CHAPTER 8

South Beach, Blyth to Low Newton-by-the-Sea (Block 2 NMP)

8.1 Introduction

The area covered in this block extends from South Beach, Blyth to Low Newton-by-the-Sea. It falls within a single major topographical unit, the Northumberland coastal plain. Accordingly, this survey of the heritage assets has been undertaken with reference to the Historic Environment Records (HERs) maintained by Northumberland County Council. This existing data set has been enhanced by the transcription of aerial photographs held by the National Monuments Record and carried out to the standards of the National Mapping Programme (NMP). This work is referred to as the Air Photograph Transcription Exercise (APTE).

The coastline from Cresswell to Low Newton-by-the-Sea has been designated as a 'Heritage Coast' while the section north from Amble lies within the Northumberland Coast Area of Outstanding Natural Beauty (AONB). In addition, with the exception of 1.9km adjoining the site of Lynemouth Colliery, the whole of the foreshore zone has been designated as an SSSI. Coquet Island, lying 2km off Amble Harbour, is also an SSSI and a RSPB Reserve.

The National Trust manages sections of coastal sand dunes at Druridge Links and east of Warkworth and the whole coastline north of Craster to the northern limit of Block 2 and beyond.

8.1.1 Soils and landuse

The solid geology of this section of the coast is described in Chapter 3 though throughout most of the coastal zone this solid geology is mantled by varying thicknesses of glacial drift and other superficial deposits of Pleistocene and Holocene age. It is these superficial deposits that give rise to the principal soil types found along this section of the coast.

Table 8.1 Soil and landuse in Block 2

Deep loam	Stock rearing and dairying with some cereals
Seasonally wet deep loam to clay	Grassland in moist lowlands with some arable in drier areas
Seasonally wet deep loam	Winter cereals, stock and dairying
Seasonally wet deep clay	Winter cereals, sugar beet, potatoes and field vegetables
Stony loam over hard rock	Rough grazing
Loam over sandstone	Coquet Island
Dune sand	Recreation and some coniferous woodland

The patterns of landuse that characterise these soil types are an important consideration in evaluating the survival of heritage assets and the degree of threat arising from normal farming practices. Clearly, ploughing for arable cultivation will have had a major bearing on the survival of and the extent to which, once levelled, sites can be identified on aerial photographs. Plough damage to archaeological sites is not a recent phenomenon but before the Medieval Period the scale and intensity of ploughing cannot be considered significant. However, the development of ridge-and-furrow cultivation in the open fields of the Medieval and post-Medieval Periods was on a sufficient scale to pose a serious threat to the existing features. Although fronted by a natural zone of sand dunes, an 8km section of this coast at Druridge Bay has been restored after opencast mining and few heritage assets can be expected in this area other than those in the dunes or on the beach itself.

8.1.2 Coastal erosion

This section of the coast is predominantly low lying, consisting of broad sandy beaches backed by dune systems or low cliff lines (<10m OD) mainly formed in the boulder clay, the underlying bedrock being only exposed at beach level and on the wave cut platforms between MHWS and LAT. Somewhat higher ground reaches the coastal zone at Alnmouth where the town sits on a prominent ridge of Triassic Mudstones at about 30m OD which also gives rise to the low cliffs at Longhoughton and Howick. Between Craster and Dunstanburgh Castle the underlying Whin Sill has produced a series of intermittent ridges and cliffs rising to between 20m and 30m OD while the more familiar situation of a broad sandy beach backed by dunes continues to the north. However, in this northern sector the low lying coastal strip is narrower than farther south and the ground rises to up to 40m OD on the western margin of the study area.

Coquet Island lies about 2km to the east of Amble Harbour. It measures 0.35km N-S and 0.15km E-W but is over twice this extent at LAT. It slopes gently W-E from 10m OD to 2m OD. The geology of the island is Coal Measures sandstones capped by boulder clay on which has formed a loam soil.



Figure 8.1 The site of St Waleric's Church, Alnmouth (author)

Much of this coastline is low lying and under threat of even a modest rise in sea level while erosion is well attested historically. On Christmas Day 1806 a violent storm caused the River Aln to alter its course at Alnmouth, breaking through the southern end of the ridge on which the town sat and cutting off access to St Waleric's Church, while a similar change in the course of the River Coquet had happened at Amble in the 1760s (Linsley 2005, 122-123).

At Druridge Bay, identified as the most vulnerable part of this section of the coast, anti-invasion features of WWII originally set within the dunes now lie on the beach while monitoring posts at Hadston Carrs (NU 20 SE) have recorded an erosion rate of 11m in five years. In 1990 the sea breached the dunes at Hemscott Hill and land behind the dunes at Blakemoor Farm is being inundated at high tide, though in both these cases the situation had been exacerbated by the commercial quarrying of dune sand (SCAN 1993, 21-23).

The section of the coast north of the Tyne falls within Cell 1a of the Shoreline Management Plan (SMP). At the time of writing the SMP2 for this zone is currently being produced and the NERCZA data have to be assessed against the less detailed SMP1 criteria, produced by Posford Duvivier in 1997. This section of the coast lies within SMP1 Policy Units 20 to 41 and for each of these units the SMP1 document offers a 'Preferred Strategic Option' which is the equivalent of the 'Policy Recommendations' of SMP2. These are given as 'Do Nothing' (DN), 'Hold the line' (HTL) or 'Selectively hold the line' (SHTL), and are listed in Table 8.2.

Table 8.2 SMP1 proposed responses to predicted coastal change in Block 2

Location	SMP Unit	Policy
Newton Point - Dunstanburgh	20	DN
Dunstanburgh – Little Carr	21	DN
Craster	22	DN
Craster – Cullernose Point	23	DN
Cullernose Point – Rumbling Kern	24	DN
Rumbling Kern – Boulmer Steel	25	DN
Boulmer Steel – Fluke Hole	26	DN
Fluke Hole - Alnmouth	27	DN
Alnmouth	28	SHTL
Alnmouth – Amble N.Pier	29	DN
Amble	30	SHTL
Amble – Hauxley Haven	31	DN
Hauxley Haven - Cresswell	32	DN
Cresswell - Lynemouth	33	DN
Lyne Sands	34	SHTL
Lyne Sands – Newbiggin Point	35	DN
Newbiggin Point – Spittal Point	36	SHTL
Spittal Point – Sandy Bay	37	SHTL
Wansbeck Mouth	38	DN
Wansbeck Mouth –N.Blyth	39	SHTL
North Blyth	40	HTL
Blyth	41	HTL

Reference is also made to A Strategy for Coastal Archaeology in Northumberland (SCAN),

published by Northumberland County Council and English Heritage in 1993. This document focuses on two principal issues, the damage and destruction of archaeological sites through coastal erosion and the exposure of remains through dune movement, which ultimately also leads to their damage and destruction. Field work carried out by the Glasgow University Archaeology Research Division examined 112km (70 miles) of coastline and assessed the potential threat to archaeological remains in the twenty-six 1:10,000 OS Map sheets in which the coastline falls. Thirteen of these maps sheets cover the section of coast examined in this chapter. For each sheet *SCAN* provides an assessment of the archaeological potential and the level of risk from erosion. These data are summarised in the following table.

Table 8.3 Archaeological potential and risk from erosion in Block 2

1:10,000 OS Map sheet	Potential	Erosion
NU 22 NW	High	High
NU 22 SW	Low	Low
NU 22 SE	High	Medium
NU 21 NE	Medium	Low
NU 21 SE	Medium	Low
NU 21 SW	Medium	High
NU 20 NW	Low	High
NU 20 NE	Low	Low
NU 20 SE	High	High
NZ 29 NE	Medium	High
NZ 29 SE	High	High
NZ 38 NW	High	High
NZ 38 SW	Low	Low

(source: A Strategy for Coastal Archaeology in Northumberland, 1993)

The SCAN document draws particular attention to the threats posed at Druridge Bay (NZ 20 SE, NZ 29 NE and NZ 29 SE). The foreshore north of Cresswell is known for the exposure of intertidal peats and faunal remains. Erosion of the dunes at the head of the beach has led to the further exposure of these peat beds and ancient forest remains, while at Low Hauxley, at the north end of the bay, similar deposits are being exposed along with important Mesolithic and Bronze Age sites. Due to the importance of the situation at Low Hauxley, the SCAN report was followed up in 1995 by an Archaeological Evaluation carried out on behalf of English Heritage by the Lancaster University Archaeological Unit (LUAU). It is noticeable that the sites exposed by the erosion of the dunes span the period of time from the Mesolithic through to the Bronze Age but do not include later material, other than remains actually sited within the dunes. In fact, the two cairns examined were separated by a thin lens of blown sand suggesting that their construction was coeval with the beginning of dune formation. Human skeletal material from the cairns has been dated to the period between 2140-1890 cal BC in the case of Cairn 1 and between 1880-1640 cal BC in

the case of Cairn 2. The implication of this is that the dunes either began to form or reached their present position during the early 2^{nd} millennium cal BC. The importance of this situation cannot be overstressed. For a zone of about 8km the dunes at the head of Druridge Bay seal a land surface that was the focus of human activity from the 6^{th} to early 2^{nd} millennium cal BC and the potential for making significant discoveries is considerable but one seriously threatened by coastal erosion.



Figure 8.2 Peat and fallen tree trunk overlying boulder clay at Low Hauxley (author)

8.2 Terrestrial Landscapes

8.2.1 Early Prehistory

Although Block 2 lay within the realm of Palaeolithic settlement, at least during the Late Upper Palaeolithic Period, no finds of this date have been recorded in the coastal zone. The earliest evidence for a human presence belongs to the Mesolithic Period.

8.2.2 The Mesolithic Period

The HER has seven records of *flint scatter sites* on this section of the coast, three of which have also been the scene of excavations. The most southerly records consist of the Mesolithic flint scatter sites at Newbiggin-by-the-Sea. These sites were first identified by Raistrick (1933a and 1933b) in the 1930s but the precise locations were not recorded.

However, Davis (1983) undertook fieldwork in this area in the 1970s and 1980s and his gazetteer does provide six-figure NGRs. He records the Newbiggin Point site (NH 12048) as lying at NZ321881. Wymer (1977, 221) records that these finds were collected at the interface between the boulder clay and blown sand. A second cluster of finds was recovered from the vicinity of Element Head and Sandle Holes (NH 12049) which Davis records as lying at NZ320890. According to Wymer over 300 flints were recovered from this area.

About 2km north of the cluster of flint scatter sites at Newbiggin-by-the-Sea lies the site of Lyne Hill (NZ308903, NH 12180). This important site was excavated by Raistrick (133b). In the space of two days over 3000 flints, including 320 microliths, were recovered from two concentrations each about 14m across and 90m apart. They are reported as having been found at the interface between the boulder clay and overlying blown sand. Lyne Hill is now the site of a local authority rubbish dump.

At the north end of Druridge Bay lies the Mesolithic site of Low Hauxley (NU28390181, NH 5604), discovered in 1983 during the rescue excavation of two Bronze Age cairns which were eroding out of the sand dunes (Bonsall 1984). The cairns were found to have been erected on a Mesolithic flint scatter site. Marine shells were also recovered from this deposit and it was at first interpreted as a midden, though this interpretation has not been supported by subsequent work at the site. The proximity of the shore was, nevertheless, probably the *raison d'etre* for the occupation of the site and it is dealt with below in the consideration of coastal/maritime landscapes.

The remaining two Mesolithic sites on this section of the coast both lie at Howick; the Howick Burn flint scatter site (NU255165, NH 5674) and the Howick Burn occupation site (NU25851660, NH 5690). Mesolithic artefacts were originally noted eroding out of the cliff face in the 1980s and this led in 2000 to a fieldwalking exercise in which seven fields were searched and 244 artefacts recovered. Most diagnostic pieces were of narrow blade Late Mesolithic type. As with most other flint scatter sites noted on the coast, the focus of attention appears to have been acquisition and processing of raw material, which has not been treated here as a specifically coastal/maritime activity. This work led to the identification of the Howick Burn occupation site. As at Low Hauxley, the proximity of the shore was probably the *raison d'etre* for the occupation of the site and it will also be dealt with below in the consideration of coastal/maritime landscapes.

The Howick Burn and Low Hauxley sites lie in SMP1 Units 25 and 32 respectively for which the Preferred Strategic Option' is 'Do Nothing'. This clearly has major implications for the survival of any further archaeological remains in the vicinity and the situation will need to be reviewed once the SMP2 data are available.

NGR	Name	HER	SMP	Importance	Risk
NZ321881	Newbiggin Point	NH 12048	35	Medium	High
NZ320890	Element Head & Sandle	NH 12049	35	Medium	High
	Holes				_
NZ308903	Lyne Hill	NH 12180	34	High	High
NU28390181	Low Hauxley	NH 5604	32	High	High
NU255165	Howick Burn flint scatter site	NH 5674	25	High	High
NU25851660	Howick Burn occupation site	NH 5690	25	High	High

Table 8.4 Flint scatter sites identified in Block 2

8.2.3 The Neolithic Period and the Bronze Age

Apart from a few small, poorly recorded flint scatters the HER has no records of Neolithic activity on this section of the coast while apart from isolated finds of stone tools and items

of metalwork the Bronze Age is represented by **round barrows** or **cairns** and stone **cists**, which may or may not have been originally covered by a mound.

Site NH 12045 is a cist with cover found at Spital Point (NZ31018687), originally wrongly identify as from Newbiggin.

An important series of Bronze Age finds were made in Amble Quarry during quarrying operations in the late C19 (NU27640429, NH 5594). The main find consisted of a cairn, situated about 65m from the beach and buried by 1m of blown sand. The cairn was about 12m in diameter and 1.5m high. It contained about 20 cists, several deposits of burnt bone and a number of pottery vessels. The primary interment was in a cist orientated SW-NE about 1.1m by 0.62m and 0.6m deep formed of four slabs and a coverstone. The body was unburnt and accompanied by a small bronze knife, a flint flake and a Food Vessel. A second cist was found about 55m away in 1893. This measured 1.4m by 0.75m. It contained bone fragments, a flint flake and two pottery vessels. The finds made at Amble were dispersed, some going to the British Museum, some to the Museum of Antiquities at Newcastle while some remained in private hands. The full total cannot now be established but the original assemblage included both Beakers and Food Vessels.

About 700m to the north of Amble Quarry is the site of another cist burial, found in 1857 (NU27300486, NH 5590). The cist is described as measuring 1m by 0.6m. It contained a crouched burial accompanied by a Beaker. The NGR given is very close to MHWS.

The sites at Amble lie about 2.5km to 3km north of the Bronze Age cairns and cists exposed by erosion of the dunes at Low Hauxley in 1983. Rescue excavations conducted at the time documented two cairns built on the crest of a low, boulder clay ridge (Bonsall 1984). Both contained flexed inhumations and one also had a cremation. Human skeletal remains from the two cairns were submitted for radiocarbon dating. The date range for Cairn 1 has been reported as 2040-1940 cal BC and for Cairn 2 as 1870-1690 (LUAU 1995, Appendix 3, 1). The cairns were separated by a thin lens of blown sand indicating that the inception of dune formation at the site can be dated to the early 2nd millennium cal BC. The cairns were exposed by erosion of the dunes and it has to be assumed that at the time of their construction the ridge on which they were built extended further to the SE. Consideration of SLI and RSL data in Chapter 3 indicates that at the time Cairn 2 was built sea level was about 0.79m lower than today. Inspection of the bathymetric data offshore at Low Hauxley suggests that the shoreline lay about 50m further to the SE and this can be taken as a rough, proxy, indicator of the further extent of the boulder clay ridge in the early 2nd millennium.

Erosion of this site continued and in 1993 two cists were excavated. One contained a cremation and a Beaker while the other held a crouched inhumation and a Beaker. A further, unaccompanied cremation lay above the first cist and another cist emerged from the dunes in 1995. This cist was empty.

The HER includes a record that in 1836 several cists and a Food Vessel were found at Low Stead Farm (NU25781615, NH 5670). One of these cists had an example of rock-art on the underside of the capstone. No further details of this site are recorded but it lies about 500m to the south of the cist cemetery excavated at Howick. During the excavation of the Mesolithic site at Howick (see below) five Bronze Age cists were also exposed. Four of the

five cists are considered to have been for infants, No. 2 containing fragments of a child's skull. Cist No.5 was adult size but no bone survived in the acidic soil. Fragments of a Food Vessel were associated with one of the other cists (Waddington *et al* 2005).



Figure 8.3 Bronze Age cist at Howick Burn (ARS)

The Howick Burn and Low Hauxley sitse lie in SMP1 Units 25 and 32 respectively for which the 'Preferred Strategic Option' is 'Do Nothing'. This clearly has major implications for the survival of any further archaeological remains in the vicinity and the situation will need to be reviewed once the SMP2 data are available.

A watching brief undertaken at the Low Newton-by-the-Sea coastguard station (NU24042488, NH 5831 and 14327) during drainage works in 1992 reportedly identified human bones and this has led to the suggestion that the site may include the remains of a small cairn. There is possibly a second, undisturbed cairn on Low Newton Point (NU24402500, NH 14767).

A hitherto unrecorded round barrow was identified during a recent field survey in the vicinity of Dunstaburgh Castle. The site lies on the summit of Scrog Hill at 25m OD (NU25352150). It stands only about 0.4m high but displays several kerb stones. It has not been further investigated and has been denuded by ploughing (Oswald *et al* 2006, 34).

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Table 6.5	DIOIIZE I	age sues	identified	l in Block 2

NGR	Name	HER	SMP	Importance	Risk
NZ31018687	Spital Point cist	NH 12045	n/a	n/a	n/a
NU27640429	Amble Quarry cairn & cists	NH 5594	31	High	High
NU27300486	Amble cist	NH 5590	n/a	n/a	n/a
NU28390181	Low Hauxley cairn 1	NH 5604	32	High	High

NU28390181	Low Hauxley cairn 2	NH 5604	32	High	High
NU28390181	Low Hauxley cist 1, 1993	NH 5604	32	High	High
NU28390181	Low Hauxley cist 2, 1993	NH 5604	32	High	High
NU28390181	Low Hauxley cist 1995	NH 5604	32	High	High
NU25781615	Low Stead Farm cists	NH 5670	n/a	n/a	n/a
NU25851660	Howick Burn cists	NH 5690	25	High	High
NU24042488	Low Newton-by-the-Sea	NH 5831 &	20	Medium	High
		14327			
NU24402500	Low Newton Point	NH 14767	20	Medium	High
NU25352150	Scrog Hill, Dunstanburgh	Not recorded	21	Medium	Low

The sites at Newbiggin, Low Hauxley, Amble, Low Stead Farm, Howick, Low Newton and at Howick Heugh (Jobey and Newman 1975) 2.5km from the coast, appear to be part of a pattern in which Bronze Age cemeteries occur in prominent positions close to the coast.

8.2.4 The Iron Age and Roman-British Period

The terrestrial landscapes of the Iron Age and Romano-British Periods are represented in Block 2 by what appear to be the remains of settlement sites in the form of two *hill forts*, a *promontory fort* and seven *farmstead enclosures*.

The Howick Burn hill fort (NU25571630, NH 5669) lies at 25m OD at the southern end of a wide spur overlooking the Howick Burn and about 300m inland from the foreshore. It is roughly circular in shape and 54m in diameter within a single rampart of earth and stone 8m wide and 1.2m high. There was ditch on the north side whereas the south side was mainly protected by the natural steepness of the slope. The main entrance to the enclosure is on the east side. Fragments of swords and coins are reported to have been found in the early C19, but their present whereabouts is unknown. This site is a Scheduled Ancient Monument.

The second hill fort lies at 40m OD on the top of Craster Heugh (NU25531953, NH 5667), a prominent ridge of Whin Sill. The settlement, roughly triangular in shape, measures 100m by 70m. It is enclosed by three ramparts and a ditch on the east side but only by a slight bank on the west side where the Heugh offers strong natural defence. The ramparts are built of stone and the innermost stands up to 1.8m high though the outer ramparts are lower, having been damaged by ploughing. The entrance is located on the SE side. This site is a Scheduled Ancient Monument.

The Whin Sill promontory at Dunstanburgh is rightly famous for its magnificent C14 castle (see below) but for more than a century consideration has been given to the possibility that this might not be the first activity at the site. Place-name specialists have wondered whether the -burgh suffix of the name might imply an Anglo-Saxon settlement while the recovery of Iron Age finds including part of a sword (NH 20741), the remains of five pottery vessels and parts of ten beehive and rotary querns led Jobey (1972) to conclude that there had been a prehistoric settlement on the promontory while some recently identified Romano-British finds (Oswald et al 2005, 15) imply continued occupation into the C2.

Considerable weight was given to this suggestion by the identification during the recent survey at the site of what appears to be an earthwork bank and ditch, pre-dating the castle, and blocking off access to the promontory from the south (Oswald *et al* 2005, 29-33); the

west, north and east sides being protected by steep slopes or cliffs. The situation at Dunstanburgh therefore appears to provide a parallel for that already noted at Tynemouth (Chapter 7) where Iron Age occupation was identified by excavation and a barrier across the promontory surmised.

As was also the case at Tynemouth, the presence of a promontory fort at Dunstanburgh does not necessarily imply a specifically coastal/maritime focus. Rather, use was simply being made of an easily defended site which happened to be on the coast.

Of the farmstead enclosures the most southerly was the curvilinear enclosure at Cambois (NZ29988337, NH 11782). It was situated at 5m OD and lay about 850 from MHWS. It was destroyed during the construction of Blyth Power Station. The rectilinear enclosure at Hauxley (NU28050255, NH 5628) has been destroyed by opencast mining. It is recorded as being approximately 50m square. It was situated at 7m OD and was about 500m from MHWS. The site at The Butts, Warkworth (NU25200630, NH 5550) is described as a univallate, curvilinear enclosure. It lies at 600m from MHWS and at an altitude of 19m OD. The sub-rectangular enclosure north of Low Stead (NU252160, NH 5676) lies at 28m OD and about 750m inland from the mouth of the Howick Burn. The ATPE has identified three sides of this enclosure defining an area about 58m square with a small, irregular annexe attached to the SW corner. The enclosure at Cushat Wood (NU257170, NH 5671) lies 1.2km to the north at an altitude of 20m and about 450m from the cliff edge. It was first identified from aerial photographs in 1977 and 1978 and was the subject of an evaluation in 1999. This site is roughly square in shape and consists of three enclosing ditches, which are not necessarily contemporary. They define an area about 130m square. There are traces of an entrance on the east side and indications of at least three round huts inside.

A further small enclosure which may belong to this group was identified during a recent field survey in the vicinity of Dunstanburgh Castle. The site lies at the bottom of a minor defile which gives access to Cushat Rock (NU25552155). It is oblong in plan and measures about 40m by 20m and inside is a possible hut platform (Oswald *et* al 2005, 34). A new discovery from the APTE are the crop marks of a diamond-shaped enclosure about 800m SW of Dunstanburgh Castle, enclosing an area about 50m by 50m (NU24942162, NMR 1470852).

Table 8.6 Iron Age/Romano-British sites identified in Block 2

NGR	Name	HER	SMP	Importance	Risk
NU25571630	Howick Burn hillfort	NH 5669	25	High	Low
NU25531953	Craster Heugh hillfort	NH 5667	23	High	Low
NU257218	Dunstanburgh promontory	NH 20741	21	High	Low
	fort				
NZ29988337	Cambois farmstead	NH 11782	n/a	n/a	n/a
NU28050255	Hauxley farmstead	NH 5628	n/a	n/a	n/a
NU25200630	The Butts farmstead	NH 5550	29	Medium	Low
NU252160	Low Stead farmstead	NH 5676	25	Medium	Low
NU257170	Cushat Wood farmstead	NH 5671	24	Medium	Low
NU25552155	Cushat Rock farmstead	Not recorded	21	Medium	Low
NU24942162	Dunstanburgh farmstead	NMR 1470852	21	Medium	Low

8.2.5 The Roman Period

Other than occasional finds of coins and pot sherds, the HER does not have any records of Roman activity on this section of the coast.

8.2.6 The Early Medieval Period.

Probably the most important Early Medieval find on this section of the coast are the remains of the C10 cross shaft from Alnmouth, found in 1789 near the ruins of St Waleric's Church (NH 5705). Two, conjoined, fragments survive and measure 0.9m by 0.4m and 0.15m when joined together. The faces carry both inscriptions and figurative motifs. The inscriptions employ Anglo-Saxon capitals and runes. Face A bears a crucifixion scene while Face B has panels of interlace and a key pattern divided by an inscription transcribed as [A]DV / LFESD with a further inscription above transcribed as [S]AV. Face C has two interlace panels and an inscription transcribed as M[Y]REDaH.MEH.wO[] ('Myredah made me'), while Face D has a key pattern (Cramp 1984, 161-162; Plate 156 & 157). A fragment of an Anglo-Saxon cross has been recovered from the river bed at Warkworth (NH 5443).

Almost as important is a group of Viking period burials found under a barrow and variously attributed to Bedlington and Cambois (possibly NU301839, NH 12074). These remains, first uncovered in 1859, consist of skeletons of a woman aged 45-60, a man in his 40s and another man in his 20s. They were accompanied by a bone comb and a circular bronze and enamel brooch with a contorted bird motif which has been dated to the C10 (Parsons 1975, 204 & Plate 24; Alexander 1987).

There is documentary evidence that in AD 684 St Cuthbert met Elfleda, sister of King Egfrith and abbess of Whitby, on Coquet Island and this can be taken as a *terminus ante quem* for the establishment of a monastic presence on the island. Other evidence consists of a C9 ring and the discovery on the beach in 1969 of a stone slab with a cross carved on it (NU293045, NH 5613). The slab measures about 2m by 1.7m by 0.4m. It could be a grave marker from an early monastic cemetery and has been dated to the late C7 or early C8.

There is also documentary evidence that St Waleric's Chapel at Alnmouth was not the first church on that site and that when William de Vescy established the new town of St Waleric, as Alnmouth was known in the C12, 'it was not necessary to build a new church for one was already standing at the mouth of the river, which it was only necessary to enlarge' (Bateson 1895, 469). Bettess and Bettess (2004, 43) take the view that this is likely to have been an Anglo-Saxon foundation, a view supported by the fact that the fragments of the C10 Alnmouth Cross were found close to the site. Nothing of this early establishment or the later medieval chapel survives above ground level.

The promontory at Dunstanburgh is recorded in the HER as the site of a possible Anglo-Saxon settlement (NU 257219, NU 5872). However, the only evidence for this is the placename suffix *-burh*.

8.2.8 The Medieval Period

The most important Medieval site on this section of the coast is without doubt the magnificent fortress at Dunstanburgh, the construction of which began in 1313 by Thomas Earl of Lancaster. A licence to crenellate was granted in August 1316 and it is assumed that work on the castle had largely been completed by the date of Earl Thomas's execution in 1322. It may be described as a roughly quadrangular enclosure castle the fourth, northern, side of which is provided by the 20m high vertical cliffs of the Whin Sill promontory. The main feature today is the Great Gatehouse, the result of a late C14 remodelling of the original structure. This work was carried out under the orders of John of Gaunt, Duke of Lancaster. Dunstanburgh saw action and changed hands several times during the Wars of the Roses and was finally and permanently surrendered to the Yorkists in June 1464 from whence it was allowed to fall into decay. In the late C16 the Great Gatehouse was occupied by one of the Craster family who farmed the interior of the enclosure, and was probably responsible for the recently recorded ridge-and-furrow.

There is an extensive bibliography dealing with the history and development of Dunstanburgh Castle and further details need not be given here. The main source referred to has been the 2005 report by Oswald *et al.* The site is a Grade I Listed Building, a Scheduled Ancient Monument and is in the Guardianship of the Secretary of State for Culture, Media and Sport.

Lesser fortifications are represented by three *tower houses*. The most southerly is the C15 tower at Creswell (NZ29369335, NH 11924). It is a rectangular structure measuring 12.5m by 8.5m. Its consists of two floor levels over a vaulted basement while the present parapet and turret are probably C18 additions. It is roofless but otherwise well preserved. An C18 house formerly adjoined the tower on the north but this was demolished in the mid C19. The Cresswell Tower is both a Scheduled Ancient Monument and a Grade II* Listed Building.



Figure 8.4 Cresswell Tower (author)

Like the tower at Cresswell the tower at Craster is also dated to the early C15. It measures 10.7m by 8.9m and has later buildings adjoining on the east and south faces. Internally, the tower has a vaulted basement measuring 6.9m by 4.9m entered by a lobby in the east wall which also gave access to a newel stair, now removed. Craster Tower is a Grade II* Listed Building.

The tower on Coquet Island appears in a list of 'fortalices' of 1415 as belonging to the Prior of Tynemouth. It is smaller than the towers at Cresswell and Craster and measures 5.6m by 6.8m. In 1841 this structure was converted into a lighthouse (fig. 8.X) and only the masonry up to the second floor and the vault on the ground floor is medieval. The other remains on the island are part of the C12 *monastic cell*. It was noted above that there had been a monastic settlement of some sort on Coquet Island from the late C7 but none of the surviving structural remains are earlier than the C15. The site was granted to Tynemouth Priory by Robert Mowbray sometime before his death in 1125 and by 1127 the Prior had granted St Henry permission to build a small cell on the island. The surviving remains of the cell comprise a domestic range with a vaulted undercroft and indications of a chapel to the east. The monastic site was dissolved in 1539 and in the C19 the remains were incorporated in the lighthouse keeper's residence. The remains on Coquet Island are a Grade II* Listed Building and a Scheduled Ancient Monument.

The *precepetory* of the Knights Hospitallers of St John of Jerusalem at Low Chibburn (NZ26599653, NH 11884) lie on the western margin of study area a kilometre inland from the foreshore at Druridge Bay and at an altitude of 9.4m OD. Most of the area around the site was subject to opencast mining but with the closure of the mine the land has been restored to pasture. The first mention of the site is in 1313, though the Order had been in existence for over two hundred years and their first house in England had been established in 1100. The Chibburn Precepetory was dissolved in 1540 and the site became a private residence. It consists of a quadrangular arrangement of buildings and foundations about 25m square arranged around a central courtyard. The SE side is occupied by the remains of the chapel measuring 16m by 6m of which the south, east and part of the north wall survive. Part of the NW range and the gateway survive as foundations while the SW range, consisting of a C16 house, survives virtually intact. The whole was originally surrounded by a moat but a substantial part of this was lost to opencast mining. The Low Chibburn Precepetory is a Scheduled Ancient Monument.

The site of the medieval hospital at Newbiggin-on-Sea (NH 12044) has been tentatively identified with an area currently occupied by tennis courts (NZ30938695). It is reported that when the courts were being laid in 1929 three stone coffins and the foundations of a building were exposed.

The site of the medieval hospital of St John the Baptist of Warkworth has been identified with the field name *Spittle* north of Shortridge Hall (NU24310851, NH 5401). It is recorded that a hospital for the 'poor, aged and sick' was in existence at Warkworth by the late C13. No trace of this site survives but recent cultivation has exposed stone with lime mortar and over 50 sherds of medieval pottery.



Figure 8.5 Low Chibburn C14 Preceptory (author)

As mentioned in the previous section, there is documentary evidence that St Waleric's Church at Alnmouth was not the first church on that site and that when William de Vescy established the new town at Alnmouth it was only necessary to enlarge an existing building, though in effect this appears to have been a virtual rebuilding. This is recorded as taking place between 1170 and 1190. Few details survive as the church was destroyed during the storm of 1806 which altered the course of the river and cut St Waleric's off from the rest of the town, though C18 engravings show that it was already ruinous by then. These engravings, which have been studied in detail by Bettess and Bettess (2004, 60-64), indicate a large building consisting of a nave, transcepts and chancel. Nothing now survives above ground level and some of the site has been lost to erosion.

A fragment of a medieval building has been identified at Amble as a putative monastic grange attached to Tynemouth Priory. The remains (NU26240439, NH 5595) consist of 4.6m length of walling standing 3.5m high with a window of two trefoil headed lights. Further foundations were exposed when the Catholic chapel was built on the adjoining site in 1897. The remains of the grange are a Grade II Listed Building.

The church of St Bartholomew (NH 12051) occupies a prominent site on the promontory at the north end of Newbiggin Bay (NZ31788802). Although substantially rebuilt in the C19 some parts of C13 and C14 date remain as well as some reused fragments of C12 date. There is also an important collection of C13 cross slabs, mostly in the internal walls of the north aisle (Pevsner 1992, 403-404).



Figure 8.6 Fragment of the Amble monastic grange (author)



Figure 8.7 St Bartholomew's Church, Newbiggin (author)

Although Blyth and Amble had medieval antecedents, these settlements amounted to no more than small fishing villages, the main centres of population on this section of the coast being the new towns of Newbiggin, Warkworth and Alnmouth. All that remains of medieval Newbiggin is St Bartholomew's Church and the putatative traces of a hospital (referred to above). Only part of the failed Norman borough of Warkworth lies within the NERCZA study area. HER entries include the C14 bridge (NH 5411), the medieval gateway

at the south end of the bridge (NH 5413), the C12 church of St Lawrence (NH 5415) and a possible medieval street frontage revealed by excavation (NH 12777). The bridge and gateway are both Grade II Listed Buildings and Scheduled Ancient Monuments while St Lawrence's church is listed at Grade I.

Although an Anglo-Saxon settlement may have existed at Alnmouth, the history of the present settlement began in the mid C12 with the foundation of the borough with the right to have a port being granted to Eustace de Vesci in 1207-08. This settlement consisted of a main street along the top of the ridge with elongated burgage plots down each side, the vestigial traces of which can be detected in the later town plan. At the south end lay the church of St Waleric while the estuary of the River Aln offered a broad and sheltered anchorage below the town on the western side. At this time the river entered the sea beyond the church. The Norman borough of Alnmouth was destroyed by the Scots in 1336 although later documentation, particularly a map of 1614, indicate that the town was rebuilt on much the same lines (Bettess and Bettess 2004).

During the Middle Ages the NE was a land of villages and many present day settlements have their origins in the Medieval period. However, not all settlements thrived and survived and the HER has nine records of *deserted medieval villages*. Most are known from documentary sources only.

NGR	Name	HER	SMP	Importance	Risk
NZ297866	North Seaton	NH 11674	37	Low	Low
NZ291934	Cresswell	NH 11927	32	Low	Low
NZ274959	Druridge	NH 11887	32	Low	Low
NU279032	Hauxley	NH 5609	31	Low	Low
NU249065	Birling	NH 5431	29	Low	Low
NU256114	Marden	NH 5768	27	Low	Low
NU257117	Foxton Hall	NH 5769	27	Low	Low
NU264127	Saton House	NH 5770	26	Low	Low
NU250196	Craster	NH 5675	22	Low	Low

Table 8.7 Deserted Medieval Villages identified in Block 2

As throughout most of the rest of the NERCZA study area traces of *ridge-and-furrow* cultivation are virtually an ubiquitous feature of the archaeological record. In many cases these can be seen to be associated with the surviving villages and in others with the deserted settlements listed above.

8.2.8 The Industrial Period

Records to be considered during this phase of landscape development relate to the coal mining industry and mostly refer to sites at the southern end of this section of the coast, corresponding to the outcropping of the Coal Measures. As was the case with evidence for the coal mining industry in Tyne and Wear and County Durham, the history of the South Northumberland Coalfield is one of migration from west to east as the mines followed the increasingly deeper strata, eventually winning coal from far under the North Sea. Accordingly, the collieries in the coastal zone mainly represent a late phase in the history of the industry, production having begun mainly in the late C19.

The exploitation of deep coals in the Blyth area began in the late C18 and early C19 with the sinking of Cowpen Colliery Pit 'A' between 1794 and 1797 and Pit 'B' by 1804 (NZ30638150, NH 12105 and 12106), both pits being served by waggonways (NH 12176 and 12177). The Crofton Mill Colliery, Blyth (NZ31618099, NH 13259) began production in 1885 when the Cowpen and North Seaton Coal Company sunk a shaft. Crofton only had a single shaft but connected with other pits underground to provide escape routes. At its peak production reached over 350,000 tons a year. Crofton Mill Colliery ceased production in 1969 and the site has been cleared. An old mine shaft is recorded at Cambois (NZ29442392, NH 14355) and North Seaton Colliery (NZ29028575, NH 18091) is recorded on the 1866 OS Map. Lynemouth Colliery (NZ297904, NH 11941) opened in 1927 and became part of the Ellington complex. It was one of the country's biggest collieries until it closed in 1994.

An historically important waggonway that served colliers loading at Blyth was the Plessey Waggonway (NH 11491). Although this closed in 1812, it can still be traced from Plessey Hall Farm to Blyth Harbour, in places standing as an earthwork 2m high. It is reported to have had a twin track of beech wood rails laid on oak sleepers and is thought to have been constructed in the last decade of the C17.

8.3 Coastal/Maritime Landscapes

8.3.1 The Mesolithic Period

It was noted above that the excavation of two Bronze Age cairns at Low Hauxley led to identification in 1983 of a Mesolithic *flint scatter site*. Details of these discoveries remain unpublished but the acceleration of erosion at this site led to further archaeological work being undertaken in the early 1990s, culminating in a full archaeological evaluation by the Lancaster University Archaeological Unit. This work added few details to our knowledge of Mesolithic activity at Low Hauxley, though the lithic assemblage was enlarged by the addition of 408 Items (LUAU 1995).

The lithic assemblage at Low Hauxley can be dated to the Late Mesolithic on typological grounds while a *terminus ante quem* of *circa* 3500 cal BC is provided by radiocarbon dates on the lower levels of peat deposits which overlay the Mesolithic horizon. Bonsall's summary refers to a date of *circa* 5000 RCY BC (Bonsall 1984) for the Mesolithic activity. Reference to the SLI and RSL data in Chapter 3 indicates that at this time sea level was about 2m lower than today. Inspection of the bathymetric data offshore at Low Hauxley suggests that, on this basis, the LAT lay about 120m further out. This relatively short, horizontal displacement of the shoreline means that even in the Mesolithic Period the Low Hauxley site should be considered as coastal.

The summary report on the 1983 excavations noted the recovery of marine shells along with the Mesolithic stone tools. However, subsequent work has been unable to confirm the status of this site as a *midden* and the nature of the activity there remains unclear. The stone tool assemblage includes few finished implements and mostly consists of knapping debris from

which it may be inferred that one of the activities at the site was the processing of raw material. According to Middleton (LUAU 1995, 29-31) by far the largest number of items are made from a type of flint usually considered to originate in the eroding cliffs of Durham and North Yorkshire. However, he draws attention to the presence within the same deposit of two unworked pebbles of the same material which may suggest a more local source with raw material being collected from the boulder clay ridge or from the adjoining foreshore.

The fieldwalking programme at Howick led to the discovery of the Howick Burn *occupation site* (NU25851660, NH 5690). As well as an assemblage of 18,000 stone tools the excavation of this site uncovered the remains of a circular Mesolithic hut. This was partly sunk into the ground and although some of the structure had already been lost to erosion it was established to be about 6m in diameter. On the basis of radiocarbon dates obtained from successive hearth features, the construction of the hut has been dated to *circa* 7800 cal BC, which makes it the earliest dated evidence for human settlement in Northumberland. As well as stone tools, finds included charred animal bones and hazel nut shells and occasional marine shells, though the site should not be regarded as a *midden*. SLI and RSL data discussed in Chapter 3 indicate that at the time the Howick hut was occupied LAT was displaced horizontally by about 200m. This is unlikely to imply a wider foreshore as the cliff face can be expected to have lain farther east by an equivalent amount.



Figure 8.8 Site of the Mesolithic hut at Howick Burn (ARS)

The Howick Burn site lies in SMP1 Unit 25 for which the Preferred Strategic Option' is 'Do Nothing'. This clearly has major implications for the survival of any further archaeological remains in the vicinity and the situation will need to be reviewed once the SMP2 data are available.

8.3.2 The Medieval and early Post-Medieval Periods

As noted in Chapters 6 and 7 the production of salt was an important activity in the Middle Ages, *salterns* or *saltworks* being identified in the coastal zone from Teesmouth to Cullercoats and it was noted that some of the salt pans at Cullercoats were moved to Blyth in the C18. Salt making had been an important activity on this section of the coast from at least the C11.

Linsley (2005, 141-143) has recorded a number documentary references to salt making at Blyth during the Middle Ages. Sometime between 1153 and 1165 a James de Bolam granted a salt pan to Brinkburn Priory. This was at Cowpen Shore on the south side of the river and is probably the site recorded in the HER as NH 12069 (NZ30958227). A second pan or group of pans is recorded near the mouth of the river in 1208, while Robert de Wincester granted some pans and a fishery on the north, Cambois, shore to Newminster Abbey in 1138-1140. These can be identified with the site at High Pans (NZ31018255, NH 12070). By 1533 there are records of 14 pans being in use at Blyth and with the dissolution of the monasteries in 1539 the salt pans were appropriated by the Crown, with 20 pans being recorded around the harbour in 1589. However, salt making at Blyth appears to have declined after that date and no surface remains have been identified.

A further Medieval salt making site is recorded in the HER at Gloster Hill, west of Amble (NU25660474, NH 5593). The first mention of this site is in a C12 charter which records the grant of a saltworks to Newminster Abbey. Hodgson (1899, 262) records that the site of a salt pan had been confirmed by digging while the HER notes a possible sleeching mound. Sleeching was the process employed in the Teesmouth salterns whereas direct boiling in pans was more commonly used north of the River Wear.

By the early C14 the fuel used to heat the salt pans was mainly coal and Linsley (2005, 142) notes the lease of coalmines at Cowpen Shore, Blyth in 1315. There are various other documentary references to the winning of coal for the salt industry in the C15 and C16 but no sites have been identified. This activity might have involved the digging of shallow pits, the quarrying of outcrops or the collection of seacoal.

The only formal *harbour* works that can be dated to the Medieval Period on this section of the coast are the remains of a small dock or quay at Dunstanburgh. Several authorities during the C20 discussed the probability that harbour facilities must have existed at Dunstanburgh but it was not until the 2003 survey that any formal remains were identified (Oswald *et al* 2006, 76-80). The site in question lies between 0.5-0.6km SSE of the Great Gatehouse at the head of the inlet known as Nova Scotia (NU259213) and protected to the east by the rocky spur of Cushat Stiel. The remains consist of a stone-built quay 72m long and increasing in width from 3.6m to 12m at the seaward end. The quay runs parallel to Cushat Stiel and a small sandy beach is confined between it and the quay. Although this is now rather boulder strewn, when cleared this has the potential to offer a secure place to beach several small boats or the occasional larger one. Several medieval documents may be taken to imply the existence of harbour facilities at Dunstanburgh. Two C14 sources refer to 'the Earl's boat' while a record of 1417 refers to three cobles belonging to the King being kept at Dunstanburgh for fishing and a reference of 1443 mentions a cargo of lead sheeting being brought to the castle from Newcastle.

The major harbours on this section of the coast mostly date from the Industrial Period and were developed as part of the infra-structure of the coal trade, though most have earlier antecedents documented in the historical record. For example, a lease of 1589 records an 'anchorage, beaconage, wharfage, [and] ballast quay' at Blyth (Linsley 2995, 142).

The only other potentially coastal/maritime feature on this part of the coast is also located in the Nova Scotia inlet at Dunstanburgh. This consists of a roughly rectangular structure 30m

across built of large blocks and exposed at low tide. It is thought that this may have been a *fish trap*, though it would have needed to be supplemented by wicker hurdles or netting. It is undated but the nature of the construction led Oswald *et al* to suggest a medieval date.

8.3.3 The Industrial Period

8.3.3.1 Salt Making

The production of salt on this section of the coast continued into the post-Medieval Period. Salt making is recorded as taking place at Blyth in the C18, there being records of 14 pans operating in *circa* 1734, producing about 1000 tons of salt per year (Linsley 2005, 145). There are further records from the 1830s and the 1860s and production finally ceased around the year 1875. The HER records post-Medieval salt pans at NZ31668168 (NH 12124).

The salt making industry at Amble is also recorded as continuing in the C17, C18 and C19. In 1628 salt pans at Amble are recorded as worth 4s 0d per annum (NH 5626). In the C18 they were let jointly with a coal mine at a rent of £20 and production was still underway in 1887. This final phase of production took place close to the cemetery where a saltworks is marked on C19 OS maps (NU27490456). Today the foreshore here is known as Pan Point and Pan Rocks and a local street is Panhaven Road.

The most northerly salt producing site on this section of the coast is probably that at Pan Leazes, Alnmouth (NU241105, NH 5766). This name first appears on a map of 1614 where it refers to an embanked promontory lying within a bend in the River Aln while the term 'Pan Close' is used to indicate a five-side enclosure at the base of the promontory (Bettess and Bettess 2004). The HER records that a quantity of slaggy material has been noted eroding out of the sides of the promontory while mounds to the east have been identified as putative sleeching tips. The area is marked as 'Saltings' on the 1:10,000 OS Map, as are two other areas, one on the south side of the river at Waterside House, and called 'High Salt Close' on the 1791 map, and one upstream of Duchess's Bridge below the high ground of Mount Pleasant. Also, the main thoroughfare down to the ford pre-dating the construction of Duchess's Bridge was known in the C18 as 'Salters Lane.' Accordingly, the salt industry at Alnmouth may have been more extensive than recorded in the HER. None of these remains have been dated.

8.3.3.2 Oyster cultivation

In addition to salt production this section of the River Aln was also used for the cultivation of oysters, *oyster beds* having been identified at NU241541048 (NH 5729). These are marked on the 1865 OS Map has 'Oyster Ponds' and appear to consist of five irregular enclosures in a line across the base of the Pan Leazes promontory. Bettess and Bettess (2004, 18) were able to record two of these features which are exposed at low tide while the remaining three are covered by vegetation. Both consisted of stakes set into the foreshore as a revetment to wooden boards. The more easterly of the two measured about 6m by 9.5m while the other situated immediately to the west was also 9.5m long but only 4m wide. The smaller feature had two parallel but curving lines of stakes approaching the NW corner. These oyster beds have not been dated but they are considered to partly overlay the High Ford which had gone out of use by 1865.



Figure 8.9 Oyster beds at Alnmouth (author)

The area is being actively eroded by the river and the SMP1 data show the whole area to be at risk of flooding. It lies in SMP1 Unit 28 for which The 'Preferred Strategic Option' is 'Selectively hold the line'. It will be necessary to reconsider the situation once the SMP2 data become available.

8.3.3.3 Harbours and Ports

As stated above, the major harbours on this section of the coast mostly date from the Industrial Period and were developed in the C19 and C20 as part of the infra-structure of the coal trade. Although earlier harbour facilities are recorded at Blyth few, if any, of these features survived the development of Blyth as a major coal port in the second half of the C19. These developments have been described in detail by Linsley (2005, 141-169). After much deliberation, the development of the modern port got underway in the 1850s under the direction of James Abernethy. He proposed the construction of breakwaters, the deepening of the channel and the formation of wet docks. Work began on the east breakwater (NH 12121) in 1853 but financial constraints meant progress was slow and major works were still being undertaken three decades later. In 1872 the North Eastern Railway Company had built a deep water quay and two coal *staiths* on the south side of the river and by 1884 had added over 330m of staiths at Low Quay with further staiths being added in 1888 and 1896 while the railway company erected four new staiths on the north side of the river. A new west breakwater (NH 12140) was completed in 1885 and the eastern one extended in 1886 while the new 'South Harbour' was opened in 1899. Expansion of the harbour facilities continued into the early C20 with the extension of the eastern breakwater in 1907, the construction of a new lighthouse in 1908 and the West Blyth Staiths between 1912 and 1928. By the 1960s Blyth was the largest coal shipping port in Europe.

While main features of Blyth Harbour, the breakwaters, quays and South Harbour, survive, vestiges of its pre-eminence as a coal port are becoming increasingly rare. The main surviving assets of this period are the remains of the North and West Staiths, both somewhat reduced from their original form. The West Staithes (NZ30738274, NH 12075),

were the last of the traditional staithes to be built on the River Blyth. Their construction began in *circa* 1910 for the North Eastern Railway Company, but the First World War intervened and they were completed in 1923. Originally a 500m long structure comprising three decks carried on a series of trusses, they are today visible as a 373m length of the lower deck only; the two upper two decks and 130m of the whole having been demolished in 1994/5. The West Staiths at Blyth are currently a Grade II* Listed Building.

The history of Warkworth (Amble) Harbour has been fully described by Linsley (2005, 120-140) and like Blyth the development of formal port facilities at the mouth of the Coquet was dependent upon the C19 expansion of coal mining in the area. The harbour improvement plan by John Rennie was passed by an Act of Parliament in June 1837. This envisaged the construction of a North Pier to protect the harbour mouth in heavy seas and a breakwater on the south side running from Pan Rocks towards the North Pier, leaving an entrance 76m wide. New quays and coal staiths were to be provided within the harbour. The works were complete by 1849 except for the addition of a fish dock in 1878. Both the North Pier and the South Breakwater were extended in the late C19 and early C20. With the closure of the coal mines most of the traces of coal shipment at Amble have been removed.

The estuary of the River Aln at Alnmouth was an important grain exporting port in the C16, C17 and C18. It lay at the far end of the 'Alemouth Road' which ran from Hexham and through Rothbury. The grain trade at Alnmouth is evidenced by many fine stone built granneries which line Northumberland Street but the port never developed any formal harbour works, vessels simply either anchored in the river or took the ground at low tide.



Figure 8.10 A vessel 'taking the ground' in Alnmouth Harbour (author)

The only harbour structure recorded in the HER is the Old Watch Tower (NU24551051, NH 5754), the Harbour Master's office. This is an C18 brick structure and a Grade II Listed Building. The fortunes of Alnmouth changed dramatically in 1806 when the river changed its course and greatly reduced the size of the sheltered anchorage.

The harbour at Craster dates from the early years of the C20 when it was built as a memorial

to Capt. John Craster who was killed during the 1904 Younghusband expedition to Tibet.



Figure 8.11 The memorial plaque at Craster Harbour (author)

The harbour works consist of a concrete North Pier extending 64m to the SE and a concrete South Pier which runs for 60m NE and then a further 70m due north towards the North Pier, leaving an entrance about 45m wide. At low tide the harbour dries out. The harbour was constructed mainly for the shipment of whinstone from the nearby quarries, though it also served the fishermen who had used the haven for centuries.



Figure 8.12 Craster Harbour (author)

8.3.3.4 Shipbuilding

Ship building at Blyth is recorded from the middle of the C18 and there were three active yards in 1804. These included Hannay's Low Yard (NZ31888162, NH 12126) and the Clark and Taylor yard at Cowpen Square (NZ31418192, NH 12146). The first dry dock was

constructed by Linskill & Co. in 1811 and subsequently three more were added at the Cowpen Square yard. The HER also has records of three roperies (NZ31818107, NH 12131; NZ31868146, NH 12130 and NZ31818135). Three dry docks survive to the west of High Quay.

Shipbuilding at Amble is first recorded in the 1830s when a Monkwearmouth firm began to build ships on Amble Braid and between 1851 and 1861 Messrs Leighton & Sanderson built seven ships before closing down their operation (Linsley 2005, 132-133). Harrisons opened their yard in 1870 and have continued in production down to the present day.

Linsley (2005, 115) quotes records of shipbuilding at Alnmouth in the mid C18 to the mid C19, including substantial merchant vessels such as the 219 ton *Providence* launched in 1765 as well as smaller fishing cobles.

8.3.3.5 Aids to Navigation and Safety at Sea

Lighthouses

The HER records a lighthouse at Blyth commissioned by Ridley and Co and built in 1730 (NZ32038126, NH 12120). This structure is no longer extant.

The lighthouse (NH 5611, NU29300454) on Coquet Island was built in 1839-1841 incorporating the remains of a C15 tower which adjoined the medieval monastic cell. This influenced the shape of the lighthouse which is a square tower standing 21.9m high with a crenelated parapet. It is a Grade II* Listed Building.



Figure 8.13 Coquet Island Lighthouse (author)

Seamarks

The oldest extant feature at Blyth Harbour is the High Light lighthouse (NZ31988134, NH 12077). This was initially built in 1788 nd further raised in 1888 and 1900 to give a final height of 18.7m. The C18 section is stone built while that added in 1888 is in brick. It worked in conjunction with a Low Light until 1985 when the system was superseded by

modern navigational aids. The High Light is a Grade II Listed Building.



Figure 8.14 The High Light at Blyth (author)

The HER records a group of three navigation beacons at Blyth Harbour (NZ32088048, NZ32218118 and NZ32718059, NH 12169). These first appear on a map of Blyth Harbour dated 1682 but are also recorded on the 1865 OS Map.

Lifeboat Stations and Volunteer Life Brigade Facilities

The HER records a lifeboat house at Cambois (NZ31198281, NH 18303) and a lifeboat station at Huxley (NU28580281, NH 20354). The Alnmouth Lifeboat Station consists of a pair of stone-built mid C19 buildings (NU25091075, NH 14178). They are both Grade II Listed Buildings.



Figure 8.15 Boulmer Volunteer Rescue Service building (author)

However, in addition to these records there is a late C19 lifeboat house at Blyth adjoining the South Harbour (NZ321805) while at Boulmer The Volunteer Rescue Service occupies a similar building (NU26551412). Neither feature in the HER or NMR.

Coastguard Stations

The coastguard station and watch house at Low Newton-by-the-Sea (NU24052487, NH 14327) occupies a conspicuous eminence of 30m OD and 250m from MHWS. It is an early C19 structure, T-shape in plan and of a single storey. A watching brief undertaken during drainage works at the site in 1992 reported identified human bone and has led to the suggestion that the site may include the remains of a small cairn.

8.3.3.6 Shipwrecks

As was the case with Blocks 1 and 3, shipwrecks are also a feature of the coastal/maritime landscape of Block 2. Large numbers of shipwrecks are recorded in the NMR with a few additional entries in the HER. Most of these are in deep water beyond LAT. However, a number are recorded between LAT and MHWS and these are listed in the following table. Most of these records have been taken from historical sources such as Lloyds Registers and the local press and the existence of a record does not necessary imply that remains are still visible on the foreshore.

Table 8.8 Shipwrecks	between	MHWS	and	LAT	ın E	Block 2
1						

NGR	Name of vessel	Date lost	HER	SMP
NZ32958057	;	1831	NMR 1410079	41
NZ32718078	;	5	NMR 907638	41
NU25460740	Duke of Kent	1831	NMR 1047754	29
NU257068	The Hanseat	1980	NH 5549	29
NU25991099	Annie Walker	1928	NH 5775	29
NU26301659	Tadome	1928	NH 5685	25
NU261178	Submarine G-11	1918	NH 5684	25
NU2618	The Mindle	1916	NH 5686	24
NU25802130	Polish trawler	1958 or 1969	NH 5878	21
NU24302306	}	}	NH 5870	20

In addition to the wrecks listed in the above table a number of wooden hulks lie beached on the sands on the north side of Amble Harbour (NU264049). These are recorded in the NMR (907646-907649). From satellite imagery and the APTE it has been possible to identify six substantial vessels each measuring about 20m by 10m and remains of at least two smaller vessels measuring 8m by 4m. Parry (2006, 19) has suggested that these may be abandoned herring boats while an alternative view recorded by local inquiry is that they were coal lighters. In either event, this is an important collection of timber vessels dating from at least the early C20 and requires further study.



Figure 8.16 Wooden hulks on the north shore at Amble Harbour (author)

The Amble hulks lie within SMP1 Unit 30 for which The Preferred Strategic Option' is 'Selectively hold the line'. It will be necessary to reconsider the situation once the SMP2 data become available but it is unlikely resources will be made available to protect these remains from the effects of rising sea level. A full survey should be considered an urgent priority.

8.4 Military Coastal Defence

8.4.1 C19

The only asset to be described in this section is the Old Battery (NZ25131108, NH 5776) overlooking Alnmouth Links. This structure was erected in 1881. It is partly sunk below ground level and consists of a rectangular chamber with a small magazine, above which was a turret. This was later modified as a WWII pillbox. An inscribed tablet reads as follows:

"THIS BATTERY WAS ERECTED BY HIS GRACE ALGERNON DUKE OF NORTHUMBERLAND K.G. FOR THE USE OF THE PERCY ARTILLERY VOLUNTEERS COMPLETED $12^{\rm TH}$ MARCH 1881."

The Old Battery is a Grade II Listed Building.

8.4.2 World War II

The majority of coastal/maritime features in Block 2 date from WWII and the approach followed here is that set out in Chapter 5 of NERCZA. Major sites are described in detail with minor sites being given a more general treatment, or presented in tabular form. The WWII military features in the coastal zone can be divided into two groups according to whether their role was mainly to defend against bombardment, from the sea or from the air, or to confront a possible invasion, although the two categories are not mutually exclusive.

8.4.2.1 Coastal Defence Batteries

Two *coastal defence batteries* are recorded on this section of the coast by Dobinson (2000, 297) but only one features in the HER, while two further sites have been identified during the APTE. The two listed by Dobinson were Emergency Batteries of Northern Command. The Amble Battery (NU277042) mounted two 6 inch naval guns in 1944 and 1945 while the Hemscott Battery (NZ28079533, NH 15551) at Druridge Bay mounted a similar armament. This latter site included a Battery Observation Post, two searchlights, a generator and Nissen huts for accommodation. It is recorded as having been destroyed, although fragmentary remains can still be identified in the dunes. It was part of the Druridge Bay Defence Area to be considered further below. One of the sites recorded by the APTE (NMR 1467428) lay on Newbiggin Moor at NZ31668927. It appeared on an aerial photograph taken in August 1941 and consisted of two emplacements, probably for 6 inch or 4 inch guns. The second site recorded by the APTE (NMR 1443915) lay in the fields north of Cresswell village (NZ29039380). It is recorded on an aerial photograph taken in June 1941 but it has only been possible to transcribe the perimeter enclosure.

8.4.2.2 Anti-aircraft defences

The HER and the APTE has recorded a single *heavy anti-aircraft battery* in Block 2. Site NH 11685 (NZ29898504) formed part of the defences of the Port of Blyth. It was probably the northern equivalent of the Gloster Lodge HAAA Battery (NH 11929). It was noted in a list of batteries dated 1942 but was in the process of being dismantled by 1946, though the *DoB* archive describes it as being relatively intact in 1988. The APTE transcription shows it to be of the standard, 'clover-leaf', pattern with four octagonal emplacements for 4.5 inch guns arranged in an arc to the east of the command post and two rectangular emplacements for 3.7 inch guns implying a modification of the battery during the course of the war.

The anti-aircraft batteries were supported by the use of barrage balloons. These were mainly intended to make enemy aircraft fly higher or divert them from their targets. In order to deter under flying, in addition to the main tether, barrage balloons also supported a series of wires anchored to the ground. These leave a characteristic pattern and a number have been recorded by the APTE (Table 8.15).

8.4.2.3 Bombing decoys

As an alternative to shooting enemy aircraft down or forcing them to fly higher, pilots could be misled by the use of decoys. The only site of this type recorded in Block 2 is the decoy airfield at Long Houghton (NMR 1463955 and 1387328) (Dobinson 2000, 40) recorded from wartime aerial photographs. The features consist of a series of camouflaged runways, military buildings and trackways. This was a 'Q-type' and 'K-type' site intended to deflect enemy night and day bombing from RAF Acklington, which at the time the decoy was constructed contained Hurricane aircraft belonging to 13 Group. As it was also a daytime decoy it may be inferred that there were dummy buildings and dummy aircraft at the site. This location was later chosen as the site for RAF Boulmer, and is still operational.

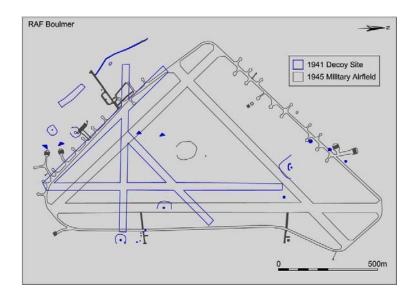


Figure 8.17 APTE record of the Long Houghton decoy airfield (English Heritage)

When the anti-aircraft batteries failed to hit their targets and the decoys failed to deceive, the population retreated to air-raid shelters, numerous examples of which have been recorded in the APTE (Table 8.16).

8.4.2.4 Anti-invasion defences

The HER and APTE have recorded a large number of other features that can be classified as anti-invasion defences. Broad sandy beaches likely to be attractive as potential landing sites are a conspicuous feature of Block 2 and the system of anti-invasion defences at Druridge Bay, the most vulnerable section of the coast, has been studied in detail by William Foot as Defence Area 60 in the English Heritage study.

This defence area consists of the section of foreshore and zone of sand dunes extending from the outskirts of Cresswell Village at Blakemoor Farm northwards for about 3.5km to beyond Druridge Farm. It consisted chiefly of a line of *pillboxes* situated in the sand dunes and an almost continuous length of *anti-tank blocks*. These features were established in 1940 and from 1941 they were supplemented by *anti-tank scaffolding*, an *anti-tank ditch* and *minefields*. From 1941 onwards these defences were arranged around a series of defended localities; two at Druridge, one at Hemscott Hill and one in the rear at Chibburn Precepetory. Outside the NERCZA study area but part of the Druridge Bay Defence Area the village of Widdrington and Widdrington Station were defended by machine gun emplacements, road blocks and a further anti-tank ditch. The open fields were blocked by *anti-glider obstacles*.

As commented on in the introduction, most of the area to the landward of the Druridge Bay dune system has been disturbed by opencast mining and the subsequent reinstatement of the land. This activity took place between 1957 and the mid 1970s and in the course of which all trace of WWII, and indeed earlier, features was removed. The surviving evidence for the Druridge Bay Defence Area consists of features within the dunes and on the foreshore. The

one exception to this is the C14 Chibburn Precepetory (NZ26599653, NH 11884) which had a pillbox (Foot S0015673) installed in the ruins of its chapel. This was removed during work on the chapel in the 1990s, but one of the gun loops has been retained in the chapel wall.

Of the features situated within the dunes or on the foreshore, some have been removed and some engulfed by sand. Foot's study is based on surviving evidence, aerial photographs and army records. It is the most comprehensive record of features at Druridge Bay and is used as the primary.

Table 8.9 Pillboxes recorded in the Druridge Bay Defence Area

NGR	Type	Foot	Condition
NZ29379479	;	S0016602	Destroyed
NZ28159492	Rectangular*	S0007011	Extant
NZ28129512	;	S0016597	Destroyed
NZ29719588	24 variant	S0007135	Part buried
NZ27829598	Hexagonal	S0016584	Destroyed
NZ27629677	Hexagonal	S0007220	Part buried

• This pillbox is disguised as a ruined cottage



Figure 8.18 Pillbox S0007011 Druridge Bay Defence Area (author)

In addition to pillboxes, Foot's study has also recorded a number of gun emplacements which fall into the category of *beach defence batteries*.

Table 8.10 Beach defence batteries recorded in the Druridge Bay Defence Area

NGR	Location	Calibre	Foot	Condition
NZ291938	Blakemoor Links	;	S0016455	Destroyed
NZ28509415	Blakemoor Farm	2 pdr anti-tank gun	S0016473	Destroyed

NZ27739590	Druridge Farm South	6 pdr	S0016454	Destroyed
NZ27739599	Druridge Farm North	6 pdr	S0016453	Destroyed
NZ27489604	Druridge Farm	2 pdr anti-tank gun	S0016474	Destroyed

The foreshore was protected by a continuous line of anti-tank blocks set within and at the foot of the dunes while to the rear of the dunes was a continuous anti-tank ditch. The blocks can be found almost anywhere while a section of anti-tank ditch survives to the north of Druridge Farm.



Figure 8.19 Anti-tank blocks in the Druridge Bay Defence Area (author)

A further line of defence on the seaward side was provided by continuous beach scaffolding which can be seen clearly on wartime aerial photographs while a minefield has been recorded at NZ27859570 (Foot S0016585). The anti-glider obstacles were destroyed during the opencast mining. A central feature of the defence area was the Hemscott Hill Coastal Defence Battery which has been referred to above. Foot reports that support was provided in the rear by two 60 pdr guns and a 4.75 inch tasked to fire on to the beach. These lay outside the NERCZA area. Some features within the area relate to the use of Druridge Bay as a bombing range.

Anti-invasion features are recorded, and survive, at other places along this section of coast. Details of the main features are provided in the tables below.

8.4.2.5 Anti-glider obstacles

In addition to those forming part of the Druridge Bay Defence Area described above antiglider defences are widespread on this section of the coast and numerous examples have been recorded by the APTE.

Table 8.11 Anti-glider obstacles in Block 2

NGR	Location	Type	NMR	SMP	Importance	Risk
NZ29688394	North Blyth	Lattice	1470005	39	Low	Low
NZ29678442	North Blyth	Lattice	1470005	39	Low	Low
NZ29788510	South of Wansbeck river	Lattice	1467320	39	Low	Low
NZ29018510	South of Wansbeck river	Lattice	1467314	39	Low	Low
NZ30578651	South Newbiggin	Lattice	1467346	37	Low	Low
NZ31308885	North Newbiggin	Lattice	1467413	35	Low	Low
NZ29199255	Cresswell	Lattice	1468814	32	Low	Low
NU27710191	Hauxley	Linear	1469636	32	Low	Low
NU27900280	Hauxley	Linear	1469642	32	Low	Low
NU27640370	Hauxley	Linear	1469694	32	Low	Low
NU25331154	Boumer	Linear	1470392	26	Low	Low
NU25851434	Boumer	Linear	1470368	26	Low	Low
NU25191505	Boumer	Linear	1470217	26	Low	Low
NU25831171	Howick	Linear	1470184	24	Low	Low
NU25162033	Craster	Linear	1470656	21	Low	Low
NU23382468	Low Newton	Linear	1470739	20	Low	Low

8.4.2.6 Radar Stations

Three Radar Stations have been identified on this section of the coast. The most fully studied is that recorded on The Heughs at Craster (NU25462040, NMR 1443707 and NH 5877)). This site has been the subject of a detailed study by Hunt and Ainsworth (Hunt and Ainsworth 2006). The site has been identified as part of the *Chain Home Low* system. Two buildings survive; the rectangular TxRx block and the 'L-shaped' Stand-by Set House while the foundations of others were also noted in the undergrowth, including the hard standings for Nissen huts. The complex was surrounded by 11 weapons pits and a double barbed-wire enclosure. The station was apparently operational between 1941 and 1944 and housed POWs at the end of the War.

A further radar station of this type has been plotted during the course of the APTE at NU29729246 (NMR 1468808). The plot has recorded the Transmitter/Receiver (Tx/Rx) Block and the Stand-by Set House.

The APTE recorded a large number of other features for which basic details are provided in the following tables.

Table 8.12 Pillboxes identified from aerial photographs

NU 20 NE 265 051 1469571 29,30 NU 20 NE 252 072 1469634 29 NU 20 NE 257 063 1469643 29 NU 20 NW 2498 0624 1469543 29 NU 20 NW 2478 0881 1469545 29 NU 20 NW 2493 0962 1469550 29 NU 20 NW 2493 0967 1469596 29 NU 20 SE 2810 0142 1421546 32 NU 20 SE 2807 0194 1469646 32 NU 20 SE 2755 0147 146963 32 NU 20 SE 275 003 1469665 32 NU 20 SE 275 003 1469665 32 NU 20 SE 279 009 1469671 33 NU 20 SE 283 017 1469765 32 NU 20 SE 2653 0464 1469714 30 NU 20 SE <td< th=""><th>OS Sheet</th><th>Eastings</th><th>Northings</th><th>NMR</th><th>SMP</th></td<>	OS Sheet	Eastings	Northings	NMR	SMP
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NU 21 SE 26119 14484 1387343 26 NU 21 SE 2666 1330 1470418 26 NU 21 SE 2575 1167 1470420 27 NU 21 SE 2505 1064 1470422 27 NU 21 SE 2665 1451 1470967 26 NU 21 SE 2675 1297 1470974 26 NU 21 SE 2659 1264 1470983 26 NU 21 SE 261 125 1471000 26,27 NU 21 SE 2580 1207 1471016 27 NU 21 SE 2579 1367 1471046 26 NU 21 SE 2597 1302 1471049 26 NU 21 SE 2612 1279 1471055 26 NU 21 SE 2557 1259 1471061 27 NU 21 SE 2555 1247 1471062 27 NU 21 SW 2458 1005 1470340 29 NU 21 SW </td <td>NU 21 NE</td> <td>257</td> <td>195</td> <td>1470171</td> <td>22,23</td>	NU 21 NE	257	195	1470171	22,23
NU 21 SE 2666 1330 1470418 26 NU 21 SE 2575 1167 1470420 27 NU 21 SE 2505 1064 1470422 27 NU 21 SE 2665 1451 1470967 26 NU 21 SE 2675 1297 1470974 26 NU 21 SE 2659 1264 1470983 26 NU 21 SE 261 125 1471000 26,27 NU 21 SE 2580 1207 1471016 27 NU 21 SE 2579 1367 1471046 26 NU 21 SE 2597 1302 1471049 26 NU 21 SE 2612 1279 1471055 26 NU 21 SE 2557 1259 1471061 27 NU 21 SE 2555 1247 1471062 27 NU 21 SW 2458 1005 1470340 29 NU 21 SW 2476 1031 1470350 28 NU 21 SW <td>NU 21 NE</td> <td>2613</td> <td>1588</td> <td>1470233</td> <td>25</td>	NU 21 NE	2613	1588	1470233	25
NU 21 SE 2575 1167 1470420 27 NU 21 SE 2505 1064 1470422 27 NU 21 SE 2665 1451 1470967 26 NU 21 SE 2675 1297 1470974 26 NU 21 SE 2659 1264 1470983 26 NU 21 SE 261 125 1471000 26,27 NU 21 SE 2580 1207 1471016 27 NU 21 SE 2579 1367 1471046 26 NU 21 SE 2597 1302 1471049 26 NU 21 SE 2612 1279 1471055 26 NU 21 SE 2557 1259 1471061 27 NU 21 SE 2555 1247 1471062 27 NU 21 SW 2458 1005 1470340 29 NU 21 SW 2476 1031 1470350 28 NU 21 SW 2492 1046 1470351 27 NU 22 SE <td>NU 21 SE</td> <td>26119</td> <td>14484</td> <td>1387343</td> <td>26</td>	NU 21 SE	26119	14484	1387343	26
NU 21 SE 2505 1064 1470422 27 NU 21 SE 2665 1451 1470967 26 NU 21 SE 2675 1297 1470974 26 NU 21 SE 2659 1264 1470983 26 NU 21 SE 261 125 1471000 26,27 NU 21 SE 2580 1207 1471016 27 NU 21 SE 2579 1367 1471046 26 NU 21 SE 2597 1302 1471049 26 NU 21 SE 2612 1279 1471055 26 NU 21 SE 2557 1259 1471061 27 NU 21 SE 2555 1247 1471062 27 NU 21 SW 2458 1005 1470340 29 NU 21 SW 2476 1031 1470350 28 NU 21 SW 2492 1046 1470351 27 NU 22 SE 2574 2192 8243 20,21	NU 21 SE	2666	1330	1470418	26
NU 21 SE 2665 1451 1470967 26 NU 21 SE 2675 1297 1470974 26 NU 21 SE 2659 1264 1470983 26 NU 21 SE 261 125 1471000 26,27 NU 21 SE 2580 1207 1471016 27 NU 21 SE 2579 1367 1471046 26 NU 21 SE 2597 1302 1471049 26 NU 21 SE 2612 1279 1471055 26 NU 21 SE 2557 1259 1471061 27 NU 21 SE 2555 1247 1471062 27 NU 21 SW 2458 1005 1470340 29 NU 21 SW 2476 1031 1470350 28 NU 21 SW 2492 1046 1470351 27 NU 22 SE 2574 2192 8243 20,21	NU 21 SE	2575	1167	1470420	27
NU 21 SE 2675 1297 1470974 26 NU 21 SE 2659 1264 1470983 26 NU 21 SE 261 125 1471000 26,27 NU 21 SE 2580 1207 1471016 27 NU 21 SE 2579 1367 1471046 26 NU 21 SE 2597 1302 1471049 26 NU 21 SE 2612 1279 1471055 26 NU 21 SE 2557 1259 1471061 27 NU 21 SE 2555 1247 1471062 27 NU 21 SW 2458 1005 1470340 29 NU 21 SW 2476 1031 1470350 28 NU 21 SW 2492 1046 1470351 27 NU 22 SE 2574 2192 8243 20,21	NU 21 SE	2505	1064	1470422	27
NU 21 SE 2659 1264 1470983 26 NU 21 SE 261 125 1471000 26,27 NU 21 SE 2580 1207 1471016 27 NU 21 SE 2579 1367 1471046 26 NU 21 SE 2597 1302 1471049 26 NU 21 SE 2612 1279 1471055 26 NU 21 SE 2557 1259 1471061 27 NU 21 SE 2555 1247 1471062 27 NU 21 SW 2458 1005 1470340 29 NU 21 SW 2476 1031 1470350 28 NU 21 SW 2492 1046 1470351 27 NU 22 SE 2574 2192 8243 20,21	NU 21 SE	2665	1451	1470967	26
NU 21 SE 261 125 1471000 26,27 NU 21 SE 2580 1207 1471016 27 NU 21 SE 2579 1367 1471046 26 NU 21 SE 2597 1302 1471049 26 NU 21 SE 2612 1279 1471055 26 NU 21 SE 2557 1259 1471061 27 NU 21 SE 2555 1247 1471062 27 NU 21 SW 2458 1005 1470340 29 NU 21 SW 2476 1031 1470350 28 NU 21 SW 2492 1046 1470351 27 NU 22 SE 2574 2192 8243 20,21	NU 21 SE	2675	1297	1470974	26
NU 21 SE 2580 1207 1471016 27 NU 21 SE 2579 1367 1471046 26 NU 21 SE 2597 1302 1471049 26 NU 21 SE 2612 1279 1471055 26 NU 21 SE 2557 1259 1471061 27 NU 21 SE 2555 1247 1471062 27 NU 21 SW 2458 1005 1470340 29 NU 21 SW 2476 1031 1470350 28 NU 21 SW 2492 1046 1470351 27 NU 22 SE 2574 2192 8243 20,21	NU 21 SE	2659	1264	1470983	26
NU 21 SE 2579 1367 1471046 26 NU 21 SE 2597 1302 1471049 26 NU 21 SE 2612 1279 1471055 26 NU 21 SE 2557 1259 1471061 27 NU 21 SE 2555 1247 1471062 27 NU 21 SW 2458 1005 1470340 29 NU 21 SW 2476 1031 1470350 28 NU 21 SW 2492 1046 1470351 27 NU 22 SE 2574 2192 8243 20,21	NU 21 SE	261	125	1471000	26,27
NU 21 SE 2597 1302 1471049 26 NU 21 SE 2612 1279 1471055 26 NU 21 SE 2557 1259 1471061 27 NU 21 SE 2555 1247 1471062 27 NU 21 SW 2458 1005 1470340 29 NU 21 SW 2476 1031 1470350 28 NU 21 SW 2492 1046 1470351 27 NU 22 SE 2574 2192 8243 20,21	NU 21 SE	2580	1207	1471016	27
NU 21 SE 2612 1279 1471055 26 NU 21 SE 2557 1259 1471061 27 NU 21 SE 2555 1247 1471062 27 NU 21 SW 2458 1005 1470340 29 NU 21 SW 2476 1031 1470350 28 NU 21 SW 2492 1046 1470351 27 NU 22 SE 2574 2192 8243 20,21	NU 21 SE	2579	1367	1471046	26
NU 21 SE 2557 1259 1471061 27 NU 21 SE 2555 1247 1471062 27 NU 21 SW 2458 1005 1470340 29 NU 21 SW 2476 1031 1470350 28 NU 21 SW 2492 1046 1470351 27 NU 22 SE 2574 2192 8243 20,21	NU 21 SE	2597	1302	1471049	26
NU 21 SE 2555 1247 1471062 27 NU 21 SW 2458 1005 1470340 29 NU 21 SW 2476 1031 1470350 28 NU 21 SW 2492 1046 1470351 27 NU 22 SE 2574 2192 8243 20,21	NU 21 SE	2612	1279	1471055	26
NU 21 SW 2458 1005 1470340 29 NU 21 SW 2476 1031 1470350 28 NU 21 SW 2492 1046 1470351 27 NU 22 SE 2574 2192 8243 20,21	NU 21 SE	2557	1259	1471061	27
NU 21 SW 2476 1031 1470350 28 NU 21 SW 2492 1046 1470351 27 NU 22 SE 2574 2192 8243 20,21	NU 21 SE	2555	1247	1471062	27
NU 21 SW 2492 1046 1470351 27 NU 22 SE 2574 2192 8243 20,21	NU 21 SW	2458	1005	1470340	29
NU 22 SE 2574 2192 8243 20,21	NU 21 SW	2476	1031	1470350	28
	NU 21 SW	2492	1046	1470351	27
	NU 22 SE	2574	2192	8243	20,21
	NU 22 SE			1417824	

NU 22 SE	2525	2231	1421686	20
NU 22 SE	2508	2066	1470660	21
NU 22 SE	2521	2235	1470685	20
NU 22 SW	24782	21341	1421655	20
NU 22 SW	24639	22441	1421684	20
NU 22 SW	2445	2400	1470758	20
NU 22 SW	2360	2379	1470771	20
NU 22 SW	2427	2294	1470814	20
NU 22 SW	2436	2213	1470818	20
NU 22 SW	2447	2244	1470829	20
NZ 28 SE	2996	8339	1470013	39
NZ 29 NE	275	967	1418884	32
NZ 29 NE	27889	95867	1421553	32
NZ 29 NE	28311	95012	1421560	32
NZ 29 NE	27784	95973	1443628	32
NZ 29 NE	2716	9847	1468570	32
NZ 29 NE	2733	9840	1468573	32
NZ 29 NE	2717	9824	1468575	32
NZ 29 NE	2735	9789	1468622	32
NZ 29 NE	2737	9738	1468645	32
NZ 29 NE	2747	9734	1468648	32
NZ 29 NE	2747	9705	1468677	32
NZ 29 NE	2806	9530	1468847	32
NZ 29 NE	2827	9518	1468855	32
NZ 29 NE	2753	9682	1468910	32
NZ 29 SE	28148	94926	1421444	32
NZ 29 SE	28841	93767	1468774	32
NZ 29 SE	28973	93964	1468784	32
NZ 29 SE	29596	92462	1468823	33
NZ 29 SE	2814	9371	1470645	32
NZ 29 SE	2856	9427	1470674	32
NZ 29 SE	2880	9413	1470683	32
NZ 38 NW	3030	8575	1417826	37
NZ 38 NW	3160	8852	1421564	35
NZ 38 NW	3193	8806	1467374	36
NZ 38 NW	3187	8810	1467378	36
NZ 38 NW	3141	8889	1467417	35
NZ 38 NW	316	891	1467428	35
NZ 38 NW	310	895	1467433	34,35
NZ 38 SW	3061	8388	1421566	39
NZ 38 SW	3061	8382	1421567	39
NZ 38 SW	323	805	1427382	42
NZ 38 SW	3051	8425	1467026	39
NZ 38 SW	3053	8410	1470047	39
NZ 38 SW	320	812	1470146	40
NZ 39 SW	3025	9091	1468840	33
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Table 8.13 Anti-tank blocks identified from aerial photographs

OS Sheet	Eastings	Northings	NMR	SMP
NU 20 NE	2520	0808	1469633	29
NU 20 NE	252	072	1469634	29
NU 20 NE	256	068	1469637	29
NU 20 NE	257	063	1469643	29
NU 20 NW	248	098	1469547	28,27
NU 20 NW	24595	09506	1469556	29
NU 20 SE	27463	00011	1469613	32
NU 20 SE	278	009	1469616	32
NU 20 SE	281	015	1469650	32
NU 20 SE	279	009	1469673	32
NU 20 SE	286	025	1469698	32
NU 20 SE	264	036	1469701	29,30,31
NU 21 NE	257	199	1470157	22
NU 21 NE	2620	1732	1470187	24
NU 21 SE	26629	14152	1427712	26
NU 21 SE	2625	1256	1470413	26
NU 21 SE	2579	1182	1470416	27
NU 21 SE	250	106	1470417	27,28
NU 21 SE	2589	1215	1471019	27
NU 22 SW	2431	2324	1421602	20
NU 22 SW	242	243	1470753	20
NU 22 SW	247	224	1470836	20
NZ 29 NE	2727	9896	1468535	32
NZ 29 NE	2702	9828	1468548	32
NZ 29 NE	2723	9685	1468697	32
NZ 29 NE	2744	9697	1468707	32
NZ 29 NE	2761	9640	1468718	32
NZ 29 NE	2787	9531	1468848	32
NZ 29 NE	2813	9500	1468850	32
NZ 29 NE	2793	9541	1468852	32
NZ 29 NE	274	975	1468920	32
NZ 29 NE	2729	9766	1468991	32
NZ 29 SE	29127	93838	1443915	32
NZ 29 SE	2879	9422	1468763	32
NZ 29 SE	282	948	1470632	32
NZ 29 SE	2982	9208	1470760	33
NZ 38 NW	315	879	1467368	36
NZ 38 NW	318	881	1467383	36
NZ 38 NW	31711	88350	1467397	35
NZ 38 NW	310	895	1467433	34,35
NZ 38 NW	3073	8999	1467434	34

Table 8.14 Minefields identified from aerial photographs

OS Sheet	Eastings	Northings	NMR	SMP
NU 20 SE	2831	0178	1469677	32
NU 20 SE	2863	0205	1469690	32
NU 20 SE	280	037	1469733	31
NU 20 SE	281	025	1469758	32
NU 20 SE	2808	0142	1469766	32
NU 21 SE	267	128	1470973	26
NU 22 SW	244	239	1470768	20
NZ 29 NE	2791	9571	1468352	32
NZ 29 NE	2723	9797	1468612	32
NZ 29 SE	2858	9439	1468716	32

Table 8.15 Barrage Balloon Sites identified from aerial photographs

OS Sheet	Eastings	Northings	NMR	SMP
NZ 38 SW	3204	8139	1466938	40
NZ 38 SW	3125	8248	1466993	39
NZ 38 SW	3059	8334	1467003	39

Table 8.16 Air-raid shelters identified from aerial photographs

OS Sheet	Eastings	Northings	NMR	SMP
NU 20 SE	26524	04351	1469712	29,30
NZ 38 NW	309	874	1467353	36
NZ 38 NW	313	881	1467358	36
NZ 38 SW	316	812	1466959	40,42
NZ 38 SW	304	838	1470059	39
NZ 38 SW	310	822	1470144	39