

Additional Information for Hurst Castle

The Garrisons at Hurst *(Garrison – is the troops stationed in a fortress such as Hurst Castle)*

Over four centuries the garrisons at Hurst Castle saw many changes. But they were always isolated, their contacts generally limited to the immediate community and passing ships.

In 1559 the captain and his deputy commanded 22 men: a master gunner; a porter, 11 gunners and 9 soldiers. The master gunner was responsible for maintenance and operation of the iron and brass guns, and training the gunners. He also oversaw training the men with arms, which at that time of changing warfare was in both hand guns and archery, using the 34 bows and 36 chests of arrows then in the castle.

By the 1870s the senior officer had under him, when Hurst was fully garrisoned, 142 officers and men. The master gunner then oversaw the firing of the new 38-ton guns (two of which remain in the west wing) at targets made out of armour plate towed out at sea. A single one of these massive guns required 12 men to work it, whereas the Tudor guns had each needed only four to six. During practice times shipping was banned from the area and the concussions of the guns broke nearby windows.

Firepower

Medieval forts were extensively redesigned for artillery warfare; as the weapons changed, so these forts were repeatedly adapted.

By 1500 heavy guns were reliable weapons firing solid iron or stone shot effectively to about 800yds (730m), and so revolutionizing sea and land warfare, which until then had largely relied on boarding enemy ships and hand –to-hand combat.

During the next 350 years guns grew more powerful – firing heavier shot – but their operation and ranges changed relatively little.

Henry VIII's New Forts

The king's coastal forts were designed for the latest weapons, and to disable or destroy hostile ships and withstand enemy fire.

Guns had slow rates of fire, so forts mounted large numbers, often in tiers, for concentrated fire. Embrasures had broad external splays to allow guns to fire over wide arcs. Gunpowder produced dense smoke – the 'fog of war' – so gun casemates had ventilations shafts.

All-round protection was provided, with small firing loops for hand guns for local defence against landing parties. The squat shape and massive walls were so designed to present less of a target and to withstand bombardment. The great rounded bastions allowed space for operating the guns.

With little development in artillery before the late 1850s, there were only minor changes at Hurst before the wing batteries of 1850. In the 1790s earthwork batteries were built outside the castle for extra firepower (superseded by short-lived replacements in the 1850s; part of the later western battery survives), and vaults to support heavier guns were added to the keep in 1803 and the bastions and curtain walls in the early 1850s.

The Enemy at Sea

Even after warships were armed with heavy guns in about 1500, sea battles until the mid 1800s were fought at close range, frequently hand-to-hand on the deck of the enemy.

The heavy ordnance of the 1530s that so influenced the design of land defences had a major impact too on sea warfare. Guns used on ships since the 1330s until then were ineffective. Combatants tried to capture opponents' vessels by grappling alongside and boarding the enemy ship.

Arrival of the Warship

Development of the northern European sailing warship began in the late 15th century. Ships began to be armed with heavy guns, mounted close to the waterline, to avoid endangering a ship's stability, at gun ports cut in the sides of the ships. It was the birth of the specialized warship, distinct from earlier ships used for war or trade; in England it led to the creation in the 1490s of a permanent Royal Navy.

By the time building of the Mary Rose began in 1510, most heavy guns were mounted in tiers below the main deck, firing through gun ports along the sides of the hulls.

The new warship evolved slowly. Seamen from the Mary Rose would have felt at home on Lord Nelson's flagship HMS Victory nearly 300 years later: although by then much larger, the warships of Trafalgar, and until the late 1850s, were made of wood, with broadside guns and sails, as in Tudor times.

Steam and Iron

From the mid-1850s the new shell-firing guns, both more accurate and more powerful, made the wooden sailing ships of the day highly vulnerable. In response the French launched *La Gloire* in 1859, a wooden steam-assisted warship clad in iron armour. The Admiralty followed a year later with HMS *Warrior*, equipped with shell guns. It was the world's first all-metal armoured warship.

By the 1870s sailing ships were vanishing from battle fleets. Navies were equipped with steam-driven vessels with, increasingly, the main guns mounted in turrets, forerunners of the big-gun battleships of the first half of the 20th century.

The massive guns in the wing batteries at Hurst were installed to counter these new warships. But strong currents, gravel banks, the concentration of defences, and the Royal Navy at Portsmouth made the Needles Passage a hazardous and increasingly unlikely route for a hostile fleet. By the 1880s the French especially were developing small warships armed with quick-firing guns and torpedoes. Small and fast (capable of 22 knots), these ships were exceptionally difficult targets for the existing armament. From then on it was the danger of raids on Southampton and Solent shipping that was seen as the principal threat at Hurst.