



WARTIME DEFENCES

The story of wartime defences in Scotland in recent centuries begins with Martello towers. These are great circular towers, solidly built of stone, which were sited at strategic points around the coasts of Britain and Ireland in the early 19th century, mostly in response to the threat of a Napoleonic invasion from France. They were elaborate fortified gun emplacements, with a gun set on a swivelling base at the top of the tower, and accommodation for gunners as well as an ammunition magazine, below. The towers provided cover for ground-level batteries alongside them. One was built in 1809 to defend Edinburgh's port at Leith against the threat of French invasion, and two in 1815 at Longhope in Orkney to defend a valuable naval anchorage during the war that had broken out in 1812 between Britain and the United States of America. All three Scottish Martello towers survive today, for they were re-used in later emergencies, especially in the 1860s when there were several scares of invasion or war and the coast was refortified.



These two guns are part of the remains of a coastal battery on the remote hilltop at Swarbacks Head, Vementry, in Shetland. The site consists of two guns, ammunition magazines and an observation tower – typical features of coastal defence in Scotland.

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A twin searchlight emplacement from the First World War straddles the rocks beside the entrance to the Cromarty Firth. © Crown Copyright: RCAHMS

Scotland's landscape was transformed during the 20th century by a great variety of structures designed for defence against invasion and attack during the two World Wars of 1914-18 and 1939-45. On both occasions, Scotland's defences were part of the wider picture of UK defensive measures, and they were concentrated along the east coast to Shetland in the north and in strategic places along the west coast.

During the First World War, the Firths of Forth and Clyde became two of the most heavily defended estuaries in Britain. The naval base at Rosyth, the Forth Rail Bridge and the city of Edinburgh, and the industries and shipyards of Glasgow and the Clyde were prime targets for the enemy. Coastal gun batteries and searchlights along both shores and others set on islands ensured that gunfire could sweep across the whole width of the estuaries. The sea approaches were defended by booms, mines and antisubmarine nets. Scapa Flow in Orkney was one of the country's main anchorages and was similarly defended, as was the Cromarty Firth. The Forth, Clyde and Scapa Flow were again vital to the defence of Britain



Extensive remains survive at Crail in Fife of a naval airfield used in both World Wars. The control tower and bases of hangars are visible in the foreground and the living accommodation is in the distance.

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in the Second World War, and many of the gun batteries were refurbished alongside new measures.

Military adoption of the aeroplane made anti-aircraft defences necessary, though few survive from World War I. During World War II, anti-aircraft guns and searchlights were mounted at strategic points, and barrage balloons were used to force enemy aircraft to fly higher to lessen the effectiveness of any airborne attack (all that survives of the latter are the concrete blocks with iron rings to which they were tethered). At first these batteries consisted of earthwork gun pits and tented accommodation, but these were soon replaced by concrete gun and searchlight emplacements, observation posts and underground bunkers, many of which still survive. Concrete platforms are often the only trace of barrack huts. These were often prefabricated Nissen huts, semicircular in section and made of corrugated iron sheeting (they were named after the Canadian who invented them in 1915). Protective earthworks were still used, including trenches to allow access between

the guns and the magazine where ammunition was stored. Sometimes there are remains of the tracks of light railways on which heavy equipment was transported from one part of the site to another.

Remains of airfields are common, and these are often converted to civilian use or simply allowed to become overgrown. The paved runways are the most obvious features, along with the control tower and the concrete bases of Nissen huts and aircraft hangars. Decoy airfields with dummy aircraft and night decoys of mock fires were built to draw the attackers away from genuine targets, but little survives of these other than the control shelters. Ingenious use was made of camouflage to confuse the enemy, especially disguising military structures such as ordnance factories as ordinary domestic buildings.

Anti-invasion defences dating from World War II are numerous along many parts of the coastline of Scotland, and along the inland stop lines. Long systems of defence



An air-raid shelter and signal station, visible in the background, at Stanger Head, Orkney. These are some of the remains of a Naval Signal Station on the island of Flotta in the Scapa Flow.

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Anti-tank concrete blocks were set in single or multiple rows to obstruct the progress of enemy tanks. The most common were cubes, but square pyramids with flat tops (known as dragons' teeth) were often used. Today, small groups of such blocks represent all that remains of the original long defence lines. © Crown Copyright: Historic Scotland; RCAHMS

were created against invasion by enemy tanks. Ditch systems were dug, but these have usually been filled in. Thousands of concrete blocks were set in lines over miles of sandy beaches and farther inland, incorporating minefields and a great variety of pillboxes.

Pillboxes were first used during World War I but they were built in huge numbers during World War II, mostly as part of coastal defence systems, to defend airfields or strategic



This brick -built pillbox was one of a series guarding the perimeter of an airfield from threat of invasion from the sea. © Crown Copyright: RCAHMS











communication points such as bridges. They are usually made of concrete or brick and are squat and flat-roofed, and they have splayed horizontal slits through which guns could be fired. Many different types were built: hexagonal, square, rectangular or circular in plan. All had thick walls and were relatively easy to camouflage. Cities and industrial areas were vulnerable to attack, and defensive rings of gun batteries were created around Glasgow and Edinburgh.



Facing out to sea at Arnish Point stand the remains of a wartime emergency coastal battery dating to the Second World War. © Crown Copyright: Historic Scotland

Many of the defensive structures built during the Second World War were erected quickly on a massive scale and were not intended to last longer than the war itself, and consequently they soon began to deteriorate. Others were deliberately demolished for safety, because they were considered to be eyesores, or because they were an unwanted reminder of war. Some sites were in such remote coastal locations that they were simply abandoned, occasionally complete with their guns, and can still be seen today. There are health and safety issues in visiting these sites. Poor materials and hasty construction, combined with the devastating forces of coastal erosion, make these fascinating remains of wartime history a major conservation problem.

TIME-LINE

End of the last Ice Age Wildlife colonises land Mesolithic hunting settlers		12,500	
		8500	Flint scatters Shell mounds, rock shelters
Neolithic farming settlers		4000	Chambered tombs and houses Cupmarked rocks
		3000	Stone circles, henges, and standing stones
Metal technology (gold, copper)		2000	Burial mounds and short cists Hut-circles
Climate deteriorating Fortifications begin		1000	Burnt mounds Hillforts
Iron-working technology		500	Crannogs
		200	Duns, brochs, wheelhouses, and earth-houses
		BC ▲	
		▼ AD	
Roman army in Scotland		79	
Waning of Roman influence		200	Roman camps, forts and roads, Antonine Wall
		400	
Introduction of Christianity Picts, Gaels, Britons and Anglians		600	Long cist graves
Start of the Viking Age		800	Early Christian and Pictish carved stones, chapels
Emergence of Scottish nation		1000	Pagan Viking graves and settlements
		1100	
First burghs		1200	Stone-built churches
		1500	Mottes, abbeys, stone-built castles
Reformation of the Church		1600	Tower-houses
Agricultural improvements & Industrial Revolution		1800	Deserted villages and farms
		1900	Coal mines and heavy industries
Two World Wars		2000	Gun batteries and airfields

FRONT COVER PHOTOGRAPH:

The gaunt shell of a Second World War airfield control tower looms above the remains of a Nissen hut.

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Historic Scotland is the agency within the Scottish Government responsible for administering the legislation that protects ancient monuments (buildings, ruins, archaeological sites and landscapes). It provides general advice on the preservation and protection of Scotland's heritage.

Historic Scotland's Education Service encourages the use of built heritage as a learning and teaching resource.

Over 300 historic properties looked after by Historic Scotland are open to the public for enjoyment and education. For further information, including free leaflets, telephone 0131 668 8600.

Our data service website contains details of scheduled monuments and has GIS datasets available to download:
<http://data.historic-scotland.gov.uk>

The following leaflets are available from Historic Scotland:

Scheduled ancient monuments: a guide for owners, occupiers and land managers

Managing Scotland's archaeological heritage

Grants for Ancient Monuments: a guide to grants available for the preservation, maintenance and management of ancient monuments

Archaeological information and advice: a guide to organisations involved in archaeology in Scotland

Archaeology on farm and croft (produced jointly with Archaeology Scotland)

Scotland's listed buildings: a guide for owners and occupiers

The carved stones of Scotland: a guide to helping in their protection

Metal detecting - yes or no? Metal detecting, scheduled ancient monuments and the law

A leaflet on *Treasure Trove in Scotland* is available from the National Museums of Scotland, Edinburgh

A number of *Historic Scotland Technical Advice Notes*, on topics such as the use of lime mortars, the conservation of thatching and stonecleaning, are available. Catalogue from and orders to:

Historic Scotland Conservation Group
Tel: 0131 668 8638
e-mail: has.cgpublications@scotland.gsi.gov.uk

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