Coastal Fortifications

in the South Devon Area of Outstanding Natural Beauty

Introduction

There are over 80 coastal fortifications and associated structures of various dates in the South Devon AONB, constructed over the last 600 years, to protect ports and coastal areas from invasion and attack from the sea, and later from the air. The earliest was constructed in about 1380, and the latest during the Second World War, when many ancient forts were still in use.They are important in the South Devon AONB for their contribution to our understanding of how this part of England was kept free from enemy attack.

Distribution

Earlier fortifications were mostly sited at the mouths of estuaries, such as Dartmouth and Salcombe, though a few sites are found on the open coast, especially from the Second World War, when aerial attack became a serious threat.

Function

All these fortifications were defensive rather than offensive, meaning that their builders and designers had to assume that they would be attacked, and produce designs which would be less prone to capture or destruction. A few structures had a support role, such as fire beacons, signal stations, and radar stations.

History & development

For much of the period in question, the natural enemy was France. A raid by the French in 1377 prompted the construction of a quadrangular castle near the present Dartmouth Castle in the 1380s. A force of Bretons attacked Dartmouth in 1404, in reprisal for an attack by Devonians on Morlaix the previous year, but were repulsed by the townspeople at Blackpool Sands and their leader taken captive.

Berry Head Napoleonic Fortress

A second phase of defence, between the late 15th and mid-16th century, was characterised by small artillery forts, containing up to 9 cannon and located at river mouths. The period from the 1530s to 1550s saw many of these constructed, in response to political threats from abroad.

Later developments, such as late 18th and early 19th century coastal batteries and the 1860s defences encircling Plymouth, were also in response to French threats. It was not until the late 1890s that Germany was perceived as a threat, and fortifications from then until 1945 were related to two main periods of armament against Germany.

One Cold War structure - the former regional centre of government in an underground nuclear bunker at Soar - still survives

Dartmouth Castle

Early 19th century artillery

Gomerock Castle

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Detail

15th to 17th century artillery forts

Location

Often on rock outcrops, just above the waterline.

History

Cannon were first used in battle in the late 14th century, but by the later 15th century, small lightweight weapons, capable of firing iron or stone balls up to 250 yards, were found on merchant ships, and could also be used in coastal batteries. Some forts lay opposite each other to control a 'boom' or floating chain which could be run across the harbour mouth to prevent ships entering or leaving. Dartmouth and Gomerock Castles controlled one at the mouth of the Dart.

Construction

Usually of coursed stone rubble, with well-built dressed faces and mortared rubble cores. They were often whitewashed to show prospective attackers what they were facing.

Shape

Most are small, with 2 or 3 floors, presenting a curved or angular shape to the sea, to deflect enemy fire. Their battlements also have curved or angled upper faces for this reason. Some mid-16th century artillery forts, such as Bayards Cove in Dartmouth and Salcombe Castle, had long shallow-curved sides, studded with gunports, designed to combat ships such as carracks which had a similar sequence of guns near their waterlines.

Layout

Most forts had at least two gundecks, and sometimes up to four. They were wide open spaces within, to accommodate up to four men per crew, ropes and tackle to move the guns into position and haul them back after recoiling, and loading equipment. Magazines were usually in a separate room with thick stone walls to prevent sparks from the guns reaching the gunpowder. Gun size usually decreased the higher you went, so the upper weather deck would only have had lightweight pieces and soldiers with small arms, to fire at the rigging and crew of enemy ships.

Metal fittings

Occasionally, wrought iron fittings are found, such as hinges for the gunport shutters, or loops to fix block and tackle for moving the guns. Where a battle has taken place in the past, such as Salcombe Castle, which was besieged in the Civil War, lead or iron shot may be found at low tide.

Armaments

In the 15th and earlier 16th centuries, muzzle-loading wrought iron guns in heavy wooden baulk carriages were used (photo). These were heavy and inaccurate, with cast bronze guns being substituted from the 1520s onwards. Cast iron was not used until the early 17th century. Coastal batteries often had an odd assortment of often antiquated guns, so earlier designs would have survived much longer there.

Earlier 19th Century smooth bore cannon mounted on later recoiling carriage

18th and 19th century coastal batteries

Location

On cliffs and coastal slopes, often rather higher than before.

History

Improvements in gun design including the use of cast iron, meant that ranges grew longer and accuracy improved. These guns could be mounted higher up, to point down at the sea. For this reason, cliff-top batteries were more common in the 18th and 19th centuries. On the eastern side of Plymouth Sound, the extraordinary 1860s fortifications of Fort Bovisand and Staddon Heights show how armaments had improved, these big guns having ranges of up to three miles.

Construction

Usually massively constructed, with dressed stone blocks in lime mortar, fronting thick earth banks, to absorb impacts if the position came under fire. Some emplacements were partly buried, with brick vaulted roofs under earth.

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Shape

Usually with an angular or curved plan, with two or more gun positions, firing over the top of the parapet, or through an opening.

Metal fittings

Rings for block and tackle for moving guns are common, as are semi-circular iron tracks to swing the guns, set into the granite floor slabs. Occasionally a buried magazine survives, with hinge pintles often of bronze, to prevent sparks.

A system of flag signal stations was set up on the British coastline by the Admiralty in the 1770s. While most of these stations have vanished, two sites at the Warren near Bolt Head, and Signalhouse Point, near Prawle, have partly survived. Both had stone towers, whitewashed to enable ships to use them as navigational aids, and containing a lantern for night signalling. A flagpole nearby would have been used for daytime signals, and a rectangular single storey bunkhouse and office lay alongside.

First & Second World War fortifications

These structures had a wide variety of functions, including coastal and anti-aircraft batteries, and support buildings such as radio and radar stations. Although a few sites made use of earlier stone and earthen structures, the majority were new-build, being the first to use modern construction and electrical communication systems.

Second World War fortifications commonly used mass-cast reinforced concrete, jacketed with earth for protection against bombs and artillery. Although many structures were removed after the War, a significant number survive, such as the three large bunkers just east of Prawle Point, which housed equipment for a radar station. Airfields are rare in the South Devon AONB due to its unsuitable topography, although one, RAF Bolt Head, was located at Soar.

Location

On or close to the coast. Support structures such as command bunkers and those containing electrical equipment were usually located inland, though their masts had to be on high ground.

History

Two arms races between Britain and Germany took place: the first from 1898 to 1919, the second from 1933 to 1945. The first was largely characterised by build-ups of hardware, such as field guns and warships, as it was a war fought on the ground and sea in mainland Europe, Asia and Africa. The Second World War was one of offence and defence, much more characterised in Britain by hardware on the ground for defence against sea and air attack.

Construction

First World War defensive works are difficult to identify, due to their similarity to earlier ones. Second World War works are much easier to spot, due to their construction techniques.

Gun emplacements could be open, in which case the gun pits were disguised by camouflage netting, or closed, with concrete slab roofs covered with earth.Bunkers for use as magazines, command posts or housing electrical equipment were usually buried, either deeply dug in and covered over at ground level, or with earth banks raised over them, such as those at the Prawle Point radar station. Their entrances usually had baffle walls protecting them from blast bombs.

Shape

Most closed bunkers were square or rectangular, with flat tops and sloping grassed sides. Naval gun positions were largely buried on coastal slopes, with flat roofs and angled sides to enable the gun to swing through 180 degrees. They are often scattered in groups with concrete lined tunnels leading to their magazines. Anti-aircraft guns were often in circular concrete pits with earth jackets, in a radiating pattern from a central command post, where range-finding equipment was positioned.

Pillboxes were constructed to guard beaches against infantry attack, and were sometimes camouflaged, such as that above the outflow from Slapton Ley, just south of Torcross, which has a jacket of beach stone to blend it in with its surroundings. (above)

Fittings

Metal fittings have usually been removed, but occasionally include racks in magazines and remains of lifts which carried shells up to the gun emplacements. Electrical fittings sometimes survive in command and support bunkers.

Armaments

While no guns survive in-situ anywhere in Devon, their positions can often be seen by metal fixings and tracks in emplacement floors. Guns of the type used in these batteries can be seen at museums such as Crownhill Fort in Plymouth.

Associated features

Most gun batteries had observation posts remote from the guns, and command bunkers in central locations. These are typically small concrete bunkers, either fully or partly below ground level. Most batteries also had searchlight positions for pinpointing enemy vessels or planes at night.

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Where can I visit coastal fortifications in South Devon?

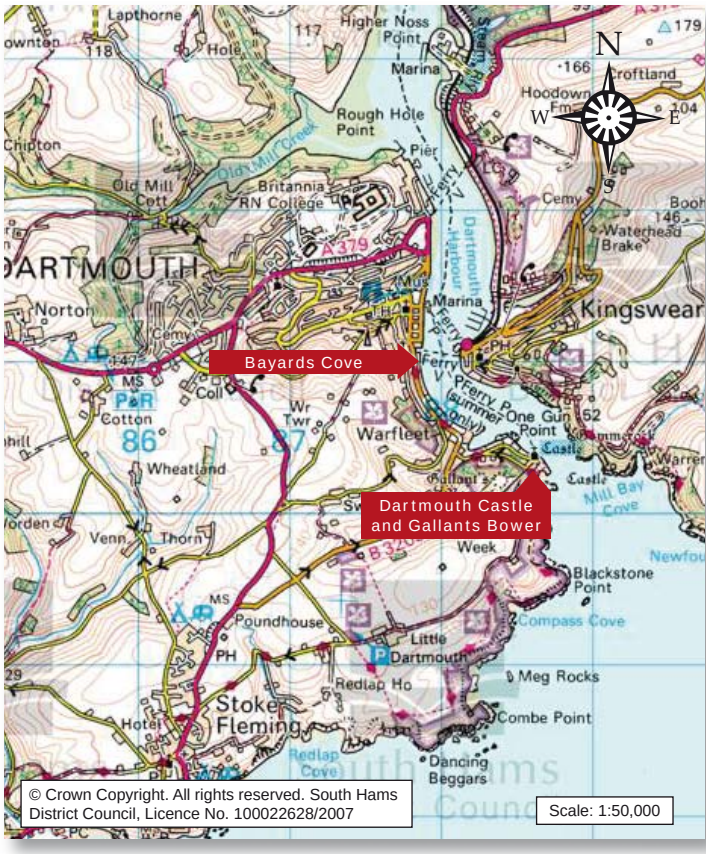
Dartmouth Castles

Grid References SX 887 503 (Dartmouth Castle), SX 879 510 (Bayards Cove), and SX 884 502 (Gallants Bower)

Dartmouth, as one of the ten most important ports in medieval England, was well served with coastal fortifications in the 14th to 16th centuries. No less than four artillery forts protected the harbour mouth in the early 16th century, at Kingswear and Gomerock on the east side, with Dartmouth and Bayards Cove on the west. Kingswear and Gomerock are privately owned, though the latter is occasionally open for guided tours in the Summer months.

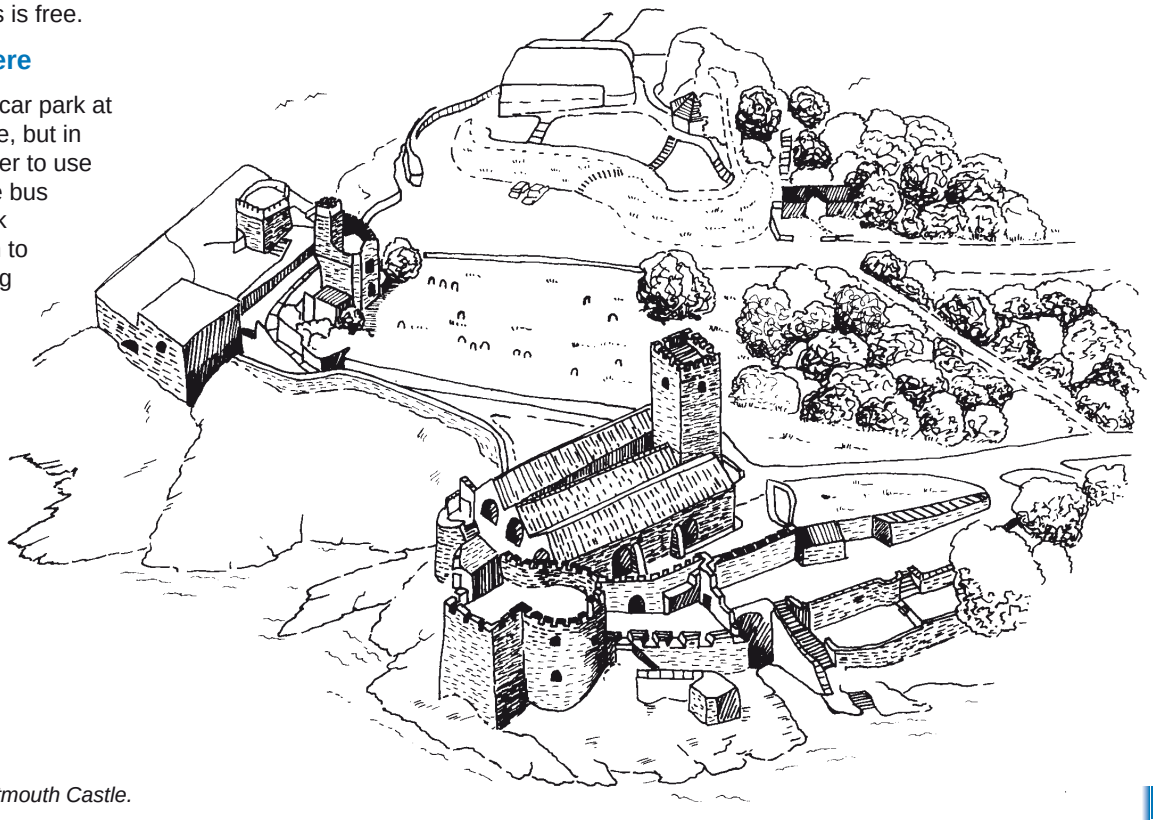
Bayards Cove fort is close to the lower ferry on the Dartmouth side and was constructed about 1500 as a double decked artillery fort. Entrance is free. Dartmouth Castle, built in 1453 with later additions and Hawley's Fortalice of c.1380 which preceded it, are further downstream and are owned by English Heritage, who charge an entrance fee.

A large earthwork fort of the Civil War at **Gallant's Bower** is on the hill above the castle. This was built to defend the town in 1642 and was defended briefly against a Parliamentarian force in 1643. It is owned by the National Trust and access is free.



How to get there

There is a small car park at Dartmouth Castle, but in summer it is better to use the park and ride bus service and walk through the town to the castle, visiting Bayard's Cove Artillery Fort on the way.



Dartmouth Castle.

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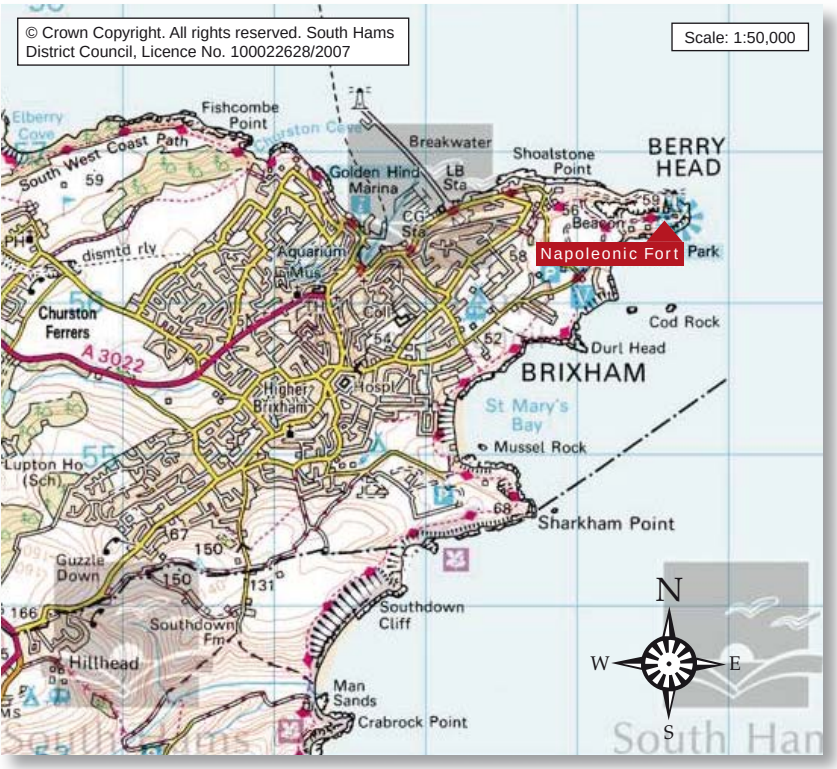
Berry Head: Napoleonic Fort

Grid Reference SX 940 565

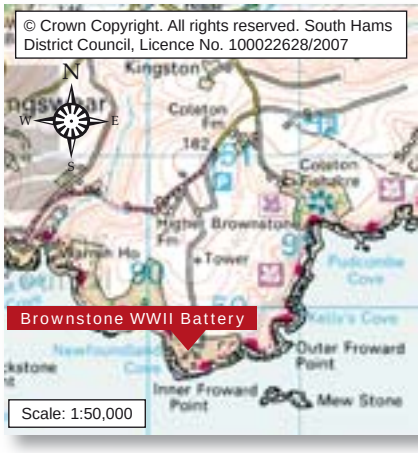
Prominently sited on the massive headland just east of Brixham, Berry Head provided a formidible gun battery defending Tor Bay from French attack during the Napoleonic Wars. The site is open to the public all year round and the fortifications, ditches, guard houses, magazines and stores are well preserved. The site is managed by Torbay Coast and Countryside Trust.

How to get there

The site is signed from Brixham, and lies on the route of the South West Coast Path. There is a pay and display carpark and a cafe at the site.



Froward Point: Brownstone WWII Battery



Grid Reference SX 902 496

One of the best preserved Second World W ar defensive sites in South Devon. This clifftop site guarded the eastern side of the Dart Estuary. The site is open to the public all year round, with the gun emplacements, searchlight batteries, magazines, observation post and other buildings in good condition. The site is owned by the National Trust.

How to get there

Froward Point lies on the South West Coast Path just east of the Dart Estuary. There is a National Trust carpark one km inland.

Where can I find out more?

English Heritage publish a guidebook to Dartmouth Castle, available at the castle for £2.25 or by ordering online at www.english-heritage-books.org.uk

The Historic Defences of Plymouth, by Andrew Pye and Freddy Woodward, published by Cornwall County Council in 1996, (late 15th century to the Second World War, it includes sites in the South Devon AONB.) Freddy Woodward has also written Forts or Follies?, an account of the 1860s defences, published by Halsgrove in 1998.

About this factsheet

This factsheet was produced by Robert Waterhouse, BA, AIFA in March 2005. He is a freelance archaeologist and has lived and worked in South Devon for most of his life.


Froward Point


Gunrow Signal Station


Watch House, Battery