
94	0.5km	Rock with drift cover	Improved pasture	Mixed	2	5050
95	0.8km	Mainly rock	Coppice/woodland	Mixed	2	5050
96	0.4km	Mainly rock	Scrub/heath/rough pasture	Mixed	2	5050
97	0.4km	Mainly rock	Coppice/woodland	Mixed	2	5050
98	0.8km	Mainly rock	Arable	Boulder	2	5050



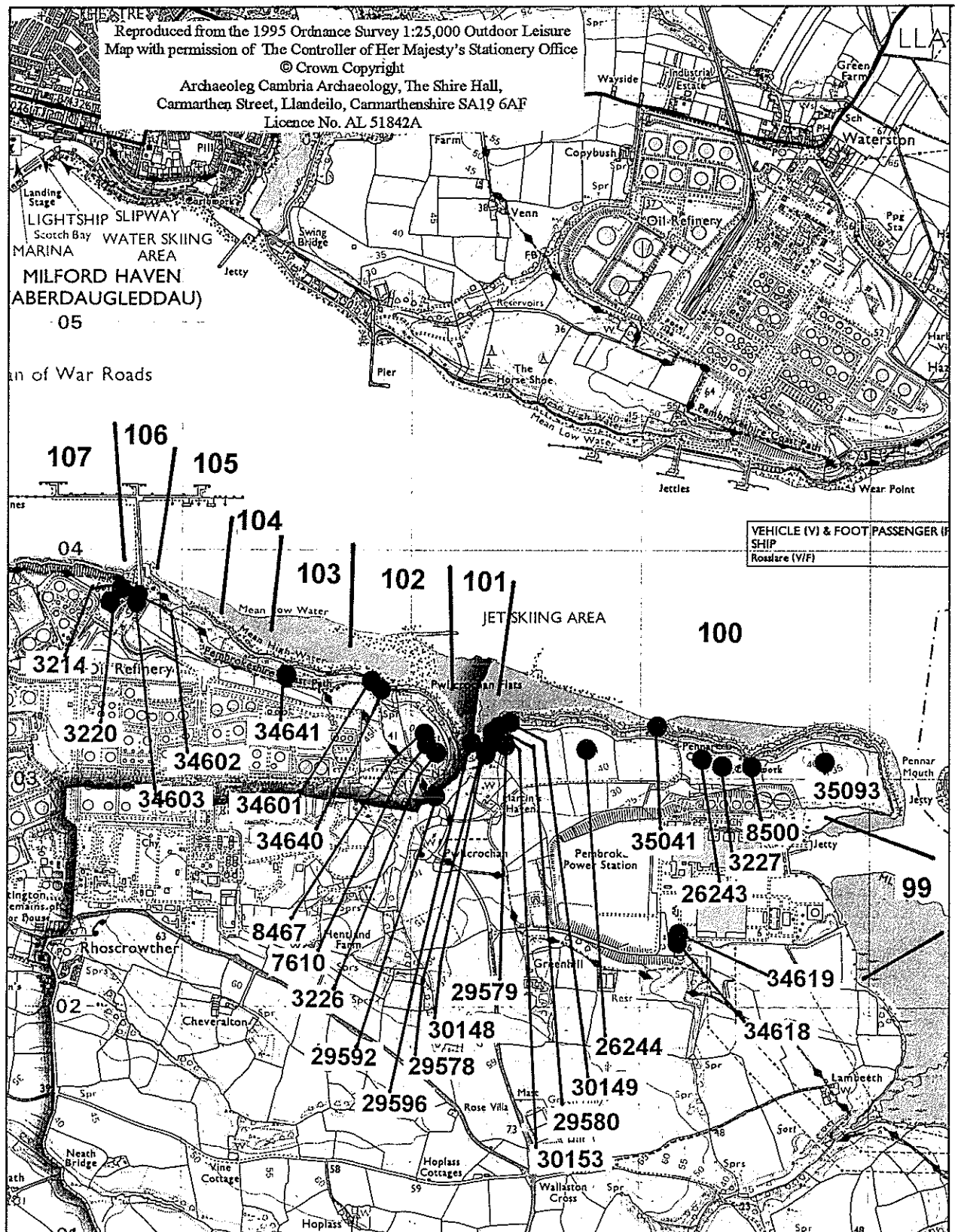
Map 15. 1:25,000 map showing archaeological sites and coastal units

Map 16. Pembroke Power Station to Bullwell Bay**Archaeological sites****Bold PRNs = new sites**

PRN	NGR	Description	Type	Period	Condition			Importance		Threats	Action
</											

Coastal units

No.	Length	Coast edge type	Land edge type	Foreshore type	Erosional class	WOGLS code
99	1.0km	Man-made other	Man-made structures	Mixed	1	5050,5055,
100	2.5km	Mainly rock	Coppice/woodland	Mixed	2	5056,5060
101	0.4km	Mainly rock	Scrub/heath/rough pasture	Mud + marsh	1	5060
102	0.7km	Mainly rock	Coppice/woodland	Mixed	2	5060
103	0.4km	Mainly rock	Scrub/heath/rough pasture	Mixed	2	5060
104	0.3km	Mainly rock	Coppice/woodland	Mixed	2	5060
105	0.3km	Mainly rock	Scrub/heath/rough pasture	Mixed	2	5060
106	0.2km	Man-made other	Man-made structures	Other	1	5060
107	1.5km	Mainly rock	Coppice/woodland	Mixed	2	5060



Map 16. 1:25,000 map showing archaeological sites and coastal units

Map 17. Bullwell Bay to Angle Point**Archaeological sites****Bold PRNs = new sites**

PRN	NGR	Description	Type	Period	Condition		Threats		Action
					Importance				
					Erosion class				
					Status				
3069	SM89670389	Flintworking floor	Finds	Meso/Neo	U	U	2	SAM	
3088	SM86610300	Angle Tower House	Building	Medieval	C	A	1		
4384	SM89350357	Place-name - 'Castles'	Place-name	Unknown	E	D	2		
4385	SM86600300	Finds	Finds	Post Med	U	U	1		
7609	SM898023	Deer Park	Documents	Medieval	E	D	1	SAM	
7734	SM893038	Fort Popton	Building	Post Med	A	A	2		
15910	SM87700210	Limekiln	O.Struct	Post Med	B	B	4		
15915	SM88250199	Limekiln	O.Struct	Post Med	C	B	4		
15923	SM89450188	Limekiln	Documents	Post Med	E	D	2		
23824	SM89210362	Limekiln	O.Struct	Post Med	C	B	2		
26245	SM89180322	Bombing decoy	O.Struct	Modern	B	B	2		
33854	SM87100268	Quay/breakwater	O.Struct	Post Med	B	B	2		
34604	SM90230384	Quarry	Earthwork	Unknown	B	C	2		
34605	SM90220383	Limekiln	O.Struct	Post Med	C	B	2		
34606	SM90090376	Cottage	Building	Post Med	C	B	2		
34607	SM89630289	Limekiln	Documents	Post Med	E	D	1		
34608	SM89790244	Eastington mill	Documents	Med/P Med	E	D	2		
34610	SM89390186	Water-powered saw-pit	Documents	Post Med	E	D	2		
34611	SM87520219	Wells - 2	Documents	Post Med	U	U	3		
34642	SM87530217	Boathouse	Building	Post Med	C	D	3		
35004	SM87080216	Boathouse	Building	Modern	A	B	1		
35005	SM869026	Sea wall	O.Struct	Post Med	A	B	1		
35006	SM88560209	Agricultural clearance	Earthwork	Post Med	D	D	4		
35007	SM891020	Sea wall	O.Struct	Modern	C	D	2		
35008	SM89510195	Revetment/sea defence	O.Struct	P Med/Mod	C	C	2		
35010	SM89180346	Slip	O.Struct	P Med/Mod	C	D	2		
35011	SM86960278	Shipwreck	O.Struct	Modern	C	C	2		
35012	SM86750294	Shipwreck	O.Struct	Modern	C	C	2		
35013	SM86710293	Bridge dated 1909	O.Struct	Modern	C	C	2		
35032	SM87050279	Timber revetment	O.Struct	P Med/Mod	C	C	2		
35033	SM87380310	Concrete revetment	O.Struct	Modern	A	D	2		
35042	SM90180379	House	Building	P Med/Mod	C	B	2		
35043	SM90140375	Cottage	Building	Post Med	C	B	2		
35044	SM90090375	Quarry	Earthwork	Unknown	B	C	2		
35045	SM89600383	Building	Documents	P Med/Mod	U	U	2		
35046	SM90170380	Sea wall	O.Struct	Post Med	C	C	2		
35047	SM90250386	Navigation marker	O.Struct	Modern	A	D	2		

Coastal units

No.	Length	Coast edge type	Land edge type	Foreshore type	Erosional class	WOGLS code
107	1.5km	Mainly rock	Coppice/woodland	Mixed	2	5060
108	0.5km	Mainly rock	Man-made structures	Rock	2	5060
109	0.5km	Mainly rock	Man-made structures	Sand	2	5063,5063
110	0.8km	Mainly rock	Scrub/heath/rough pasture	Rock	2	5065
111	0.4km	Rock with drift cover	Coppice/woodland	Mixed	2	5065
112	0.4km	Man-made other	Man-made structures	Mixed	1	5065
113	0.2km	Rock with drift cover	Scrub/heath/rough pasture	Mixed	2	5065
114	0.5km	Man-made other	Man-made structures	Mixed	1	5068
115	0.6km	Man-made wall	Man-made structures	Mixed	2	5070
116	0.4km	Rock with drift cover	Improved pasture	Mixed	3	5073
117	1.5km	Rock with drift cover	Improved pasture	Mixed	4	5073
118	0.1km	Rock with drift cover	Coppice/woodland	Mixed	3	5076
119	0.7km	Man-made wall	Man-made structures	Mixed	1	5076
120	1.2km	Man-made other	Other	Mixed	2	5078,5080,5082,5084

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Map 18. Angle Point to Lowrey's Rock**Archaeological sites****Bold PRNs = new sites****Underlined PRNs = photograph of site in Appendix 2**

PRN	NGR	Description	Type	Period	Condition			Importance	Erosion class	Status	Threats	Action
3087	SM85320306	Finds	Finds	Meso/Neo	U	U	3					
3092	SM851030	St Anthony's Chapel - associated with burial ground 7595?	Documents	Medieval	E	U	2					Survey
3093	SM86110353	St Mary's Chapel	Documents	Medieval	E	U	2					
3094	SM86830354	Ellen's Well	Landform	Medieval	U	U	2					
7595	SM85130305	Cemetery	Earthwork	Dark Age	D	A	2				Cultivation	Survey
7596	SM86110353	Cemetery	Earthwork	Dark Age	E	U	2					
7597	SM86100355	St Mary's holy well	Documents	Medieval	E	U	2					
7655	SM858036	Chapel Bay Fort	Building	Post Med	B	A	2			SAM		Restore
<u>20602</u>	SM84500375	Thorn Island Fort	Building	Post Med	A	A	2					
28652	SM86640353	Searchlight battery	Building	Modern	B	B	2					
33850	SM87530325	Angle lifeboat station (old)	Building	Post Med	C	A	2					Restore
33851	SM87250347	Angle lifeboat station (modern)	Building	Modern	A	D	2					
33852	SM85310332	Limekiln	O.Struct	Post Med	C	B	2					
33853	SM853031	Brickworks	O.Struct	Post Med	C	B	3					
<u>35014</u>	SM85370321	Gun - gun from a Haven fort	Finds	Post Med	A	A	2					Restore
<u>35015</u>	SM85350325	Sea wall	O.Struct	Post Med	C	C	2					
<u>35016</u>	SM85200335	Quarry	Earthwork	Post Med	B	C	2					
<u>35017</u>	SM85150336	Harbour - in quarry pit 35016	Earthwork	Post Med	A	C	2					
<u>35018</u>	SM85170336	Slip - in harbour 35017	O.Struct	Modern	A	D	2					
<u>35019</u>	SM85080356	Hillfort	Earthwork	Iron Age	C	A	2					
<u>35020</u>	SM85090375	Coastguard lookout	Documents	Modern	E	D	2					
<u>35021</u>	SM85330375	Position finding cell	Building	Modern	B	B	2					
<u>35022</u>	SM85990382	Mine-watcher's post	Building	Modern	A	B	2					Restore
<u>35023</u>	SM85990382	Coastal artillery battery	O.Struct	Modern	B	A	2					Restore
<u>35024</u>	SM86070362	Slip	O.Struct	P Med/Mod	C	C	2					Restore
<u>35025</u>	SM86080358	Quick-fire battery	Earthwork	Post Med	B	A	2					Restore
<u>35026</u>	SM86200354	Submarine mining establishment	O.Struct	Modern	B	A	2					Restore
<u>35027</u>	SM86260362	Searchlight battery	O.Struct	Modern	B	A	2					Restore
<u>35028</u>	SM84680384	Slip - concrete filled wreck	O.Struct	P Med/Mod	A	C	2					
<u>35029</u>	SM85330334	Building - function unknown	Building	Post Med	C	U	2					
<u>35030</u>	SM84410297	Boom anchorage	O.Struct	Modern	B	B	2					
<u>35031</u>	SM84460287	Military accommodation block	Building	Modern	A	B	2				Demolition	
<u>35094</u>	SM848035	Shipwreck 'The Leda'	Documents	Post Med	U	U	2					
<u>35095</u>	SM85250306	Cist grave - cemetery?	Buried feature	Dark Age	C	A	3					Monitor

Coastal units

No.	Length	Coast edge type	Land edge type	Foreshore type	Erosional class	WOGLS code
121	0.5km	Mainly rock	Improved pasture	Mixed	2	5086,5088,5090
122	1.1km	Mainly rock	Scrub/heath/rough pasture	Rock	2	5095
123	1.0km	Mainly rock	Coppice/woodland	Rock	2	5095
124	1.3km	Mainly rock	Scrub/heath/rough pasture	Rock	2	5095
125	0.2km	Rock with drift cover	Scrub/heath/rough pasture	Rock	3	5095
126	0.2km	Mainly rock	Scrub/heath/rough pasture	Rock	2	5095
127	0.2km	Man-made wall	Man-made structures	Sand	2	5096,5097,5098
128	0.3km	Rock with drift cover	Improved pasture	Sand	3	5100
129	1.5km	Mainly rock	Scrub/heath/rough pasture	Rock	2	5110

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Appendix 1. Welsh Office General Level Survey

Extract from the Welsh Office General Level Survey relevant to the study area.

Appendix 2. Selection of Photographs

Appendix 3.

List of organisations consulted for this study:

Pembrokeshire Coast National Park
Pembrokeshire County Council
Carmarthenshire County Council
Countryside Council for Wales
Environment Agency
Shoreline Management Partnership
Carmarthen Bay Coastal Cell
Preseli Pembrokeshire Coastal Cell
Royal Commission on Ancient and Historic Monuments Wales

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Photograph 1. (Map 1) Landward of the 19th century West Blockhouse (9782) can be seen the modern navigation markers (34782), the late-19th and 20th century coastal artillery battery (28701) and the earthworks of the camp (34781) associated with the battery.



Photograph 2. (Map 1) The remains of HMS Barking (34783), wrecked in Mill Bay 1964.



Photograph 3. (Map 2) A 19th century folly or summerhouse (34464) near Monk Haven.



Photograph 4. (Map 2). A small wreck (34754) of unknown date exposed by the shifting channel in saltmarsh.



Photograph 5. (Map 2) A searchlight battery associated with the WWII coastal artillery battery on Soldier's Rock (35080).



Photograph 6. (Map 3) Coastal artillery battery (34643) with Stack Rock Fort (4198) in the background.



Photograph 7. (Map 4) The 19th century South Hook Fort (7624) now located amongst the dismantled remains of an oil refinery.



Photograph 10. (Map 6) A pier (34957) constructed from a concrete-filled wreck in Castle Pill, Milford Haven.



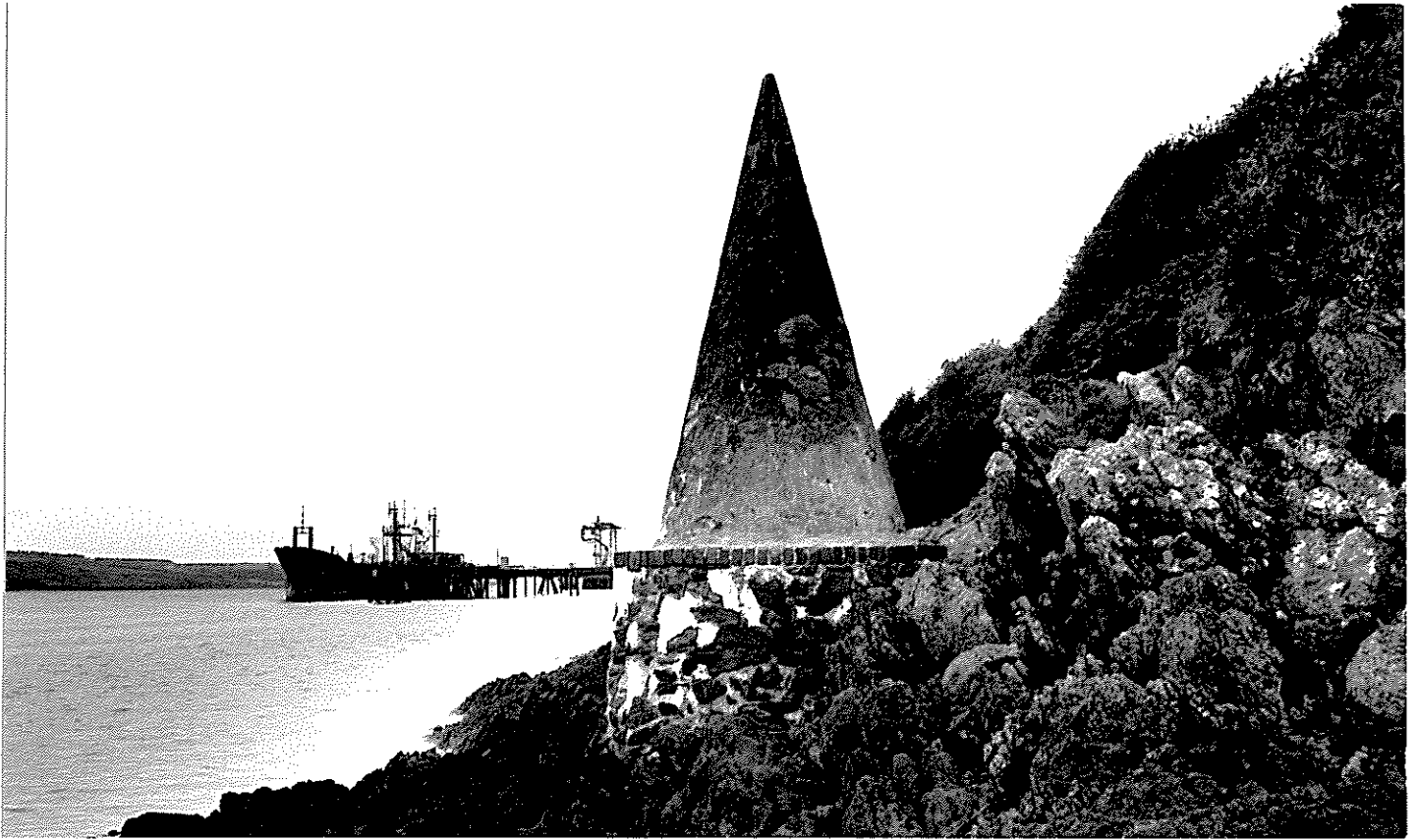
Photograph 11. (Map 7) RNAD Blackbridge mine depot. Now closed and used in part as a sports centre.



Photograph 8. (Map 4) Part of the massive late 19th-century and 20th century coastal artillery battery(28657) at South Hook Fort (7624).



Photograph 9. (Map 4). Fort Hubberston(7623).



Photograph 12. (Map 8) A now redundant navigation marker (34847).



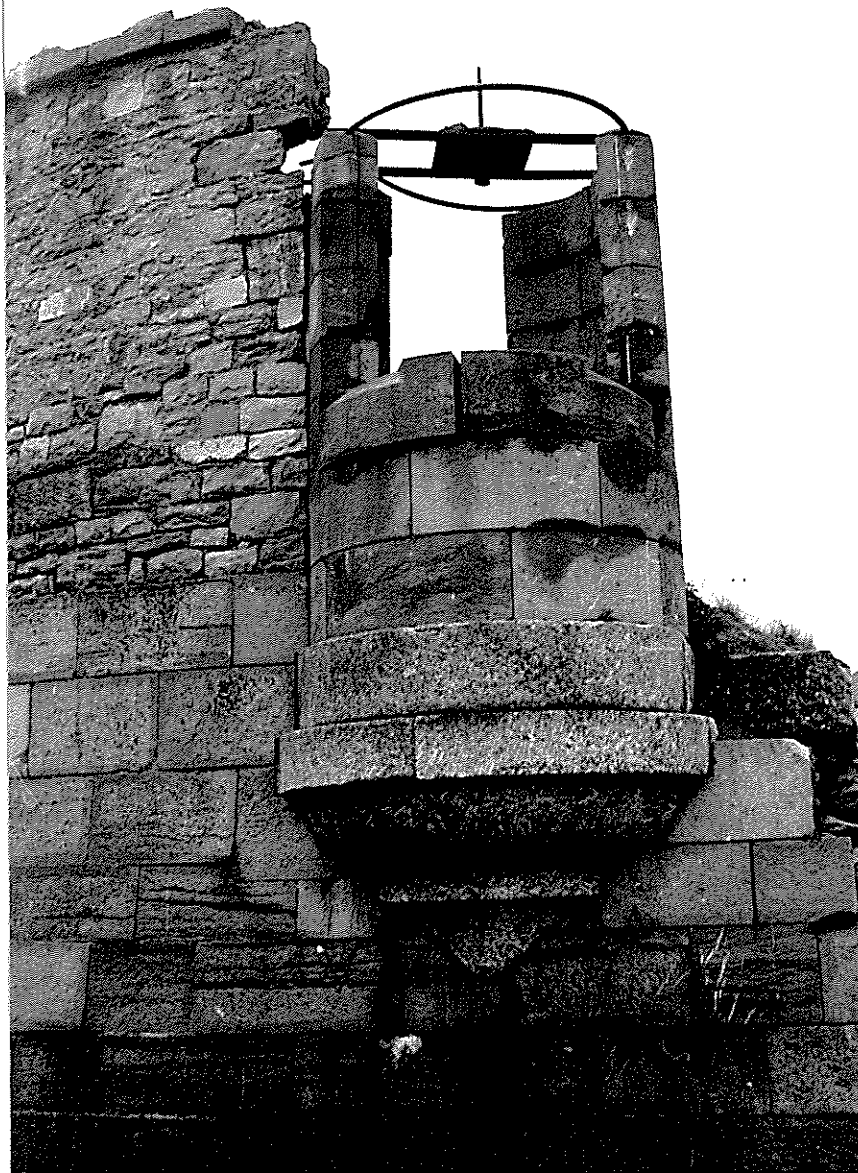
Photograph 13. (Map 9) The shape of the American War of Independence Redan (24428) can be clearly seen in this aerial shot. Located in the white building (34835) are the magazines. The hard (34834) used for flying boats in WWII is towards the top right of the photograph.



Photograph 14. (Map 9) A ground view of the American War of Independence Redan (24428) and associated building (34835) looking across the hard (34834).



Photograph 15. (Map 10) Looking across Barnwell Pill from Neyland towards the site of the ice factory (34975) with the Cleddau Bridge in the background. The dock (34976) used for loading ice is in the centre of the photograph.



Photograph 18. (Map 12) A sentry post (26769) built into the north-east corner of Pembroke Dockyard close to the gun tower 3263.



Photograph 21. (Map 12) One of the two flying boat hangars at Pembroke Dockyard (28428).



Photograph 22. (Map 13) A small wreck (34995) of fairly recent date in the Pembroke River.



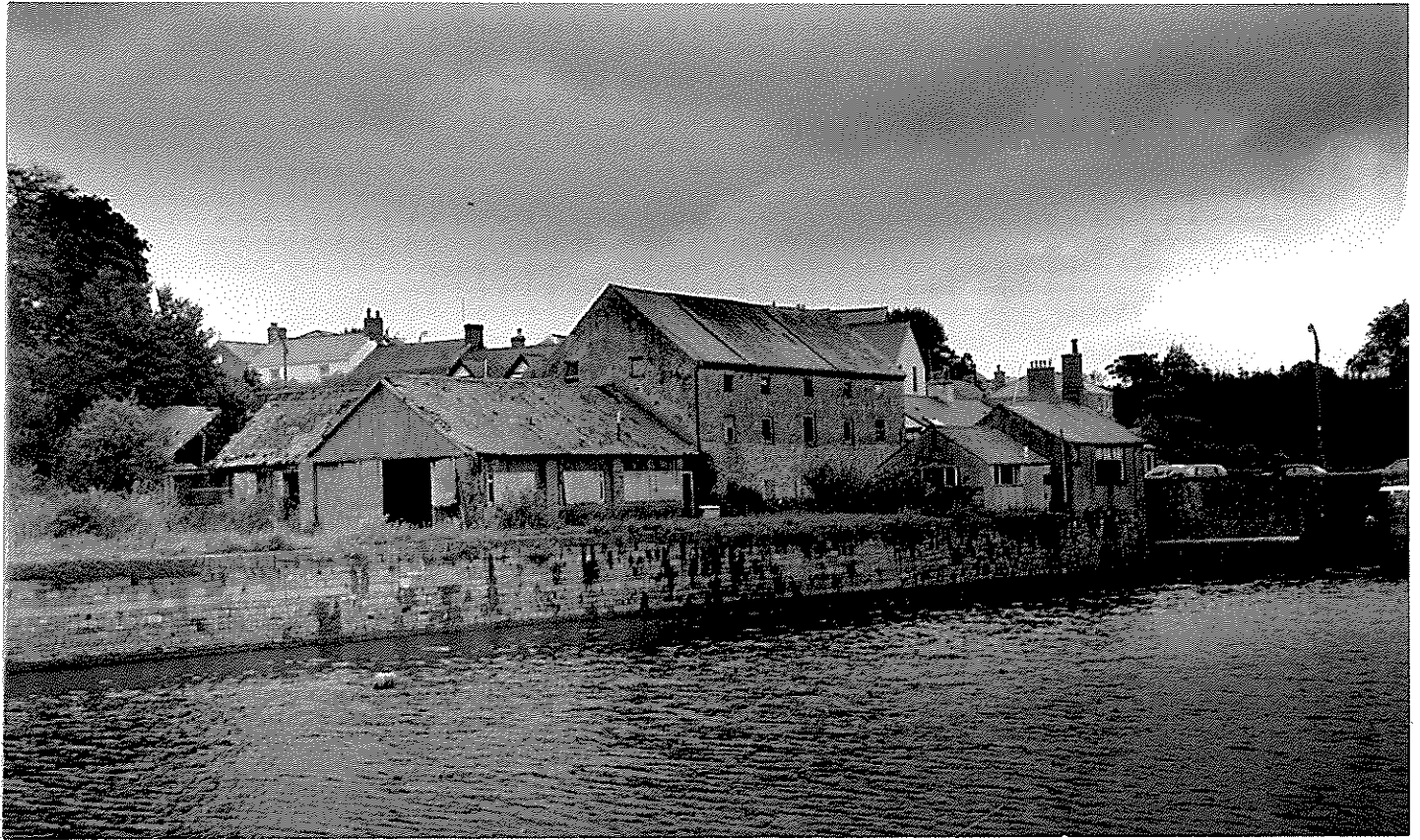
Photograph 23. (Map 12) The south-west gun tower (3262) at Pembroke Dockyard.



Photograph 24. (Map 13). The remains of the dock-gates on of a small, late 19th-century, private shipbuilding yard on the Pembroke River.



Photograph 25. (Map 13) The collapsing remains of possible torpedo launching pads (34991) on the Pembroke River.



Photograph 28. (Map 14) Pembroke north quay and warehouse (16968).



Photograph 29. (Map 15) One of the best preserved and largest of the limekilns in the survey area (34612). Square kilns such as this example are particular to the Pembroke River. The norm on Milford Haven is for round or D-shaped kilns.



Photograph 30. (Map 18) Searchlight battery (32027) associated with Chapel Bay Fort (7655).



Photograph 31. (Map 18) Thorn Island Fort (20602).



Photograph 32. (Map 18) A mid 19th century gun (35014) from on of the Haven forts now in West Angle Bay car park.