

4 COAST



Plate 1: Embleton Bay

Key Historic Landscape Characteristics

- Historic landscape types: cliffs, dunes, intertidal zone, rocky foreshore and saltmarsh.
- Important resource for food and raw materials throughout history
- Strategic and defensive role in medieval, post-medieval and modern periods
- Increased use for leisure and tourism in the late post-medieval and modern periods.
- Designated as an AONB, Heritage Coast and European Marine Site

The Northumberland coast is a striking landscape with sweeping sandy beaches, rolling dunes, high rocky cliffs and isolated islands. In recognition of its special qualities the coast has attracted many designations for its biodiversity, natural habitats and cultural heritage. The most extensive designation, given to the northern two-thirds of the coast, from the Scottish border to Warkworth, is as an Area of Outstanding Natural Beauty (AONB). Such areas are designated solely for their landscape qualities in order to conserve and enhance their natural beauty (which includes landform and geology, plants and animals, landscape features and the rich history of human settlement over the centuries). In addition the Northumberland coast from the Scottish border to Druridge Bay is a Heritage Coast, which aims to conserve its natural beauty and improve accessibility for visitors where appropriate; and from St Abbs Head in Scotland to Amble is designated as a European Marine Site encompassing a number of designations that recognise the importance of aspects of its ecological resources.

The coast is a marginal zone where the meeting of land and sea creates a unique and challenging environment. The coastline has altered significantly since early prehistoric times as Britain only separated from Europe when sea-levels increased following the end of the last ice age and it became an island, about 8500 years ago. Since then the coastline has continued to change and is still doing so today. Although the coast is perhaps one of the more 'natural' landscapes in the county it has been shaped by people who have lived nearby and used its resources since Mesolithic times.

The coastal environment has always been an important source of food and of raw materials for industry. But it has also played a strategic and defensive role as the many medieval

castles, post medieval, First and Second World War structures testify. In addition, the coast is now an important area for tourism and leisure with links golf courses and services for visitors provided in the small towns and villages on the coastal fringe.

The coastal types identified by Historic Landscape Characterisation are: **cliff, dunes, intertidal zone, rocky foreshore, and saltmarsh** and, with the exception of dunes, they all lie between the low and high watermark. These types occupy a total area of 6115.04ha (1.22% of the county) and comprise 182 polygons (1.17% of the total).

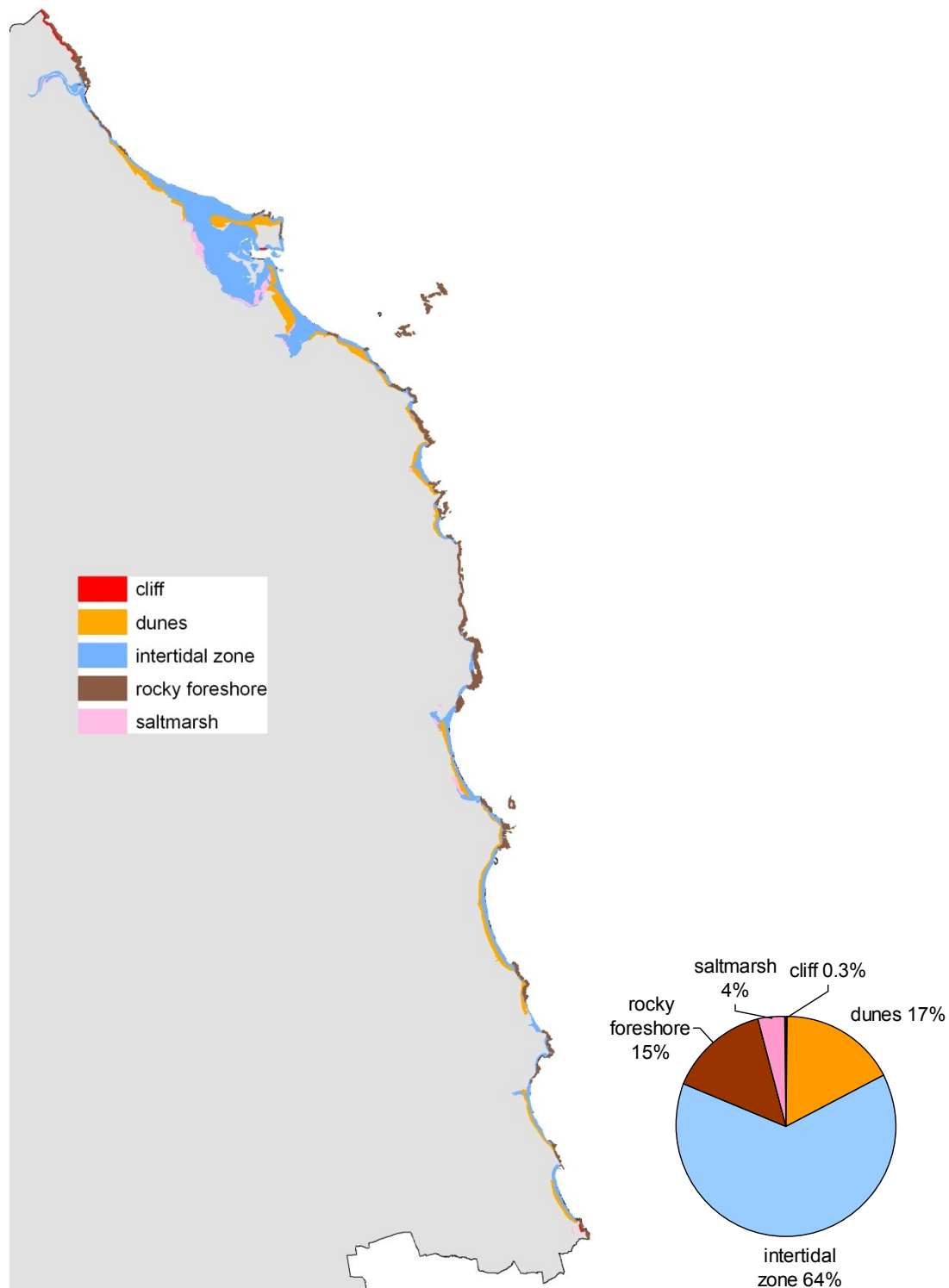
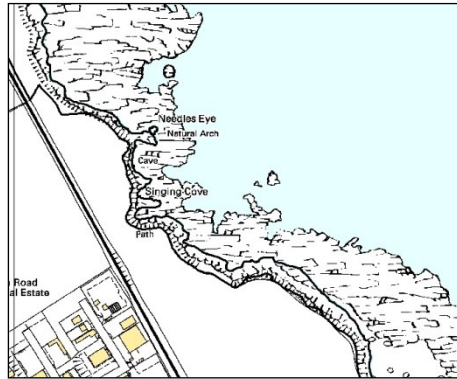


Figure 8: Distribution of coastal historic landscape types.

4.1 Cliff

Key Features:

- Dramatic cliffs in north of the county
- Smaller rocky headlands elsewhere
- Built heritage includes multi-period remains on The Heugh, Holy Island
- Total area = 20.89ha
- % of County = 0.004%
- Number of polygons = 3



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Cliffs are the smallest Historic Landscape Character category defined in this study. As a vertical phenomenon they are particularly difficult to map and areas less than one hectare are likely to have been combined with a more dominant type. The most dramatic cliffs in Northumberland are in the north of the County, either side of the Tweed estuary, but there are other smaller rocky headlands further south right down to the county boundary at Seaton Sluice. Thick sandstones and the Whin Sill form most of



the headlands (Lunn 2004, 47).

Only six entries in the HER lie within this HLC type and all but one are situated on The Heugh, Holy Island. The exception is a tunnel, perhaps used by fishermen, which runs through the cliffs near Marshall Meadow north of Berwick. The sites on The Heugh include a medieval chapel, boundary cross and lookout, as well as a post-medieval fort and a modern war memorial.

Rarity: extremely rare

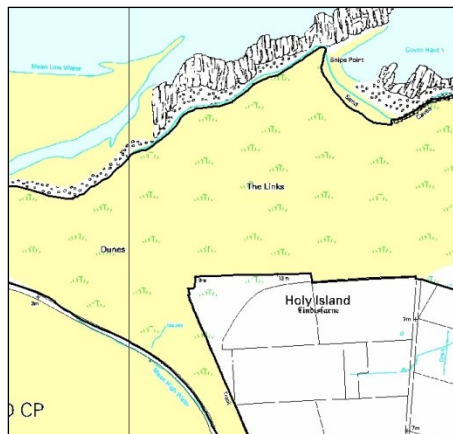
Trajectory of change: stable

Susceptibility: high

4.2 Dunes

Key Features:

- Extensive dunes systems
- Many originated between the 14th and 19th centuries
- Buried land surfaces and remains of prehistoric and medieval periods
- Built heritage includes many Second World War structures
- Total area = 1053ha
- % of County = 0.20%
- Number of polygons = 38



Northumberland has one of the longest, semi-continuous dune coasts in the British Isles and represents 18% of England's dunes – more than any other English county. Here the most extensive dune systems are at Goswick, Holy Island and Ross Links, but there are smaller systems behind the bays at Druridge and Embleton, on spits across estuaries, for example the Coquet at Warkworth and Amble, and on some exposed coasts and headlands (Lunn 2004, 210-13).

Many of Northumberland's dunes are of fairly recent origin with direct dating of dune sand showing they were built in the Little Ice Age of the 14th to 19th centuries. However, whether dunes were more widespread before this period, or were periodically destroyed and reconstructed, is unknown (Lunn 2004, 89). Some of the youngest dunes are at Bamburgh and were formed in the 19th century. Here they have buried an earlier land surface which contains an early medieval burial ground (the Bowl Hole) and a little to the south appear to have been used later for some sort of water management system in medieval times with

a series of possible fishponds; at Beadnell a medieval chapel lies beneath another dune system (St Ebba's). Nevertheless, there are examples in the county of much older dunes laid down thousands of years ago, such as at Ross and Holy Island which may be about 2000 years old, and at Druridge Bay. Here movement of the dunes at Low Hauxley, at the north end of the bay, has revealed a 3500-year old Bronze Age burial ground and a layer of peat which formed between 4700 to 2800 radiocarbon years BP.

There seems to have been little change in the extent of sand dune systems over the last 150 years, since the first edition Ordnance Survey map. The only exceptions are at Ross Links and Goswick, where the seaward edge of the dunes has advanced. Elsewhere, there has been some loss to hard-standing and feeding for cattle, succession to scrub, and sand extraction (now ceased) (Lunn 2004, 21, 213).

There are a range of archaeological sites in the dune HLC type. Prehistoric remains include Mesolithic flints at Lynemouth and a Bronze Age cemetery at Amble. Early

medieval and medieval remains are relatively uncommon in the dunes, and the few examples we have include the early medieval farmstead at Greenshiel on Holy Island and a cemetery at the Bowl Hole in Bamburgh. The post-medieval sites include a range of features associated with industry, such as lime kilns and a lime works, harbours, waggon ways and tramways, as well as structures associated with defence and safety like beacons, lookouts and lifeboat stations. The commonest monument

types are from the modern period and especially from the Second World War. There are 38 pillboxes, five gun emplacements, and many lines of tank traps in the dunes. Some tank traps, or cubes, have been moved to form sea defences (such as at Alnmouth) and others have been engulfed by the movement of dunes, for example at Warkworth beach and Goswick Sands. Pillboxes can also show how the dunes shift as they are periodically buried and then uncovered.

Rarity: rare

Trajectory of change: decreasing rapidly

Susceptibility: high

4.3 Intertidal zone

Key Features:

- Sand, shingle, mud and boulder shores
- Action of the sea can reveal new archaeological sites
- Important food resources of shellfish and migrating wildfowl
- Total area = 3892ha
- % of County = 0.76%
- Number of polygons = 73



The intertidal zone comprises the area between high and low water marks and includes sand, shingle, mud and boulder shores. This type occurs the length of the coast, with great sandy bays at Druridge, Warkworth, Embleton, and Bamburgh, and extensive mudflats at Budle and between Holy Island and the mainland.

Sands and mudflats are home to populations of shellfish, which would have been an important food resource in prehistoric and medieval times, as well as seasonal hunting grounds for migrating birds. They may also have allowed access to specific areas for fishing by means of shore netting and trapping.

The intertidal zone is regularly scoured by the sea and although this natural process can be damaging it often results in the discovery of new archaeological material. Some of the oldest remains to have been discovered in this way are those of a now-submerged forest at the north end of Druridge Bay. Stumps of oak and alder, still rooted in the glacial till, stand on the beach

and are overlain in places by peat which formed about 4700 to 2800 radiocarbon years BP. In particularly high tides the edges of the sand dunes have also been known to reveal hidden sites, such as the Bronze Age burials at Low Hauxley. Prehistoric comes mainly from findspots where artefacts have been discovered, like the many Mesolithic flints from Ross Links. Medieval sites are quite scarce in this HLC type, but where they do occur they tend to take the form of sites such as the possible early medieval church and cross near Alnmouth, the site of a medieval pier at Newbiggin and a wooden bridge across the Tweed at Berwick. Post-medieval sites are more numerous and include a number of wrecks as well as sea defences, jetties, fords, oyster beds and industrial remains such as tramways. The modern era is the best represented in the inter-tidal zone and it is the remains of Second World War defences that are most common, including pillboxes, gun emplacements and tank traps. Some of these features have shifted from their original positions on the edge of the dunes and now lie on the beach.

Rarity: occasional

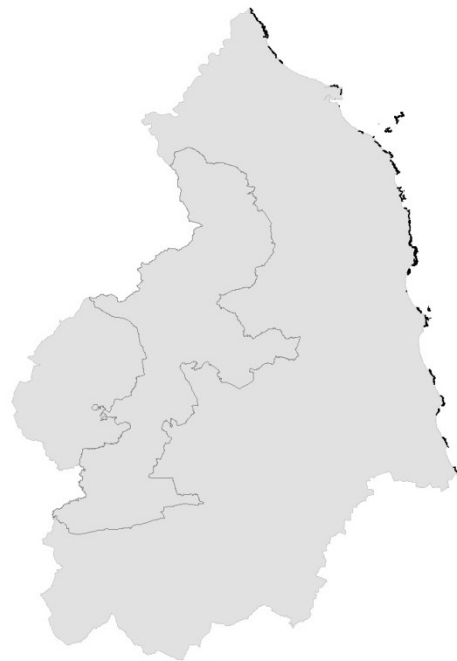
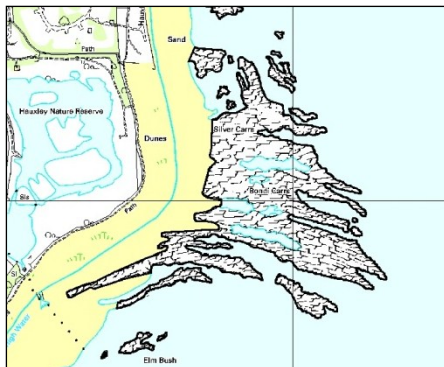
Trajectory of change: decreasing slowly

Susceptibility: medium

4.4 Rocky foreshore

Key Features:

- Projecting carboniferous rocks and Whin Sill
- Range of habitats for food resources, eg crabs and shellfish
- Built heritage includes lighthouses, piers, Second World War structures and wrecks
- Total area = 909ha
- % of County = 0.17%
- Number of polygons = 54



The rocky foreshore, technically part of the intertidal zone, occurs at intervals all along the coast, but is particularly prominent between Boulmer and Seahouses. Projecting carboniferous rocks and the Whin Sill create a series of bays, headlands and reefs, which either run out to sea or lie parallel with the shore (Lunn 2004, 47). Rocky shores are very rich in marine life because they provide a wide range of habitats, such as ledges, crevices, rock pools, outcrops and overhangs, jumbled piles of boulders and caves. This environment would therefore have provided an important source of food, like crabs and shellfish, from prehistoric times onwards.

Due to the exposed nature of this environment there are only a handful of archaeological sites to be found on the rocky foreshore and they are largely structures built onto the rock base. Also, a few artefacts have been discovered here, usually washed from the eroding substrate that overlies the rock surface behind the shore.

Most sites belong to the post-medieval and modern periods and include structures like lighthouses, breakwaters and piers, as well as some wrecks and a few pillboxes and gun emplacements – relics of the Second World War.

Rarity: rare

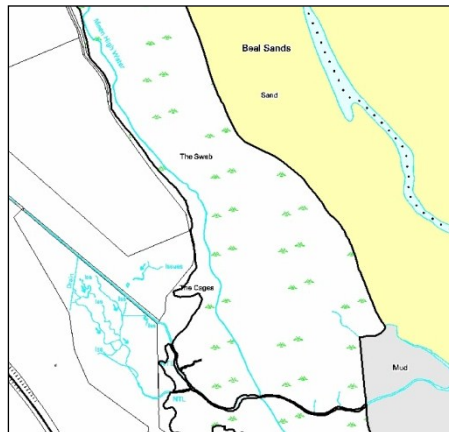
Trajectory of change: stable

Susceptibility: medium

4.5 Saltmarsh

Key Features:

- Important feeding grounds for migrating birds and hence former hunting grounds
- Archaeological remains include a wreck, ford and Second World War tank traps
- Total area = 238ha
- % of County = 0.04%
- Number of polygons = 15
- Occurrence = very rare



The amount of saltmarsh in Northumberland is relatively low compared with the length of coastline. This is the result of the shortage of low-energy embayments and estuaries where such marshes might form (Lunn 2004, 21). The most extensive examples occur between Holy Island and the mainland, at the back of Budle Bay, and behind sand spits at the mouths of rivers and streams, eg the Aln and Coquet. These areas are important feeding grounds for migrating birds and would therefore have been valuable seasonal hunting grounds; now some of these areas and their wildlife are protected by National Nature Reserve

and European Marine Site designations amongst others.

Fewer than ten archaeological sites are recorded in saltmarshes on the HER. These include a post-medieval wreck, well and a ford, and a Second World War tank trap. All but two of these sites, which are at Seaton Sluice, lie around the edges of Budle Bay in its vast system of mudflats and saltmarsh. But the blanket formation of these marshes means that they may well conceal remains from earlier periods, and their generally stable or expanding nature means that these sites may not often become visible.

Rarity: very rare

Trajectory of change: increasing significantly

Susceptibility: medium