

RAPID COASTAL ZONE ASSESSMENT

NORTH YORKSHIRE

Whitby to Reighton

English Heritage Project 3729

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1 SUMMARY

This Rapid Coastal Zone Assessment was undertaken by Humber Field Archaeology on behalf of English Heritage, in order to provide an assessment of the archaeological potential of the coast between Whitby, North Yorkshire and the Norfolk border. This volume covers the coastal sector between Whitby and Reighton. This work was undertaken between September 2007 and February 2008.

The RCZA is based on the principles and methodology presented in Version 8 of *A Brief for Rapid Coastal Zone Assessment Surveys* (English Heritage 2006a), and originally outlined in *England's coastal heritage: A statement on the management of coastal archaeology* (English Heritage & RCHME, March 1996). The area of coverage principally includes the shoreline (to Lowest Astronomical Tide level) and 1km band of cliff and coastal hinterland of North Yorkshire and the North York Moors National Park. In addition, aerial photographic survey and analysis to National Mapping Programme standards covers the same area, but includes entire 1km map squares, which in many areas extends the area of coverage inland. Areas below low-water mark, such as records of shipwrecks, wreck fastenings, dive sites and dredgings, are not included.

The RCZA aims to establish a more comprehensive and reliable database assessment of the range and scope of the archaeological resource than is currently available. Not only should this lead to a significant improvement in the archaeological coverage within the various Local Authority HERs, but it is also intended to inform long-term strategies for the management of the cultural heritage resource, especially in the light of the current Shoreline Management Plans. The results have been published in the form of a series of reports, arranged by coastal section, and supported by maps showing distributions of sites (Maps 1–16). A digital archive is also available, including a GIS-based record of the NMP data.

The project describes and locates 779 records. Of these, around 431 entries are new to the North Yorkshire County Council and North Yorkshire Moors National Park HERs, including the results of the aerial photographic and documentary surveys commissioned for the project.

2 INTRODUCTION

2.1 Background

The project is a joint venture between English Heritage as the commissioning organisation and Humber Field Archaeology as principal contractor, to enhance the coastal archaeology record of north-eastern England, and identify sites at short- and medium-term risk in the coastal hinterland along the Yorkshire and north Lincolnshire coast and in the mouth of the Humber estuary. The relevant information gathered by the project has been formulated as a series of desk-top reports provided to English Heritage and the National Monuments Record, with summaries and pdf versions of the reports available via OASIS/ADS, and digital archives, including a GIS-based record of the aerial photographic analysis. This stage of the project includes resources for adding the information to the Historic Environment Record (or Sites & Monuments Record) databases maintained by North Yorkshire County Council, and the North York Moors National Park. All aerial photographic data has also been added to the NMR database to extend NMP coverage .

The value of rapid coastal zone assessment surveys of the intertidal zone and its immediate hinterland has been established in a number of areas of the United Kingdom, supported by fieldwork where this is safe and practicable. It has proved possible elsewhere, for example in Norfolk and Suffolk and the Isle of Wight, to identify and locate large numbers of new HER monuments and activity records, which can be collated using GIS-based systems, and disseminated in a number of ways.

Although the problem of erosion is not as extreme as that affecting Holderness to the south and unprotected parts of the Lincolnshire coast, large areas of land are currently eroding, and recent fieldwork eg Whitby, Filey Brigg has identified archaeological sites which are at risk of destruction by:

- Active coastal erosion
- Commercial, industrial and residential development
- The potential relocation of current coastal facilities to new sites further from the areas at immediate risk

The collection and collation of information will allow areas of the coastal hinterland to be particularly targeted for field survey where the results of the documentary and aerial photographic surveys suggest that this is suitable. A project design for this second phase is proposed as a deliverable stemming directly from the completion of the desk-based assessment.

2.2 Definition of the Study Area

The area of interest comprises a 1km strip of coast approximately 50km long, which extends across North Yorkshire south of Whitby, including the mouth of the River Esk (Fig 1). For the study, it was considered essential to survey the available data covering the intertidal zone (above Lowest Astronomical Tide level) and the coastal hinterland from high tide level for a distance of up to 1km inland. The aerial photographic survey extends this area in many places, as it complies with standard National Mapping Programme recording procedures, which is to cover entire complete 1km squares.

Broadly, the coastline between Whitby to Scarborough is characterised by high limestone cliffs epitomised by the cliff-top settings of the medieval abbey in the former and the castle in the latter. Moving south from Scarborough to Reighton there are a series of sweeping, cliff-backed bays with Cayton and Hunmanby Sands topped with Amptill Clay and Kimmeridge Clay, Corallian Limestone and Lower Greensand.

The Esk (Whitby) is the only substantial river entering the sea, where it forms a natural harbour, although there are a number of streams at various locations, including Robin Hood's Bay, Scalby and Filey; the latter was formerly the outlet for the entire Derwent system, which reversed its course during the last glaciation to enter Lake Pickering when its course was blocked by ice sheets following the coast, and a resulting ridge of till pushed up along the glacier edge. After the lake drained away, the Derwent maintained its new course, entering the Ouse at Howden. Although insignificant, the post-glacial streams which cut through the till after the ice retreated defined the locations of many coastal settlements from the prehistoric periods onwards.

This area encompasses a wide range of archaeological sites of local, regional and national importance, from prehistoric settlements to World War 2 defences, as well as a diverse geology and geography. These are unevenly affected by a variety of risks, both natural and developmental. The study area includes the North Yorkshire and Cleveland Heritage Coast and the North York Moors National Park, which have a higher degree of protection from commercial development than elsewhere, but remain at risk from natural processes.

Along this coast and within this project area there are several towns and resorts, the largest being Scarborough, Whitby, and Filey, with smaller settlements such as Robin Hood's Bay, Ravenscar, Cloughton, Burniston and Scalby. Between these are past and present industrial/commercial developments, nowadays primarily consisting of holiday camps and related leisure developments. Although the North Yorkshire 'coastal crust' is at less immediate risk from erosion than further south, there are highly vulnerable major sites here (eg Whitby Abbey and Scarborough Castle, both Scheduled Ancient Monuments), and development pressures still affect the hinterland. Historic ports and related facilities are also at risk from urban development and sea defence works (eg the armouring of Scarborough Harbour and Marine Drive).

The lead unitary authority for the area is Scarborough Borough Council, although for various purposes it falls within the jurisdiction of North Yorkshire Council and the National Park authority. The study area is also divided for the purposes of shoreline management into zones based on sediment cells, each consisting of several smaller policy management units.

2.3 Coastal management

General background

As already stated, the proposal area includes the North York Moors National Park and North Yorkshire and Cleveland Heritage Coast. Heritage Coasts are a non-statutory landscape definition, unlike the formally designated National Parks and Areas of Outstanding Natural Beauty (AONBs) and are defined by agreement between the relevant maritime local authorities and the Countryside Agency. The North Yorkshire and Cleveland Heritage Coast coincides largely, but not entirely, with the North York Moors National Park, and the area is of considerable significance as a natural resource (English

Nature 1997 and undated). There are eight Sites of Special Scientific Interest (SSSI) in the area: Huddy Cows Spring; Robin Hood's Bay (Maw Wyke to Beast Cliff); Scarborough (North Bay to South Toll House Cliff); Iron Scar & Hundale Point to Scalby Ness; Hayburn Wyke; Filey Brigg, Gristhorpe Bay & Red Cliff; Cayton, Cornelian & South Bays. Together these cover a substantial proportion of the coastline; many of these are principally of geological interest, although some are also of ornithological or botanical importance. Beast Cliff (Whitby) is also a Special Area of Conservation, designated under the Conservation (Natural Habitats etc) Regulations 1994.

For the purposes of shoreline management, the coast of England and Wales has been divided into eleven sediment cells, which can be defined as lengths of coastline which are relatively self-contained as far as the movement of sediments is concerned. Each of these is sub-divided for convenience into sub-cells, composed of a number of smaller management units. A management unit is a length of shoreline with 'reasonably coherent characteristics in terms of coastal process and land use' (Posford Duvivier 1998, 1). The sediment cells within the study area comprise parts of:

- Cell 1, extending from St Abb's Head to Flamborough Head. This has been divided into sub-cells, of which Whitby to Flamborough Head falls entirely within sub-cell 1d (which starts at Saltburn), mainly in the Scarborough Borough Council area, although the northern coast of Flamborough Head (Buckton, Bempton and Flamborough parishes) lies within the East Riding of Yorkshire Council area. The data for these should be included with material from cell 2, which incorporates the remainder of the ERYC coastal area.
- Cell 2, extending from Flamborough Head to Snettisham. This cell has been divided in the study area into sub-cell 2a, comprising units 1–15 (Flamborough Head to Sunk Island) and sub-cell 2b, comprising units 16–18 (Grimsby to Donna Nook), which conveniently divide information between the East Riding of Yorkshire and North-East Lincolnshire/Lincolnshire Council areas.

Defra's 2002 Futurecoast study (Halcrow 2003), which has provided scientific information on coastal process for the second generation of Shoreline Management Plans, considers that the cell system has some shortcomings, as reflecting only one aspect of coastal system behaviour. English Heritage (2006a: section 3.3), however, prefer desk-top surveys to coincide with the boundaries of sub-cells or management units, although the political boundaries between Scarborough Borough and the East Riding of Yorkshire do not coincide exactly with the boundary between cells 1 and 2.

A variety of local management documents have been produced, including the Filey Bay Coastal Defence Strategy. Principal among these documents are the Shoreline Management Plans, which set out the long-term policy for management by local authorities or groups of authorities, and the Environment Agency.

Shoreline Management Plans

A series of Regional Coastal Defence Groups (RCGs) were set up by the Ministry of Agriculture, Fisheries and Farming (MAFF), now replaced by the Department for Environment, Food and Rural Affairs (Defra), specifically the Flood Management Division, and these were required to produce Shoreline Management Plans (SMPs) for areas within their remit.

- The RCGs are voluntary coastal defence groups, primarily consisting of representatives of the district authorities and any other bodies with coastal defence responsibilities, including the Environment Agency. For the study area, the coastline between Whitby to Flamborough Head (cell 1d) falls within the North East Coastal Authorities Group area (NECAG).
- An SMP is a document which sets out a strategy for coastal defence for a specified length of coast, normally a sediment sub-cell or group of sub-cells, taking account of natural coastal processes and human and other environmental influences and needs.

The first round of 49 SMPs for England and Wales was completed between 1995–2000, and they were intended for revision on a 5-year cycle. An initial criticism of the first reports was that appropriate long-term decisions were not made, and that an improved understanding of processes acting on the shoreline was required of the second round. As a result, defra and the National Assembly for Wales have collaborated to improve the second stage SMPs by ensuring that a scientific and consistent basis for predicting coastal change over the next century is available; this study, completed in 2002, is known as Futurecoast (Halcrow 2003). In this process, English Heritage will assist in helping to ensure the protection of significant ‘coastal historic assets’, and where this is not possible, help to develop mitigation strategies which are ‘economically viable, technically sound and environmentally sustainable’ (English Heritage 2006b).

A first generation SMP (‘SMP1’) was produced for the area between Saltburn and Flamborough Head by Scarborough Borough Council (September 1997). Revision of the Plan (‘SMP2’) was undertaken following a review, and a final draft was produced for circulation in February 2007 (Royal Haskoning 2007). SMP2 includes revisions of two SMP1 areas to the north, from Tynemouth to Seaham, and Seaham to Saltburn. Although SMP2 is comprehensive in terms of coastal management, there is only summary consideration of the historic environment, broadly listing Scheduled sites and giving outline figures for the number of sites of historic and archaeological interest for each general area derived from sites and monuments records (Appendix D, section D4, 33–7, of which pages 36, 37 cover the study area).

The SMP determines a management policy for each policy unit (English Heritage 2006b: Part 1). The alternatives can be summarised as:

1. *Hold the existing defence line* by maintaining or changing the standard of protection. This policy should cover those situations where works or operations are undertaken in front of the existing defences (e.g. beach recharge, rebuilding the toe of a structure, armouring or reinforcing existing defences, the construction of offshore breakwaters, etc.), to improve or maintain the standard of protection provided by the existing defence line. Policies that involve operations to the rear of existing defences (e.g. construction of secondary floodwalls) should be included under this policy where they form an integral part of maintaining the current coastal defence systems;
2. *Advance the existing defence line* by constructing new defences seaward of the original defences. Note that use of this policy should be limited to those policy units where significant land claim is considered;

3. *Managed realignment* by identifying a new line of defence and, where appropriate, constructing new defences landward of the original defences;
4. *No active intervention* where there is no investment in coastal defence assets or operations, i.e. no shoreline management activity.

In practice, option 2 is unlikely to be adopted in the area for purposes of sea defence, although an advanced waterfront may be proposed where new developments are planned which require additional land (e.g. port or marina extensions). SMP review will occur every 5–10 years to assess the rapidly changing situation, the overall planning process being staged.

Stage	SMP	Strategy plan	Scheme
Aim	To identify policies to manage risks.	To identify appropriate scheme types to implement policies.	To identify the nature of works to implement preferred scheme.
Delivers	Broad-brush assessment of risks, opportunities and constraints, areas of uncertainty.	Preferred approach (i.e. scheme type) including economic and environmental decisions.	Comparison of different implementation options for preferred scheme type.
Output	Generic policies (e.g. hold the line, advance the line etc.)	Type of scheme (e.g. beach recharge, seawall, setback embankment etc.)	Type of works (e.g. revetment, wall, recycling etc.)
Outcome	Improved undertaking of the longer term sustainable management for the coast.	Sets out management measures that will provide the optimum approach to flood and erosion management for a specified area.	Reduced flood and erosion risk to people and assets (natural and man-made).

The RCZA can assist in the development of a strategy plan by defining the heritage resource to inform the SMP at an early stage, although in this instance, where SMP2 is substantially complete, it will act as a separate document. By attempting to quantify the status and risk to individual monuments, it should be possible to highlight those which require imminent remedial action; this is a significant improvement on the use of raw HER and NMR data in areas where no RCZA has taken place. The presence of an ‘at risk’ historic asset is unlikely to influence the implementation of a management scheme in most cases, as the majority would not repay substantial outlay, but it may help to give a timescale during which action must be taken. An example would be a Romano-British field system in an area where *managed realignment* or *no active intervention* are identified as the correct courses of action. However, the English Heritage position is that significant monuments should be protected ‘wherever this is economically, technically and environmentally sustainable’ (English Heritage 2006b). This might be time-limited (e.g. to 20 or 50 years), but some monuments would be considered of such significance that

indefinite protection would be proposed: clear examples of this in the region include Whitby Abbey and Scarborough Castle, although both will still be vulnerable to cliff falls and airborne erosion.

Although the majority of listed buildings in the study area are currently protected by seawalls in coastal settlements, and hence could be considered not at risk from erosion as long as defences are maintained, rising sea level in relation to the land in fact places the stability of many such areas in doubt over a period of perhaps 50–100 years. Substantial outlay will be required to protect coastal towns and villages in the future. Cliff falls will still occur, even in areas protected by sea defences. For those which are at risk (most immediately those in unprotected coastal areas), English Heritage has outlined two options:

1. recording, followed by staged abandonment, ruination and/or demolition, (perhaps involving removal of architecturally or culturally significant components), consistent with H&S considerations; or
2. recording, followed by controlled dismantling/demolition and re-location to a nearby sustainable site, ideally in a comparable topographic situation to the building's original site.

The policy outlined for the area over 20, 50 and 100 year periods is outlined in the table below, derived from Shoreline Management Plan 2.

Management Area		Policy Unit		Policy Plan			Comment
				2025	2055	2105	
MA23	Whitby	23.1	Uppang Beck	HTL	R	R	Transition form hard defence
		23.2	West Cliff	HTL	HTL	HTL	
		23.3	Harbour and Abbey cliffs	HTL	HTL		
MA24	Whitby to Saltwick Nab	24.1	The Stray	NAI	NAI	NAI	
MA25	Saltwick Nab to Hundale Point (Robin Hood's Bay)	25.1	Saltwick to Hundale	NAI	NAI	NAI	
		25.2	Robin Hood's Bay	HTL	HTL	HTL	This policy is a local exception to the general policy for this larger section of the coast
MA26	Hundale Point to Scalby Ness	26.1	Burniston	NAI	NAI	NAI	
MA27	Scarborough North Bay and Castle Cliffs	27.1	North Bay	HTL	HTL	HTL	Detailed strategic appraisal of options required
		27.2	Castle Headland	HTL	HTL	HTL	
MA28	Scarborough South Sands and Harbour	28.1	Harbour	HTL	HTL	HTL	Essential control point
		28.2	Foreshore Road	HTL	HTL	HTL	Improve overtopping risk
		28.3	Spa and access	HTL	HTL	HTL	Consider opportunity for advance
		28.4	Cliff Gardens	HTL	HTL	HTL	Minimise impact on foreshore
		28.5	South Cliffs	NAI	NAI	NAI	
MA29	Black Rocks and Cayton Bay	29.1	Cornelian Bay	NAI	NAI	NAI	
		29.2	Cayton Bay	NAI	NAI	NAI	
		29.3	Cayton Bay access	MR	MR	MR	Within the broader policy unit of the bay
MA30	Filey	30.1	Gristhorpe Cliff	NAI	NAI	NAI	Provide advice to caravan parks with respect to retreat
		30.2	North Cliff	NAI	NAI	NAI	Set back line of coastal footpath
MA31	Filey Bay	31.1	North of Filey	NAI	NAI	NAI	Affected by works to stop outflanking of Filey
		31.2	Filey	HTL	HTL	HTL	Looking to long-term overall management

		31.3	Muston Sands	NAI	NAI	NAI	Affected by works to stop outflanking of Filey
MA32	Muston Sands to Speeton Cliffs	32.1	Hunmanby Sands	NAI	NAI	NAI	Consideration of long-term management of frontage, access and hinterland
		32.2	Hunmanby Gap	NAI	NAI	NAI	Consideration of long-term management of frontage
		32.3	Reighton	NAI	NAI	NAI	Consideration of long-term management of frontage
Key: HTL – Hold the Line R – Retreat or Realignment NAI – No active intervention MR – Managed Realignment							

England's Historic Seascapes

This English Heritage project, which consists of four pilot studies, aims to apply tested Historic Landscape Characterisation (HLC) methodology to the inter-tidal and marine zone, building on an initial HLC methodology developed for Liverpool Bay (Wessex Archaeology 2005). A key role for the resulting characterisation methodology will be to frame responses to marine aggregates extraction. Funding for the pilot studies has come from the Aggregates Levy Sustainability Fund (ALSF).

This marine and inter-tidal characterisation will complement the current national programme of County-based HLC projects which, through desk-based GIS mapping and analysis, seek an archaeological understanding of the historical and cultural development of the whole of the present landscape. It will enhance English Heritage's ability to inform the management of change affecting the historic environment, using methodologies compatible with natural environment datasets. The project's analysis will be of the present landscape, and will give a context to the otherwise predominantly point-data records of the coastal and marine historic environment.

Two of the four pilots lie within the RCZA study area: Scarborough–Hartlepool (English Heritage 2005a) and Withernsea–Skegness (English Heritage 2005b). The landward limit of the pilot areas extends to at least Mean High Water (MHW). The seaward limit is that of the UK Continental Shelf, following the Median Line with Holland, as defined in the UK Continental Shelf Act 1964 as subsequently amended.

All estuaries within the project area have been included to the Normal Tidal Limit along their rivers and tributaries.

Coastal Geohazards Project

The three-year Coastal Geohazards Project is a collaboration between Newcastle University, the British Geological Survey and English Heritage. The aim of the project is to develop and apply an integrated remote monitoring approach which will enable improved understanding of coastal geohazards and the complex processes which drive their development. The strategy is being applied to sites along the North Yorkshire coast with particular emphasis on areas considered to be important in terms of culture and heritage and which are known to be at risk from coastal erosion (e.g. Whitby Abbey).

As well as analysing aerial photography, new data is being collected including Light Detection and Ranging (LiDAR) airborne sorties of Whitby and the surrounding Headland area and Filey Brigg by the Oxford-based Airborne Research & Survey Facility (ARSF). The processed LiDAR data will prove useful in monitoring coastal recession in the area and provide an up to date three dimensional record.

2.4 The shoreline heritage

With the retreat of the ice sheets after the Devensian glaciation some 18,000 years ago the sea levels would have started to rise and it has been estimated that the sea level c.12,000 years ago was some 50m below the current level. The levels then continued to steadily rise over the next 5,000 years to about 10m below what we see today (Howard and Macklin 2003, 15). In tandem with the sea level rises the climate would have been ameliorating and there would have been an increase in the resources available to the early hunter gather communities. Little evidence for these communities has been seen in the northern part of the study area and it is not until the more agrarian communities of the Bronze Age that the landscape appears to start to become exploited and settled.

The Bronze Age communities along the fringes of the North York Moors seem to have exploited the area for both small scale settlement but primarily as a funereal landscape. This can be seen by the extensive barrow cemeteries along the edge of the moors often overlooking the sea and an almost continuous low level of occurrence of individual barrows along the whole length of the study area.

The exploitation of this landscape in later prehistory and the Romano-British periods seems to be limited to a few small coastal settlements (e.g. at Whitby, Scarborough and Filey) and the various signal stations of the late Roman period (Scarborough and Filey).

The post Roman, medieval and post-medieval periods are dominated by agriculture which has left widespread evidence in the form of ridge-and-furrow cultivation, which may in turn mask earlier activity. Probably the most significant element of the post-medieval landscape was the flourishing and subsequent decline of the various alum plants along the coastline which had a major impact both on the topography and the economic shape of the area (see Miller, 2002 for details of the alum industry).

With the precipitous nature of the coastline there are few suitable locations for coastal communities to settle and develop into any significant size and this is seen in there only being three larger towns within the study area – Whitby, Scarborough and Filey. These settlements tended to be concentrated within their respective locations and were originally primarily concentrating on fishing. The exception to this generalisation was Whitby (and to a lesser extent Scarborough) which was a major ship and boat building port in the 18th century and played a crucial role in supplying the various alum plants along the adjoining coastline. These settlements have expanded in more recent times and with the decline in the fishing industry have expanded their tourism potential.

Currently, in addition to the considerable number of policy documents, a large quantity of information has been accumulated by the regional HERs. A proportion of this has not been added to the HER databases, for example where it is presented in the form of a desk-based assessment, as a donation or bequest, and/or as material in an uncatalogued form. DBAs have been produced for Filey Bay, North Yorkshire (Brigham 2001; Buglass 2005). While these contain material mainly derived from the HER, they may well also contain new data (for example from fieldwalking, documentary survey and aerial photographic analysis). In the maritime zone, *Artefacts from the Sea* research has been undertaken by Wessex Archaeology (2007). Pilot studies, *England's Historic Seascapes Scarborough to Hartlepool* and *Withernsea to Skegness* are also underway (Johns *et al* 2005), undertaken respectively by Cornwall County Council Historic Environment Service and the Museum of

London Archaeology Service, with a brief to provide Historic Landscape Characterisation of the intertidal and maritime zones. Exchange of relevant data with the RCZA was considered mutually beneficial, and some material forms part of this document.

Individual artefact or site findspots and event records are more likely to have been added. The National Monuments record (NMR) archive for the Study Area contains a large number of monument entries and event records, although not all are relevant, and many duplicate HER holdings.

In addition, there are a number of Scheduled Ancient Monuments along or near the coastline, covering a wide range of monument categories and dates. These include (from north to south, by county number):

SCM11	Whitby Abbey. Saxon and post-Conquest monastic sites, medieval cross and 17th-century manor house
SCM71, 72	Saltwick Nab alum quarries
SCM76	Stoupe Brow Alum Works
SCM77	Peak Alum Works
SCM248	Round barrow (Burnt Howe)
SCM251	Round barrow north of Church Road Farm
SCM254	Medieval dike (War Dike)
SCM258–60	World War 2 radar station
SCM12	Scarborough Castle. Iron Age settlement, Roman signal station, Anglo-Scandinavian settlement, medieval castle and chapel, 18th-century battery
SCM257	St Mary's Church. Ruins and buried remains of demolished east end
SCM6	Filey Roman signal station
SCM8–9	Two round barrows south-west of Moor Farm

2.5 Characteristics of the North Yorkshire coast

North Yorkshire is the largest county in England, stretching from the North Sea coast to the Pennines and lying between the rivers Humber and the Tees; as such it contains a wide range of geology, topography and hence resulting archaeology. This large area can probably be best divided into upland and lowland environments, both of which are represented to a degree within the study area.

Broadly speaking, the area between Whitby and Scarborough is one of an upland environment created by the underlying middle Jurassic sandstones. This results in an almost continuous series of very steep cliffs which tower over a wave-cut rock platform along most of the coastline. Within this range of sea cliffs there are a few locations where there is relatively easy access to the foreshore — most notably and significantly at Saltwick Bay and Robin Hood's Bay — with some relatively small-scale settlement having taken place at the latter. From Scarborough southwards the geology changes to the softer material of the upper Jurassic clays and limestones which form a series of often sandy bays with headlands.

The southern portion of the study area, whilst still containing impressive cliff formations (notably Filey Brigg, Scarborough headland and at the extreme southern end the start of Speeton Cliffs) can be generally regarded as a more lowland environment. This can be seen in the sweeping, often sandy bays, the greater ease of access to the foreshore and sea and a higher density of settlement and more intensive agriculture.

To the north of Scarborough the height of the land and the nature of the soils and drift geology has meant that much of the area is open moorland and as such a large part of it is now the North York Moors National Park (NYMNP). Over time this has led to the cultivation of the lower slopes of the moors along the various watercourses and the coastal margin which has given rise to the landscape we see today.

With this extensive agricultural activity acting as a backdrop to the study area, the main focus of human impacts can be roughly divided between widespread prehistoric activity (mostly in the form of Bronze Age funerary monuments), 18th-century and later alum and other extractive industries (jet, coal and ironstone), and the activity of the various small ports (fishing, boat building and more recently tourism).

For a more detailed description of the North Yorkshire landscape and archaeology see Butlin 2003 and Manby *et al* 2003.

The coast between Whitby and Filey, although having a much slower rate of erosion than further south, is still at risk (Lee & Pethick 2003, 17–20). The area consists of a mixture of till-capped rock cliffs and foreshore platforms, with some areas of sand beach.

The cliffs are locally unstable, and, as well as collapse caused by undermining as a result of wave action, they also suffer periodic *rotational failures*, characterised by the progressive slippage of large semi-circular areas of cliff, particularly after prolonged heavy rainfall following a dry spell, which can create extensive mudslides. Much of the area is therefore at risk from sudden unexpected collapse. A further type of erosion consists of the lifting of areas of rock foreshore platform as a result of wave action, particularly affecting shales; this can cause the wholesale loss of features locally.

There are only small areas of sandy beach north of Scarborough, chiefly held within small bays, but South Bay, and Filey Bay are exceptions further south. The periodic removal of sand by storm action leads to periods of increased erosion, similar to the effect of the formation along the Holderness coast of *ords* (zones of lowered beach migrating southwards).

Another feature of the North Yorkshire coast is the *undercliff*. Undercliffs are often wooded, sometimes inaccessible, areas below the cliff top, which can provide nature sanctuaries. These are particularly pronounced between Hayburn Wyke and Ravenscar, and probably originated as rotationally-collapsed but stabilised areas of cliff. This stretch of the North Yorkshire coastline is also characterised by deep wooded ravines, some of which have attracted settlement, others were used historically for access to the beach, and often retain that function, sometimes containing culverted natural springs or streams (e.g. at Boggle Hole near Robin Hood's Bay). The construction of access roads, steps and drains in the ravines (e.g. Church Ravine, Filey, Ramsdale Valley, Scarborough) is a potential threat to the archaeological evidence for past usage.

Whitby is largely protected by concrete sea defences at the toe of the rock cliffs, with the harbour piers projecting out to further protect the area from the full impact of waves. The beach west of the town is a mixture of sand, the level of which is broadly maintained by the piers and other defences, with rock platforms to the east. The sea defences do however require major repair in the short to medium term, and current erosion rates per annum west of the harbour are c 0.2–0.25m. Parts of the cliff top are undeveloped, but the

harbour and inland area either side of the Esk are largely covered by buildings. The inner harbour is protected by sea defences, lined by wharves, commercial and residential properties. The failure of the piers and other sea defences would lead to lowering of the beach and significantly increased erosion of the cliffs, including the Abbey headland, and threaten parts of the built environment of the town. The historic multi-period sites at Whitby Abbey would be at risk if the sea defences were not maintained, and emergency excavation work was funded by English Heritage in 1999 to record early monastic features in response to accelerating erosion, which is currently only c 0.1m/per annum. This rescue excavation led to new discoveries being made, considerably enhancing the archaeological significance of the headland, but also highlighting the vulnerability of sites of critical importance.

South of Whitby, the cliffs erode at a rate of approximately 0.1–0.2m per annum, reaching 0.3m at Robin Hood's Bay; this belies the catastrophic losses caused by the sudden very large cliff falls which have an effect many metres inland (see below). The scheduled alum quarries at Saltwick Nab just south of Whitby will almost certainly be severely damaged in the medium to long term: annual erosion there is 0.7m; the Whitby Fog signal buildings and High Light are also at risk.

Perhaps as a result of past collapses, the cliffs vary from near-vertical or steep and scree-covered (e.g. between Whitby and Robin Hood's Bay), to slumped, terraced and vegetated (e.g. southwards towards Ravenscar). The more resistant rock tends to form headlands, protecting bays with softer till cliffs; these can still reach a considerable height, as at Whitby and Robin Hood's Bay, but are prone to erosion at a rate of approximately 0.25m per annum where the till reaches the toe of the cliff (i.e. where the rock strata dip below beach level). Robin Hood's Bay has lost many houses to the sea over several centuries, with a particularly catastrophic event in 1780, and is now protected by a massive sea defence constructed in 1975: the shape of the bay here means that the town frontage takes the brunt of waves, and the maintenance of the sea defences is therefore crucial. Other than the village of Robin Hood's Bay ('Baytown'), the bay itself is relatively sparsely occupied, with occupation at Boggle Hole and Ravenscar set back from the cliff edge. The Jet Holes and Peak Alum works would be at long-term risk here. South of here, there are several shallow bays, with generally steep till-capped cliffs and occasional access points to the beach via stream valleys, but little cliff-top occupation until Scarborough is reached.

Near Scarborough, North Bay is generally backed by sloping, terraced cliffs, with a sandy rock-strewn beach. The Castle Headland provides little wave protection to the northern end of the bay from the prevailing wind direction, although most of the North Bay is protected by a seawall, constructed c 1890 as a scenic promenade, which at the south end is being augmented by rock armour along the Marine Drive to the tip of the harbour's East Pier. The exposed cliffs near Scalby show sign of slippage, despite being protected at the toe by seawalls, which could fail locally in the short term. South of the Castle Headland, the harbour protects the enclosed South Bay, maintaining the level of the sandy beach. This is backed by a low-level seawall in front of beach level commercial properties until it rises near the end of Ramsdale Valley to protect the Spa complex; parts of the Spa seawall is in poor condition, and may fail in the short term unless repaired, although there are plans to advance the line here by about 30m. The cliffs to the rear of the Spa consist of terraced gardens with a cliff-top terrace above. Buildings only come close to the cliff edge near Holbeck Ravine, where there was a catastrophic landslide in 1993 (see below). Erosion in the Scarborough area is c 0.1–0.2m in the northern bay, 0.2–0.3m south of the harbour area.

The well-publicised failure of 60m of sandstone, mudstone and siltstone cliff, capped by 30m of till at Holbeck, Scarborough in 1993, led to the collapse of Holbeck Hall Hotel and a large area of surrounding land over a 2-day period, despite being protected by a sea wall since the late 19th century; a semi-circular arc of new sea defences, consisting of large boulders now projects onto the foreshore at the foot of the stabilised landslip. The simple original Spa buildings and the 'Spaw' spring itself were lost to a massive landslip in 1737, although it was reinstated the following year. The Scarborough Castle SAM area remains at risk: the collapse of 1.5 million m³ of material in the 'Great Landslip' of 1890 completely transformed the whole north side of Castle Hill, and there have been periodic smaller cliff falls.

South of Scarborough, the cliffs are initially of steeply-sloping till, becoming more predominantly near-vertical rock further south, with a till capping. In the north, Cayton Cliff, Tenants' Cliff and the Killerby Cliffs are all unstable, or potentially so, and there has been slumping, although collapsed debris from previous falls protects some areas to an extent. During the editing of this volume, there were two substantial rotational collapses in a ravine adjoining Knipe Point, Cayton, due to groundwater penetration, and leading to the loss of several dwellings; this was likely to lead to further losses.

Sandy foreshore in Cayton Bay gives way to boulders further south, where the cliffs become progressively lower as they approach Filey Brigg. The rate of annual erosion is 0.2–0.25m, although the possible medium-term detachment of Osgodby Point, which currently acts as a breakwater, could lead to increased erosion in Cayton Bay. Most of this area is backed by agricultural land and a series of caravan parks.

The cliffs of Filey Bay, although partly protected by the dual promontories of The Brigg and Flamborough Head, are steeply-inclined glacial till, and suffer from the same processes of coastal erosion and collapse as Holderness, averaging c 0.25m per annum at The Brigg, but increasing to 1.5m near the black shale cliffs at Speeton Sands. A measuring station using satellite imaging technology is currently sited within the bay, measuring the rate of erosion on a trial basis as part of an experiment by Newcastle University's Department of Geomatics.

Filey itself is protected by a substantial 1km long 20th-century sea wall, with buildings climbing the cliff to the rear, and the historic Coble Landing forming a beach access for fishing boats. Elsewhere in the bay, there have been substantial and accelerating losses of areas of cliff. Some of this is the direct result of erosion, but prolonged heavy rainfall can cause substantial areas of slippage and mud flows similar to the rotational failures seen further north, with local areas of cliff retreat far exceeding the average in some years. This has resulted in the collapse and destruction of elements of the World War 2 anti-invasion defences, and 20th-century buildings in a failure zone at Flat Cliff, Primrose Valley and to a lesser degree at Hunmanby Gap. The Brigg itself consists of a narrow ridge of till (Carr Naze) capping a low rock platform, and is also at risk. A Roman signal station located on Carr Naze has now almost completely disappeared, although the remains were recorded, latterly in 1993–4, uncovering important new evidence for the maintenance of the late Roman military supply system (Ottaway 2001).

In particular combinations of wind direction and wave action, and exceptional storm conditions, the deep sands forming the beach can be partially or wholly stripped to reveal areas of the vulnerable till platform and expose many normally-buried features, such as

wartime defensive structures and lines of timber posts. Wrecks of ships and a submarine can also be seen (or were formerly visible) at exceptional low tide near Bempton Cliffs. An increasing amount of timber is turning up either as drift from the breaking up of wrecks or is being revealed by scouring at the southern end of Filey Bay (J. Buglass pers comm.).

A further feature of the Bay is its deep wooded ravines, created by spring-fed streams eroding the soft boulder clay; Filey is based around three examples, one of which (Church Ravine) formerly drained the Derwent river system, until the reversal of flow to the present junction with the Ouse near Long Drax. The margins of the valleys are prone to slippage like the main cliffs, although protected to a degree by tree cover, and Roman artefacts have been exposed in the margins of one such ravine at Primrose Valley. Most of the ravines have been developed in some way, usually with the construction of concrete access roads constructed over the culverted streams, and steps. There is the unusual survival of a brackish pond on the lower cliff near Flat Cliff, in front of the former Butlins site; this is also at risk, but may contain valuable palaeoenvironmental information.

The First Edition Ordnance Survey reveals a number of cliff top quarries and lime kilns along the northern end of the Bay and up towards Scarborough which have been disused for many years and are falling away.

Much of the cliff-top area of the bay has been developed, with a country park north of Filey, golf course between Filey and Primrose Valley, and caravan parks southward to Reighton Gap. Monuments of prehistoric and later date exist in the area (Brigham 2001; Buglass 2005)

Beyond Reighton, Flamborough Head (a Heritage Coast) consists of chalk cliffs with a varying depth of glacial till capping. The high northern cliffs are being constantly eroded by the sea and chemical action, leading to cliff falls and in the very long term to a cycle of formation and eventual collapse of sea caves to form arches and stacks.

In summary, the coast has also been transformed by human activity, including past and present industrial processes, such as extensive alum quarrying near Ravenscar and Saltwick Nab, as well as the construction of housing, commercial premises, and increasingly, the extension of leisure facilities, such as holiday parks, mainly in the area between Reighton and Scarborough. Although controlled and protected through the normal planning process and the Heritage Coast status of much of the North Yorkshire Moors coastline, these forms of activity represent a constant source of pressure on undeveloped areas.

2.6 Potential contribution of the project to the national inventory of coastal archaeology for England, and the need for action

The need to compile a record of coastal sites in the area has become more pressing in view of offshore dredging (1.2 million tonnes from the Humber area in 1992), and domestic, commercial and industrial development. The extent and effects of many of these categories will be covered by the *Seascapes* pilot projects, which provide a 'broad-brush' approach to man's usage of the maritime and littoral areas.

Fishing (both inshore and deep-sea) has always been a major industry along this coast, ranging in scale from small boats operating out of minor creeks and inlets and off the beach, for example at Filey and Robin Hood's Bay, to smaller and medium-sized ports

engaged in the coastal trade (e.g. Scarborough and Whitby). As such, the coastal zone contains the remains of groynes, staithe, jetties, mooring posts, fish traps, shellfish tanks etc. Some of these may already appear as entries in the relevant HER; many other features will undoubtedly be entirely absent from any records, although combined archive- and fieldwork would be required for statistical analysis.

From the 17th century onwards, seams of jet, ironstone and alum shale have been worked extensively in the Saltburn to Ravenscar area. The evidence of these activities remains on the foreshore and cliffs in the form of building remains, dock installations, rutways/railways, jetties, quarries etc.

A relatively new industry along the coastal margin is represented by marine aggregate extraction: there are a number of active sites and applications for licences in the North Sea, although there has been debate about the long-term effects of the process (HR Wallingford 2002), none of the existing or proposed sites are considered likely to have any impact on the North Yorkshire coast. A high proportion of dredged gravel is in fact used for beach renewal to slow erosion; beach replenishment has been proposed at Scalby, in addition to raising the seawall to prevent overtopping in the area. Other coastal developments include the creation of on-shore and off-shore wind farms, and increased interest in oil and gas prospecting (linked to the construction of pipelines, surface-level facilities, and the creation of on-shore storage caverns). In practice, the Heritage Coast designation will protect much of the North Yorkshire coastline for the foreseeable future.

The importance of the area in national defence has led to the creation of chains of defensive structures of several periods, ranging from Roman signal stations (Scarborough, Filey) and medieval castles (Scarborough) to World War 1 and 2 and Cold War installations (e.g. RAF Hunmanby Moor, and the Filey Bay defences). Despite their recent origin, many of these have already been lost to erosion and development, or are in imminent danger of collapse.

While development can be controlled by planning legislation, the processes of erosion and weathering (natural and chemical) can only be ameliorated to some extent, and for finite periods, rather than halted, and they are therefore much more of a problem. Some data for the erosion rates in North Yorkshire have already been accumulated during recording by the Nautical Archaeology Society of sites at Boulby, Staithes, Robin Hoods Bay, and Filey, prior to the loss of these sites through erosion (pers comm John Buglass). Newcastle University is also using experimental satellite imaging to measure coastal erosion in Filey Bay. Figures on erosion rates have been calculated for SMP2, and are quoted in the preceding section.

The introduction of the National Heritage Act in 2002 has enabled English Heritage to assume responsibility for maritime archaeology up to a 12 nautical mile limit. The English Heritage Maritime Team has therefore been able to support a number of research projects and initiatives, as part of an ongoing recording programme. This includes the use of local sources, such as divers, fishermen, port registers and archives, all of which can provide much valuable information. *Seascapes*, which focuses on such sources in the study area forms an ideal complement to the current recording programme. English Heritage is ideally placed to co-ordinate projects related to the coastal and maritime areas through provision of advice and documentation. The enhanced record will contribute directly to better informed strategic and policy decisions at a national level, and to the development of

methodologies for future enhancement of the National Monuments Record and local HERs.

2.7 Summary of previous work

- Private researchers have conducted limited and unsystematic investigations of shipwrecks in the area: these have tended to concentrate on wrecks of World Wars I and II, and on obvious secondary sources. It is understood, however, that there are current proposals by local divers to compile a wreck register for the area, and there is now a series of books covering the north-east and east coast from the mid 18th century to 2003 (eg Young 2001a, b, 2003a, b and several others). Most wrecks are in deep water, and hence fall within the remit of the *Seascapes* pilot projects, but a few lie in the intertidal zone.
- Detailed recording of elements of industrial archaeology in the coastal zone and on the foreshore has been undertaken including, for example, features related to the alum industry in Robin Hood's Bay (Miller 2002).
- A previous project on an adjoining part of the north-east coast of England (Seaham Harbour to Whitby) produced some 3000 known and potential archaeological sites covering industrial, shipwreck and prehistoric material, and included such finds as a Neolithic/EBA fish trap (see Buglass 1994).
- Desk-based assessments incorporating data from the NMR, local HERs, walkovers, aerial photography and other sources have been compiled for parts of the coast, including Filey Bay (Buglass 2004). Although these duplicate existing records to some extent, they may well incorporate information not currently on the HER/NMR databases.
- The Defence of Britain project has recorded details of many 20th-century defensive sites. The results are available through the NMR and on-line via ADS (Archaeology Data Service). This is timely, as sites, including a number of World War 2 structures in Filey Bay, have deteriorated rapidly in recent years, while minor losses have occurred elsewhere, some through development rather than erosion.
- Archaeological and palaeo-environmental fieldwork has been undertaken at various points in the coastal zone by archaeological units and other bodies, including the English Heritage-sponsored Humber Wetlands Project survey of Holderness (Van der Noort & Ellis 1995).
- English Heritage has recently completed a survey of English Seaside resorts, their architecture and amenities (Brodie & Winter 2007).

2.8 Location of existing core records

Relevant records are held by:

- The NMR, ULM (previously Cambridge University Collection of Air Photos), North Yorkshire County Council HER, North York Moors National Park.

The coastal record of the National Maritime Museum photographic section holds a very large collection of early photographs of fishing ports and vessels, and nautical activities, some of which are likely to relate to this area. Other records which may be of interest are held by private researchers, commercial organisations and research bodies. The Receiver of Wreck holds details of wreck reports, and the Defence of Britain project and Fortress Study Group have data regarding military sites, which has been integrated into the NMR and included here.

2.9 Objectives

Clearly, monuments based along the littoral, such as sea defences, military sites, historic coastal settlements, harbours and fishing-related structures are all at risk, as are wrecks in close proximity to the shoreline, where they are vulnerable to storm damage, undermining, and the pounding action of waves. A Rapid Coastal Zone Assessment will give, often for the first time, an opportunity to look at classes of monument never looked at before, certainly in a modern archaeological sense, including those related to fishing, coastal industry etc. Also at risk are land-based monuments, which, although unconnected to the sea, find themselves on or near the coast as a result of cliff retreat. These include the same classes of monument which are present elsewhere in the region: past settlements, cemeteries, field systems, mills, moated sites etc.

The project is intended to:

- Provide new and enhanced records of coastal heritage assets for the National Monuments Record, North Yorkshire HER, and the North York Moors Archaeological Conservation Officer, to a nationally agreed common minimum data standard, in order to permit an improved curatorial response to strategic coastal planning or management initiatives at local, regional and national level.
- Provide a factual basis for the initial curatorial response to individual applications for commercial developments or schemes, in advance of more detailed evaluation and mitigation related to environmental impact assessments and/or planning applications.
- Provide data which is compatible with the needs of other coastal managers, parallel coastal surveys, industry and researchers.
- Provide an overview of coastal change from the Late Upper Palaeolithic onwards.
- Provide a reliable map base for survey and consultation purposes.
- Assess and forecast the degree of threat to the coastal archaeological resource from natural processes and development, with regard to models of future coastal change presented in Defra's *Futurecoast* study (Halcrow 2003) and Shoreline Management Plans.
- Identify and assess sites under actual or predicted threat, either from natural processes or from development.
- Provide a basis for developing management and research priorities, including

- a. The identification of areas or sites meriting further survey or evaluation
 - b. The identification of areas or sites requiring positive management action
 - c. The identification of significant historic assets meriting consideration for protection by means of statutory designation (listing or scheduling)
 - d. The identification of areas where heritage assets may be at high risk of damage or destruction
 - e. The establishment of future research priorities for the coastal heritage
- Raise awareness of maritime archaeology in the North-East of England amongst archaeologists and specialists as well as the general public (for example by means of popular publications, seminars and day schools).

These objectives assist in fulfilling the stated published objectives for the North Yorkshire Heritage Coast. They are also in line with those contained within the draft Regional Research Framework document (Roskams & Whyman 2005), and outlined in the English Heritage brief for Rapid Coastal Zone Assessment Surveys (version 8, April 2006)

The heritage information provided by the RCZAS can be used directly to inform Defra's Shoreline and Estuary Management Programme to ensure appropriate protection, or mitigation of damage, to historic coastal assets.

2.10 Copyright and access

Copyright of new records created rests with EH, Humber Field Archaeology, and the appropriate HER to which they devolve, except where copyright is known to rest with a third party.

As with any Historic Environment Record, future public access to certain individual records may need to be restricted, subject to the terms of the Freedom of Information Act 2000, in order to respect the commercial interests of the body which has supplied the information. Each of the existing HERs held by the Local Authorities in this area will already have procedures for dealing with such cases.

3 METHODOLOGY

3.1 Introduction

For the purposes of this project, a Project Officer was assigned to each of cells 1 and 2. Information was obtained or identified from records currently held by:

- The National Monuments Record and other national databases.
- The local HERs/SMRs, including holdings not added to databases (donated information, collections, contractors' reports).
- Local museums.
- Local archives, record offices, study centres and libraries.
- Portable Antiquities Scheme.
- The Defence of Britain project.
- Local history societies and interest groups.
- Individuals who have made chance discoveries, such as beach walkers, or who hold private collections.
- Shoreline and Estuary Management Plans.
- *Futurecoast* (Halcrow 2003).
- Available studies on palaeogeography, coastal change and historic map regression (eg <http://www.hull.ac.uk/coastalobs/general/erosionandflooding/index.html>).
- Historic maps and charts, including digital versions where available.

These records fall into the following main categories:

- Documented shipwrecks in the intertidal zone.
- Features of palaeoenvironmental interest, such as submerged forests.
- Archaeological and historical features located within the intertidal zone, or known through documentary or other sources to have been lost through coastal erosion.
- Archaeological and historical features within the coastal hinterland at short- to medium-term risk of damage through erosion or coastal development.
- Archaeological and historical features not at short- or medium-term risk, but which lie within the study area; in some instances these may provide a context for features categorised as at risk, or signpost examples of classes of features which may not be apparent in 'at risk' areas.
- Artefact records ('findspots') which may or may not be relevant to the locality.

3.2 Aerial photography and fieldwork

The aerial photographic study of such a large area has been completed to National Mapping Programme standard by a professional team with experience in analysis to this level. Most of the information provided by the NMP project exists in digital format, but the principal results, in the form of polygons, lines and point data, are included in the maps supplied with this project.

A limited walk-over (conditions survey) was undertaken, primarily to characterise the area, identify safe access points, examine the general condition of sectors of the coastline, and visually assess sites considered at the highest risk levels. Sites whose state of preservation from existing records was uncertain were also checked.

Fieldwork, including a detailed walk-over survey and targeted evaluation techniques, such as fieldwalking, metal detecting, geophysical and ground survey, is intended to form part of a second phase of work; this will be the subject of a separate project design. Any work on the foreshore would be subject to rigorous safety procedures, including the production of a Risk Assessment based on existing best practice (eg those developed by Norfolk Archaeological Unit for the Norfolk Coastal Survey).

The data obtained during the course of this study is presented in the gazetteer of archaeological remains in tabulated format in Appendix 1 of this study; gazetteer numbers are also given at appropriate points in the text, which is arranged by parish. Additional published and unpublished sources are quoted in the report text and their details are noted in the bibliography. The combined results are shown on Maps 1–16.

3.3 Assessment of the significance of cultural heritage sites in the Study Area

In general, the effects of a development proposal will depend upon the adequate prior assessment of the significance of the archaeological sites and features which will potentially be affected and the degree of impact of the proposals. There are occasions when insufficient is known to make informed judgements and an assessment of risk is all that can be offered. In assessing the effects of the proposals upon cultural heritage resources, it is necessary to consider the importance of the resources, as well as the magnitude of impact. Professional judgement and a degree of flexibility need to be applied.

Importance is based on statutory designations (Scheduled Monuments, Listed Building grades) as well as on the following generally accepted criteria:

- Period
- Rarity
- Group Value
- Condition

The criteria of importance set out in Annexe 4 of PPG 16, modified to take account of the whole range of site values, not just scheduled monuments, is used as a guide for judgements of importance used in cultural heritage studies. The following categories are used:

- **National (A):** the highest status of cultural heritage site: eg scheduled monuments, listed buildings Grade I & II*, well-preserved historic landscapes;
- **(County)/Regional (B):** includes the bulk of cultural heritage sites with reasonable evidence of occupation, ritual, industry etc, listed buildings Grade II; reasonably preserved historic landscapes;
- **Local (C):** cultural heritage sites with some evidence of human activity, but in a fragmentary or poor state, buildings of local importance, dispersed elements of historic landscapes.
- **Unknown/Unimportant (N):** insufficient evidence or data to make an informed judgement of importance, where a building or site is considered to have no

For the purposes of this Rapid Coastal Zone Assessment, the very large overall number of monuments, and the uncertain current condition of many, has required a simplified scheme of risk assessment, based on a judgement of the perceived threat from coastal erosion (as opposed to possible damage from redevelopment or the continued degradation caused by agricultural practices). The risk is categorised as ‘Low’, ‘Medium’ and ‘High’.

- **High (1):** a site at imminent risk in less than 20 years, or which is being actively eroded.
- **Medium (2):** a site which may be at risk in the next 20–50 years.
- **Low (3):** a negligible risk to a site which is either not at risk for at least 50 years (eg an inland site).
- **Nil (N):** those sites already known to have been lost. These will include those eroded or destroyed, and modern temporary features. Examples include World War 2 minefields, weapons pits and other temporary earthworks. The category also includes casual finds, which are considered to have been removed and relocated to a place of safety

Note that the latter category shares the single code letter ‘N’ with sites of unknown importance or no significance. At this stage, the assignment of codes must be regarded as a rough guide; only further fieldwork will refine the individual gradings.

The following simplified dating scheme for the main periods has also been adopted:

(Upper) Palaeolithic	30,000–10,000 BC
Mesolithic	10,000–4,000 BC
Neolithic	4,000–2,200 BC
Bronze Age	2,200–750 BC
Iron Age	750 BC–AD 50
Romano-British	AD 50–AD 410
Early Medieval	AD 410–1099
Medieval	1100–1499
Post-medieval	1500–1799
Modern	1800–Present

For convenience, the Iron Age has been divided into the Early/Middle Iron Ages (to c 100 BC) and the Late Iron Age/Romano-British period. The Early Medieval period includes the Early and Middle Anglo-Saxon (Anglian) periods, as well as the later Anglo-Scandinavian phase, continuing to the immediate post-Conquest. In the gazetteers, the modern period has also been sub-divided into Early Modern (1800–1899) and Modern (post-1900).

3.4 Assessment of impact on the cultural heritage resource

Impacts upon the cultural heritage resource are predominantly permanent adverse impacts resulting from the loss of elements of the resource base as a result of construction activities or natural action. There may occasionally be temporary reversible adverse impacts when a site or monument is affected by construction activities, or permanent adverse impacts when such monuments or their settings are affected by new development or erosion. In some cases, a well-designed development can result in permanent beneficial impacts where the setting of a historic building or landscape is enhanced, or the archaeological resource is preserved. In other cases, the effects of natural processes can be slowed or halted by remedial action, such as flood or erosion protection, perhaps attended by restoration works (eg repair of masonry, reconstruction of earthworks).

4 ARCHAEOLOGICAL POTENTIAL OF THE STUDY AREA

Note: Maps 1–16 show the location of cultural heritage sites (gazetteer entries)

This section is arranged by civil parish, commencing in the north of the county and working southwards.

4.1 Whitby (Map 1)

Geology and topography

The underlying solid geology of the area is primarily Oolitic sandstones of the middle Jurassic period with a narrow outcrop of Upper Lias along the coastline around Saltwick Bay (British Geological Survey, 2001). Due to the height of the cliffs along this section of coastline the solid geology at the foot of the cliffs is different from that found along the cliff top (see Myerscough, 1991, 9 for details). In turn this is overlain by a drift geology of glacial till from the Quaternary period (British Geological Survey, 1977). The drift geology of the River Esk valley is one of riverine derived alluvium (ibid). The soils in the parish are catalogued as of the Salop association and derived from a reddish till and described as slowly permeable seasonally waterlogged fine loams (Soil Survey of England and Wales, 1983).

The topography of the parish runs from sea level at the mouth of the River Esk to c 60m OD in the vicinity of Abbey Headland, this gives rise to areas of steep inclines leading to the relatively flat headland. The coastline is composed of steep cliffs with a wave-cut rock platform at the base. The land use is a mixture of urban within the settlement of Whitby and agricultural, both pasture and arable.

Historical and archaeological summary

Prehistoric

Palaeolithic

There are currently no recorded sites or finds from this period.

Mesolithic

There are currently no recorded sites or finds from this period.

Neolithic

There are currently no recorded sites or finds from this period, though with the ease of access to the foreshore and freshwater supply from the river it could be considered unusual that there is no evidence for early prehistoric activity, particularly given the quantity recorded across the moors as a whole.

Bronze Age

Although there is plentiful evidence from the east coast and its hinterland for Bronze Age activity, identified occupation sites are rare. The period is represented in the study area

by an unprovenanced Middle Bronze Age short-hole axe of Mediterranean origin (WH67), suggesting early trading links, and a palstave (WH72).

Iron Age

The evidence for the pre-Roman Iron Age is very limited. At least two beehive querns have been recorded (WH49, 71), although equally these could be Romano-British in date. A coin of Carthage found in the area (WH73) may reflect early trade, but may also be a lost keepsake dating from the Roman period.

Late Iron Age/Romano-British

There are currently very few structures and scattered finds recorded as evidence for late Iron Age/Romano-British activity within the study area. These consist of coins and pottery from the Whitby Abbey area (WH29), a possible ford across the river (WH36), and a possible Romano-British culvert identified in Bagdale, central Whitby (WH49), together with an Iron Age/Romano-British beehive quern. At least one other beehive quern is also listed in the Whitby Museum collections (WH71). A number of other Roman coins were found in the 19th and 20th centuries (WH61, 74–7, 79, 80, 82), at least covering the period from Augustus (36 BC–AD 14) to Constantine II (AD 337–40). The ford was not positively identified as such, or apparently dated, but seems to have consisted of ‘tree trunks’ laid to form a foundation. It was thought to be aligned with Wade’s Causeway, a presumed Roman road from Malton to the Whitby area, and exposed on Wheeldale Moor. The culvert, if correctly dated, would suggest occupation, whereas the majority of the artefacts could represent casual losses, although the number of coins found does at least indicate some settlement.

Anglo-Saxon/Early Medieval

Historically, Whitby is first recorded in the 7th century when in AD 664 it was the setting for the Synod of Whitby. A monastery was founded by Hilda in AD 675, although the present Abbey originates from 1078, as the earlier one was destroyed by the Vikings in AD 867 and AD 870. The settlement of this time has been identified as the one referred to by Bede as *Streoneshalh*, perhaps from *streon*, ‘property’ or ‘wealth’ and *halh*, ‘a corner of land’ (Room 2003, 457), although its identification with Whitby Abbey has been challenged, and an alternative location for *Streoneshalh* has been posited in Strensall (*Strenshale* DB) near York (Barnwell *et al* 2003, 311–26).

The modern name Whitby (WH43) is first recorded in 1086 (*Witebi* DB), either meaning ‘white farmstead’ deriving from the Old Scandinavian *hvittr* and *-by*, or ‘village of a man called Hviti’ (Mills 1998, 376). The possible origins as a personal name would seem to be confirmed with a reference in a Scandinavian chronicle to *Hvitabyr* – Hviti’s settlement (Morris 1982, 117). Whitby was located on the north side of the abbey headland where it presumably spread down the cliff to rudimentary harbour facilities on the riverside, perhaps reached from the abbey via a forerunner of the Church Stairs (WH24). A second settlement, *Prestby* (*Prestibi* DB), the ‘priest’s farmstead’, was also located on the headland (WH17), and presumably grew around the Abbey independently of *Witebi*.

Long-term and extensive archaeological investigations have been carried out on East Cliff, the site of the early monastery (WH25) and its associated cemetery and settlement,

in order to establish their form and extent. The results of this work and earlier chance discoveries (WH28) during the development of the post-medieval settlement, and in excavations carried out particularly in 1999–2000 and 2001–2, have shown that a large part of the headland and at least some parts of the modern town of Whitby were extensively settled, with a planned settlement to the north of the Abbey. Some trade, and certainly fishing, would have been important to both communities and the Abbey: large quantities of 9th-century winkles and fish bones were found on the cliff below the headland in a midden deposit found at the foot of East Cliff (WH13). This almost certainly represents material deposited or collapsed from the settlement on the cliff top, the discovery augmented by material recovered using a JCB in 2001. An 8th- to 9th-century cemetery containing around 1000 individuals indicates the size of the local population, although it may have served several local settlements.

Medieval

The re-founding of a monastic community at Whitby in 1078 was accompanied by the establishment or expansion of the riverside settlement: with the suitability of the River Esk as a harbour it is inevitable that the town would have prospered as coastal and continental trade grew. On the headland were the Abbey complex itself (WH26, 27), its associated cemetery (WH32), and the Abbot's residence, part of which remains in the Abbey House (WH34). The settlement of Prestby also continued as a separate entity on East Cliff to at least the 12th century, with earthworks remaining visible (WH11, 17, 18, 27). In Whitby, at least Baxtergate, Flowergate, Church Street, and Grape Lane were established during the medieval period (Barker 2007, 11 *et seq*) and other streets were probably laid out around the river bridge which was in place as early as the 13th or 14th century (WH37). Some of the most significant evidence for medieval occupation came from a site investigated on the north side of the River Esk at New Quay Road (WH47). Here substantial remains were excavated in advance of redevelopment showing a range of varied activities and evidence for repeated reclamation of the bank. Evidence for waterfronts dating from as early as the 14th century was also recorded on the east bank of the river at Queen Street car park (WH44).

The earliest reference to a pier at Whitby is in 1301 though there is no indication as to its location. Burgess Pier (WH19) on the southern side of the river dates largely from the 17th century, but documentary sources refer to a grant from the crown of 'quayage' dues for the pier in the 14th century and it is possible that elements of this early pier survive, although it is unknown whether the original structure was timber, stone, or more likely a combination of the two.

Other recorded medieval remains include St Mary's parish church (WH23) on the headland, the Donkey Road or Church Steps (WH24) which lead up to the headland, the site of a chapel to St Ninian (WH41), and several other observations and find spots (WH13, 64, 66, 72). Outside the settlement, ridge-and-furrow representing the medieval open field system has also been recorded on East Cliff (WH18, 27, 59), with a substantial north-south boundary above the cliff overlooking the Esk (WH50). A mile cross marked the approach to Whitby Abbey at the east end of the modern town, the base of which remains (WH45), while to the east of the Abbey precinct was the site of Stump Cross (WH51), shown on the 1st Edition OS.

Post-medieval

The dissolution of the Abbey in 1539 would undoubtedly have had an impact on the town, although its location away from the commercial and trading settlement, and the existence of St Mary's Church may have led to it having developed a degree of separation from the day-to-day activity. This would have reduced the impact rather more than was the case in other settlements such as Scarborough where there was less physical, spiritual and economic separation. Away from the religious activity on the headland the medieval and post-medieval landscape of the town, particularly alongside the Esk, was dominated until the 20th century by shipbuilding and repair. The earliest record for a named vessel in Whitby is in the 12th century for a vessel called the *Blithe*, though nothing further is known about it. Similarly, it is not known if the vessel was built locally, although excavations at Queen Street car park in advance of sewage works in 1998 revealed evidence along the southern side of the river for a series of waterfronts being built out into the river from the 14th to 18th centuries (WH44; Anon 1999, 37). Currently there is little or no evidence for medieval shipbuilding in the town though no doubt it would have taken place along the river banks, above the high tide limit, with the vessels being laid down on temporary slips used for the duration of the construction. The first historic references to shipbuilding date to the early 17th century in the area of Baxtergate. In 1706 Whitby was the sixth largest port in Britain, building 130 ships that year, and by the late 18th century the town had twice been the second greatest shipbuilding port in England (Barker 2007, 25). Large vessels continued to be built into the early 20th century. The earliest cartographic evidence for shipbuilding comes from a series of 18th-century maps of the town (e.g. Charlton 1778; Gibson 1782) which show at least ten construction slips and as many as five dry docks along both sides of the Esk.

Documentary evidence, notably from 1720 onwards after various Parliamentary acts, allowed the raising of revenues, shows that regular shipyards appeared along the banks from Dock End to Larpool which were almost undoubtedly established on the sites of the earlier ones (Buglass 1999, 6). Later, around the 1740s, purpose-built dry docks were introduced. The cost of construction and maintenance of a dry dock is too great for it to be used for an extended period of time to build a new vessel, so they are used for maintenance and repair and hence generate higher revenues. Physical evidence for these structures can be seen in a dry dock partially excavated in 1998 (*ibid*) which lay under Church Street car park (WH44). The dock seems to have been built around 1755 but had fallen out of use and had been built over by warehousing by Charlton's plan of 1778. The remains of the dock were situated at the riverward edge of an artificial terrace that had been built out into the river probably starting in the 14th century (Anon 1999, 38). The dry docks of Whitby, and this one in particular, are of interest because they were built only slightly later than the earliest known stone dry docks in the country, those built at Portsmouth between 1680–1700, and before any of the other dry docks in the region (*ibid*, 39). This shows the growing importance of the port at this time and they continued to play a central role in the town's economy until the early part of the 20th century with the various phases of the 19th-century dry docks and slips being recorded on the early OS mapping. The mouths of three dry docks, now blocked, are still visible immediately outside the study area (Plates 8–10).

The dock was constructed from dressed stone that formed a structure c 12m wide and 45m long with a depth of over 5m (*ibid*). The structure was built at an angle of c 45° to the river. The sides of the dock had been built at a slight angle away from the vertical

with inserted timbers, probably to support an internal wooden frame to prevent the docked vessels from being damaged against the stonework.

The base of the dock was lined with clay into which had been placed the remains of at least one dismantled wooden vessel. These timbers had been prevented from moving down towards the mouth of the dock by a series of wooden stakes. These were also made from ships' timbers that had been cut to a rough point and then driven in to the clay at an angle. Lying on top of the dismantled timbers, orientated with its bows towards the head of the dock, was the articulated remains of the lower portion of a small, clinker-built wooden fishing vessel.

The remains of these two vessels can be seen as being representative of the shipping being both built and operating out of the port. The remains of the dismantled vessel were probably that of a medium-sized merchantman, a class which was the basis of the majority of UK trade in the 18th to 19th centuries. Similar vessels would also have also been extensively used in the alum trade to the various sites up and down the coast. The smaller vessel was the remains of a clinker-built salmon coble used locally in the fishing industry and is a good example of the vernacular craft of this section of coastline and one of the few substantial fragments of pre 19th-century shipping recorded from within the study area.

As well as the docks and slips there was an extensive infrastructure of sail lofts and ropewalks supplying rigging for the vessels under construction, many of which survive, at least in part, as standing buildings and place-names. A further requirement for shipping was suitable piers for loading and unloading. The earliest reference to a pier is in 1301 though there is no indication as to where it lay: the earliest surviving pier is Tate Hill or Burgess Pier, the original East Pier (WH19: Plates 3, 4) on the southern side of the river. The current structure probably largely dates from the 17th century, although it dates from at least as early as the 14th century and it is possible that elements of this early pier survive within the later one (Barker 2007, 29), and that it can be identified with the 1301 reference. Various other piers followed in the latter part of the 18th century, culminating in the layout seen today.

The current bridge over the river is on the same location as an earlier draw bridge built in 1766 (WH37), clearly depicted on 18th-century mapping. This was replaced by a swivel bridge in 1835. Evidence for a pre-1766 bridge was recorded during the sewerage works of 1998 in the form of a stone arch on the approach road to the current bridge (Yorkshire Water 1999) along with documentary accounts for a bridge in the 14th century, though its location is uncertain (Barker 2007, 24–5)

Fishing and whaling were important industries, with the latter particularly important between about 1735–1837. There were a number of documented shipwrecks, one of the more dramatic of which involved the explosion of the whaler *Nautilus* in the harbour in 1795 (WH2). As early as the 16th century, alum produced at Guisborough was shipped out through Whitby. In 1615, ships began to bring coal from Newcastle and in 1635 Whitby began to build her own ships for this trade. During winter, the Baltic Trading fleet was laid up for repairs such as recaulking in the town's dry docks.

Other activities included possible salt production, probably chiefly for fish curing (WH52) and quarrying (WH46). Alum production was carried on just over the parish boundary at Saltwick Nab, but some elements of the industry lie in Whitby parish, including a series

of rutways cut across the foreshore to facilitate the movement of carts laden with alum to ships moored or beached nearby (WH8, 16, 20, 22). One of these (WH20) may connect the Nab to Whitby harbour. A route was also cut through the reef around East Cliff, the Sledway or Sleedway (WH5), presumably to facilitate boat movement to and from the alum works.

With this high level of maritime activity there is a correspondingly significant development of the surrounding town, which can still be seen in the number of listed buildings and other elements of infrastructure. These are too numerous to cover in this report, and are not directly relevant to the purpose of the assessment. The category does, however, include merchants' houses along the quay (e.g. WH39), a late 17th-century seamen's hospital (WH48), and a ropery (WH53). The town hall is relatively early for many northern towns, being constructed in 1788 (WH30).

Modern

In the 19th century, shipbuilding, fishing, whaling and commercial trading remained significant, supporting a range of related industries, such as roperies (e.g. WH53) and timber yards (e.g. WH54), although other trades were represented, such as milling (WH42). The town gasworks (WH55) were established subsequent to the original supply of gas, which was derived from the try-works used to render whale oil from dismembered whale carcasses, located just inland of the study area further upstream on the River Esk. This allowed Whitby to be one of the first towns to be lit by whale oil gas; an attempt to do the same in Bristol was abandoned after a few years due to the high cost of the oil.

In the 19th and 20th centuries, the harbour expanded considerably, and now covers over 32 hectares, with a marina for 350 craft started in 1979. The outer harbour is still protected by the East and West Piers, the ends marked by lighthouses built in 1855 and 1835 respectively (WH5, 6: Plate 1) to assist with navigation into a safe channel. One of the distinctive features of the West Pier are the red capstans that form a line running along the middle of the pier and were used to warp sailing ships in and out of the harbour mouth (Plate 2). The capstans were still functional until recently when they were filled with concrete on safety grounds.

The Fish Quay was built in 1957 in the lower harbour, complete with fish shed and offices for the sale and landing of fish by auction, with the addition of an ice plant in 1965. A new fish market was constructed in 1995 and a new ice house in 2000. The upper harbour is separated from the lower harbour by the swing bridge, built in 1908 to replace one built in 1835. Here, there is a 90m quay and a small dock about 45m square, both dry at low water. Endeavour Wharf, completed in 1964, has over 200m of frontage and is connected by road. A new transit shed was built in 1996.

Whitby Lifeboat Station was established in 1802, and is one of the earliest in the country. It has been involved in many rescues. It was taken over by the RNLI in 1861. There have been four stations at Whitby; the present building opened at East Cliff in 1919.

Boat building continued up to 1908 when the last vessel, the 'Olive' of 6000 tons was launched; the industry ended partly due to the confined nature of the River Esk, with ships increasing in size. Some small-scale construction and repair survived, including a trade in refitting and building fishing cobbles and keelboats, but this has continued to decline during the modern period. Although there has been investment in the port

facilities, the volume of exports (chiefly potash, grain and steel) declined sharply during the 1990s, as did imports (latterly mainly steel), with virtually no movements either way in the early years of the 21st century. Nearly 50 fishing vessels, chiefly keelboats, cobsles and salmon cobsles, were still based in the port in 2003, although the number is likely to fall: fish landings have also dwindled in the 21st century.

Whitby's attractive location has made it a popular seaside destination, increasingly since the early 19th century with the rise in popularity of sea bathing. The growth of a tourist industry was facilitated by the construction of the rail line to Pickering as early as 1836, with inland and coastal links to Middlesbrough added, the latter opening in 1883. In the 20th century, much of the harbour area has been converted to use by commercial ventures related to the tourist trade, which is now the principal industry, and many houses have been converted to boarding houses and holiday lets.

As with the majority of the north-east coast, Whitby saw the establishment of military structures during World War 2, the largest of which was an anti-aircraft battery and training school on the cliff top (WH35). In addition to this two Home Guard stores are recorded in the area (WH56, 60). Other features include an anti-tank wall in the western approaches to the town (WH9), and two spigot mortar bases in the harbour area (WH10, 12).

The harbour saw service as a base for the coastal minesweeper fleet and the remains of some of their mooring pontoons survived until the recent re-development of the White Hall Boatyard just outside the study area (Plate 5).

There are a number of shipwrecks in the immediate area, including the *Dmitry*, lost 1885 (WH1), the *Luna*, 1852 (WH6), the *Charles*, 1940 (WH15), and the *Rohilla* (WH63).

Discussion

With the natural harbour formed by the mouth of the River Esk, the area readily lends itself to settlement, the evidence for which can be seen from at least the Romano-British period onwards. However, it is not until the 7th century that the importance of the area becomes established with the founding of the Anglo-Saxon monastery on the headland above the town. This was followed in the 11th century with the founding of the medieval abbey, again on the headland. The settlements of Prestby and Whitby seem to have developed alongside one another until at least the 12th century, but the former now survives only as earthworks, whereas Whitby developed as a thriving port and fishing centre, its significance increased by the fact that it is the only natural harbour along the coastline between the Rivers Tees and Humber: Scarborough and Bridlington for example, although sheltered to an extent by headlands to the north, are not protected from the east and south-east.

Both the foundation of the Abbey and the existence of the port would have influenced the development of surrounding settlements and related agricultural activity, evidence for which can be seen across the parish. As seen from the discussion above, the harbour began to develop from at least the 14th century with some boatbuilding and the construction of piers and a bridge, along with significant fishing activity: Whitby's principal trade in the 14th century was in herrings (Barker 2007, 17). This industry continued after the dissolution of the Abbey in 1539 and Whitby became a major shipbuilding port through the 17th and 18th centuries, notably supplying the *Endeavour*

and *Resolution* for James Cook's expeditions. Whitby was twice the second largest shipbuilding port in England. This extensive and regionally/nationally significant activity can be seen cartographically, through documentary sources and physically in the remains of docks, ships and ancillary buildings across the town, some evidence for which was noted during the conditions survey.

The result of this activity over the last 2,000 years means that the settlement contains significant levels of archaeological remains relating to both religious and secular activity, some of which remains buried beneath the modern town, whilst elements of it are more vulnerable as they lie along the edge of the river and at the harbour mouth.

For a more detailed history of the development of the port, harbour and settlement of Whitby see Barker 2007.

4.2 Hawsker-cum-Stainacre (Maps 2, 3)

Geology and topography

The underlying solid geology of the area is primarily Oolitic sandstones of the middle Jurassic period with a narrow outcrop of Upper Lias along the coastline around Saltwick Bay (British Geological Survey 2001). Due to the height of the cliffs along this section of coastline the solid geology at the foot of the cliffs is different from that found along the cliff top (see Myerscough 1991, 9 for details). In turn this is overlain by a drift geology of glacial till from the Quaternary period (British Geological Survey 1977). The drift geology of the River Esk valley is one of riverine derived alluvium (ibid). The soils in the parish are catalogued as of the Crewe association and derived from a reddish glaciolacustrine drift and glacial till and described as slowly permeable seasonally waterlogged clayey fine loams, often stoneless (Soil Survey of England and Wales 1983).

The topography of the parish is one of land steadily rising to c 170m OD from the top of the steep sea cliffs. The coastline is composed of steep cliffs with a wave-cut rock platform at the base. The land use is entirely agricultural, both pasture and arable.

Historical and archaeological summary

Prehistoric

Palaeolithic

There are currently no recorded sites or finds from this period.

Mesolithic

There are currently no recorded sites or finds from this period.

Neolithic

The Neolithic period is represented by two antiquarian find spots of stone axes (HS30, 56), the first of which may be of Bronze Age date. This would seem to indicate a certain level of activity within the coastal margin, a situation which is repeated along the coast to

the south, and therefore would seem to indicate that there is a further potential for sites and finds of this date to still be encountered.

A further monument identified by local historians is a possible standing stone near the cliff referred to locally as Little John (HS45), presumably because of the name and proximity of Robin Hood's Bay.

Bronze Age

Two round barrows have been recorded and partially investigated within this parish. The first is at Gnipe Howe (HS48), recorded as Nype on the 1857 OS, where the investigation revealed not only pottery (HS46) but a probable Anglo-Saxon glass bead (HS47) indicating a possible re-use for a later burial. The second barrow is at Hilda's Howe (HS63) towards the southern edge of the parish.

The two barrows in this parish both contain the place-name element 'howe', *haugr* meaning hill or mound in Old Scandinavian (Mills 1998, 189). This place-name association may indicate the site of a further barrow, now apparently destroyed or at least ploughed down. The tithe map of 1844 records the name of what is now Highgate House (HS31) as Agate Howe and appears to show a small mound in the field to the east of the building, though by the time of the OS map of 1857 the name has altered to become Huggit Howe. The condition survey did not observe any obvious remains of a barrow in the field indicated.

A stone axe (HS30) may be of Bronze Age or earlier date, while a damaged battle axe was apparently found in the area in 1852 (HS64).

Iron Age

There are currently no recorded sites or finds from this period.

Late Iron Age/Romano-British

Evidence for Iron Age/Romano-British activity in the parish comes from find spots and from cropmark sites which may be of this period. The finds are of two Roman coins from the cliffs at Saltwick Bay in the north of the parish (HS1, 11). It is possible that these coins come from some form of cliff top settlement disturbed by the later alum working. Though if this were the situation it does not seem to have been the site of substantial activity or it is likely that more finds would have been made and recorded.

An enclosure and ditch of (possible Iron Age/Romano-British date (HS41, 43) have been recorded from aerial photographs south-east of High Laithes Farm. There is a further cropmark site (currently undated) of a series of multi-ringed ditches and pits (HS23) on the cliff edge north of Whitby House which could be the remains of Iron Age/Romano-British activity. However, without further investigation these features remain undated and could just as easily relate to any archaeological period.

Anglo-Saxon/Early Medieval

A single find of an Anglo-Saxon glass bead from the Bronze Age round barrow (described above) at Gripe Howe (HS47) seems to indicate that the mound was possibly re-used for a later burial. If this was the case then it would seem to suggest that there was further Anglo-Saxon activity in the area in the form of some sort of settlement in order to for there to be bodies for burial. There are currently no other recorded sites or finds from this period.

Medieval

The village of Hawsker lies outside the study area. In common with the majority settlements and their associated parishes the place-name is first recorded during the medieval period. In this case the parish name results from the combining of High Hawsker with Stainacre. High Hawsker is first recorded *c* 1125 as *Houkesgarth* from an Old Scandinavian personal name and *-garthr* meaning 'enclosure of a man called Hauker' (Mills 1998, 171). Stainsacre has a slightly earlier origin in 1090–6 as *Stainsaker* meaning 'cultivated land of a man called Steinn' again from an Old Scandinavian personal name and this time *-akr* (ibid, 321).

The parish contains extensive evidence of medieval ridge-and-furrow cultivation (HS25, 40, 50, 58) along with this there are the remains of a small settlement surviving as earthworks and crop-marks (HS33). The settlement is referred to in documentary evidence from *c* AD 1230–4 as *Lingehou* and a possible remnant of this place-name can be seen on the 1844 tithe map which names the farm *c* 150–200m north-west of the settlement as Ling Hill: *ling* is a dialect name for bell heather. As well as the abandoned settlement there is a moated site *c* 700m inland to the south-west at Low Laithes Farm (HS40), identified as a grange of Whitby Abbey.

Post-medieval

The post-medieval period saw the greatest, and probably most significant, activity within the study area. The broad pattern of agriculture can be seen to continue across the area with the establishment of a series of farms/farmsteads in the late 18th/early 19th century: Saltwick Farm (HS12), Whitby House (HS26), Brook House (HS29), Highgate House (HS31), High Laithes (HS38), High Whitby (HS39) and Widdy Farm (HS44) along with various un-named sites located on maps (HS34, 62). Local historians relate that Widdy Farm is the site of a medieval manor and is supposed to retain evidence for a moat though it was not possible to verify this at the time with a site visit. In conjunction with the farms there is widespread post-medieval ridge-and-furrow cultivation (HS25, 50). Lime kilns in the area could belong to the end of this period (e.g. HS15, 60), although they undoubtedly were used in the 19th century.

Probably the most significant activity in the parish was quarrying and processing of the alum shale around Saltwick Bay. This started in 1649 and continued intermittently until 1791. The quarries and various extraction and refining techniques covered a large area of land and have caused a major alteration in the topography around the bay. The principal site was Saltwick Alum Works (HS9), consisting of quarries, liquor pits, tanks, workshops, manager's office, stores etc. As well as the extraction and processing of the shale, some of the raw materials and all of the finished product were moved by sea. This resulted in the many of the stages of the process being located on or at sea level, which

means that any surviving remains are particularly vulnerable to erosion. Included are the possible site of a pier (HS5: Plate 11), the alum house (HS14: Plate 12), reached by a ramp (HS6), and associated with a series of rutways cut into the rock foreshore platform (HS4, 8). There are also postholes (HS17, possibly supporting a ropeway), a gutter (HS16), a breakwater and stone-built platform (HS19). For fuller details of the site both on land and in the inter-tidal zone see Marshall (1994).

A further possible alum working site has been recorded at the south end of the parish (HS55), although there is debate over whether this was a jet extraction site. It should be noted that alum, jet and often ironstone could all be worked from the same sites due to the nature of the outcropping geology and it is possible that early jet workings were later re-investigated for their potential as an alum site. Possible jet extraction sites have been recorded in the area (HS2, 3, 20, 53, 59).

As already mentioned several commercial minerals all occur in the geology of the coastline which is further illustrated in the presence of a small coal drift (HS49) driven in from the foreshore towards the southern end of the parish which may be related to the rutways at HS52 which could have been used for transportation along the foreshore. This possibly would have been to supply fuel to the alum plant at Saltwick Bay and as such would date to the late 17th early 18th century.

The final extractive activity within the parish was a series of quarries, presumably to provide building stone (HS7, 21, 27, 28, 32, 36), although a number of these may be of later (19th-century) date, as several appear on the 1844 tithe map, while others simply appear as cropmarks on aerial photographs. Interestingly an historical account for a quarry between Saltwick and the Abbey is contained in a lease of about 1520 for the production of grindstones and other kinds of stone (by one John Sparrow at 13s 4d per annum). Significantly, Sparrow was under strict instructions that he should not harm the piers, this would seem to imply that there were stone-built piers or similar structures already present within the bay, possibly belonging to the abbey (Barker *pers comm*).

A discovery made by evening class students some distance out onto the foreshore on the northern side of the bay has been of carefully-cut tanks of considerable size with gullies which appear to have been intended to fill the tanks rather than drain them (HS10). They bear no resemblance to the known alum structures and lie some distance from the alum works, which would suggest that they have a different function, and may well be of a different period. The pits were surrounded by postholes cut into the rock. One suggestion is that it is related to some form of fishery (Boyle *pers comm*), perhaps for keeping live fish and shellfish (of similar purpose to the 'hullies' seen in Robin Hood's Bay)

The condition survey carried out as part of the project noted the slight deterioration in the condition of the remains of the alum plant and associated structures but also recorded the presence of a new feature that comprised a series of four footholds (HS22: Plates 14, 15) cut into the sheer rock face on the northern side of the small headland to the north of the remains of the alum works. The steps appear to provide access from the cliff top to an entrance, either a natural cave or tunnel, partially obscured by debris slips. It is possible that the entrance is linked with one of the extractive industries, though, it has been suggested that it is related to smuggling.

Modern

The alum industry continued into the 19th century, although in decline, with Saltwick Alum Works having closed in 1791. Quarrying probably continued, with quarries recorded on the 1844 tithe map. There were attempts to improve the quality of the land by adding lime to the soil by burning limestone in lime kilns, several are recorded in the area in the 19th century (e.g. HS15, 60), although they may be earlier.

Since the closure of the alum works and the ending of other extractive industries, the area has reverted largely to agriculture, although it has seen the establishment of several caravan parks. The tithe map of 1844 records Old Beacon House on the cliff edge (HS36) and the place-name Beacon Hill (HS37) still survives in the modern landscape, some distance inland at Whitby Laithes. This may suggest the presence of a beacon used to signal inshore shipping, possibly related to the small harbours used to service the alum plant at Saltwick Bay to the north, although most of the east coast beacons were constructed from the medieval period to the early 19th century as an early warning defence system.

As with most coastal areas, the impact of World War 2 was to see the construction of various military structures. However, unlike low-lying areas with good beach exits, such as Filey Bay to the south, there are few anti-landing defences. This is mainly due to the height and precipitous nature of the cliffs, although a small barbed wire obstruction (HS51) is recorded from aerial photographs at Maw Wyke, where there is limited access to the foreshore.

If the height of the cliffs made landings unlikely this height combined with their location on potential flight paths to industrial areas such as Teesside to the north meant that they were suitable sites for anti-aircraft guns. Two are recorded in the parish (HS24, 42); these are Operation Diver sites, built later in the war specifically for anti-V1 (flying bomb) operations, which had replaced conventional bombing runs by the Luftwaffe, other than by stray raiders. Both are some distance inland on high ground.

Among the documented shipwrecks near the Nab is the Admiral Van Tromp (HS18), lost as recently as 1976 with several hands.

Discussion

From the sites and finds described above it can be seen that there is evidence for human activity from prehistory up to the present day. The most significant remains, however, are those of the post-medieval alum industry based around Saltwick Bay. The impact of this industry was not just on the topography of the area around the plant in terms of remodelling the landscape but on the employment patterns and social conditions of the local population. This impact would also have been felt further afield, for example on the volume and type of shipping operating from the harbour at Whitby to the north. This appears to have included the construction of the Sledway (or Sleadway) (WH5) to the north of the Abbey Headland to assist in movement of material between Whitby Harbour and Saltwick Bay. It would seem likely that the Sledway was not built from scratch but was created by exploiting a series of natural faults in the shale of the foreshore and was then used in conjunction with a seamark to navigate. Locally the commonest seamark is the base of the rose window in the Abbey in conjunction with the line of the top of the cliff.

The location of the alum buildings for processing and shipping on or near sea level at the foot of the cliffs means that the structures are very vulnerable to erosion and cliff falls which can rapidly destroy or significantly modify large areas of the surviving remains.

As well as the alum and other extractive industries within the bay there is also a suggestion of further activity unrelated to the alum works which have left a series of rock-cut features across the foreshore (HS10). As with the hullies in Robin Hood's Bay discussed below these may be unique to this section of coastline.

The presence of remains from the Neolithic onwards demonstrates that there is a potential for the further survival of archaeological remains from all periods within the parish. The problem lies in locating them due to the extensive agricultural activity seen across the parish from the medieval period onwards. The ridge-and-furrow cultivation has probably heavily modified or possibly even destroyed many earlier sites which may now only be detectable with more invasive techniques.

4.3 Fylingdales (Maps 3–5)

Geology and topography

The underlying solid geology of the coastal aspect of the parish area is a complex of Lias formations of the lower Jurassic period (British Geological Survey 2001), including the Redcar Mudstone formation along with Staithes Sandstone formation (see Myerscough 1991, 9–10 for details). Due to the height of the cliffs along this section of coastline the solid geology at the foot of the cliffs is different from that found along the cliff top. In turn this is overlain by a drift geology of glacial till from the Quaternary period (British Geological Survey 1977). The soils in the parish are catalogued as of the Dunswick association and derived from till of Palaeozoic and Mesozoic sandstone and shale and described as slowly permeable seasonally waterlogged fine loams (Soil Survey of England and Wales 1983).

The topography of the parish runs from sea level at the settlement of Robin Hood's Bay to c 60m OD inland, this gives rise to areas of steep inclines leading to the undulating higher ground. The coastline is composed of steep cliffs with a wave-cut rock platform at the base. The land use is a mixture of urban within the settlement of Robin Hood's Bay and agricultural, both pasture and arable.

Historical and archaeological summary

Prehistoric

Palaeolithic

There are currently no recorded sites or finds from this period.

Mesolithic

There are currently no recorded sites or finds from this period.

Neolithic

Antiquarian finds of a Neolithic hand axe (FD44) and a 'stone hammer' (FD34) would seem to indicate some form of activity within the area, possibly orientated along the access route from the higher ground of the moors down to the foreshore where the settlement of Robin Hood's Bay now stands.

Bronze Age

A single Bronze Age barrow is recorded, the first is near Bottom House (FD4).

Iron Age

There are currently no recorded sites or finds from this period.

Late Iron Age/Romano-British

Currently a single potential site represents human activity from this period in the area. The site is a rectangular enclosure (FD9) recorded on Smeath Moor (OS 1857) which is thought to possibly be a suitable location for a Roman signal station, as it is located on a high point on the coastal margin similar to those seen at other sites along the coast such as Filey (FY8) and Scarborough (SC34).

To the north of this site there is a currently undated cropmark (FD6), which is thought to represent a possible field boundary and as such may be related to the possible Iron Age/Romano-British site described above. It is equally possible that it may relate to a later exploitation of the landscape – medieval field systems for example.

Anglo-Saxon/Early Medieval

As with many other parishes the parish name of Fylingdales is originally recorded as *Fygelingas* meaning 'the settlement of the *Fygela* or *Fygla*' (Morris 1982, 68).

Currently the evidence for early post-Roman activity is somewhat fragmentary as it is based upon an antiquarian discovery of what appears to have been a grave or series of graves in the Robin Hood's Bay area and purported to be 6th-century in date (FD45). The recovered material was reported to have included six ceramic pots along with brooches, tweezers, beads and an urn. The collection was originally housed in the Pickering Museum but the artefacts have subsequently disappeared.

As with the Neolithic material described above these remains may represent short-lived activity orientated on the foreshore and the access to the sea, again possibly on a seasonal basis.

Medieval

The village of Fylingthorpe, west of the study area, is a later settlement first recorded c.1133 as *aliam Fielingham* meaning 'the other Fyling' (ibid 107). However, the place-name for the only settlement lying within the study area is Robin Hood's Bay whose name is not recorded until 1532 as *Robin Hoode Baye* (Mills 1998, 289), and then again by Leland in 1536. There is no known link with the legendary character of the same

name (Morris 1982, 10), and it was occasionally linked countrywide to sites such as tumuli supposed in popular folklore to be his archery butts ('Robin Hood's Butts'), including an example 1 mile south of Robin Hood's Bay itself: the 'butts' may have given their name to the bay, and then to the village.

Although the name for the settlement is not recorded until the 16th century it would seem unlikely that a sheltered bay with relatively easy access to the foreshore such as this would not have been settled or at least occupied on a temporary/seasonal basis, much earlier and probably has seen activity from prehistory onwards. Indeed Leland in 1536 describes the village as '*a fischer townelet of 20 bootes with Dok or Bosom of a mile yn length*' and by 1540 the village was said to have fifty cottages by the shore. The 'Dok or Bosom' described above would appear to refer to the Landing Scar discussed in detail below.

Apart from the place-name evidence the only other recorded indications of medieval activity come from the early phases of the church (FD36) and the extensive medieval ridge-and-furrow cultivation (FD17, 66) and possible field boundaries (FD7, 8). It is possible that the suggested Roman signal station (FD9) discussed above may be a medieval enclosure as it is currently undated and the suggestion as a signal station is based on location and form rather than excavated evidence. There is an indication of earlier roads to Scarborough, part of which ran across the foreshore (FD70–2), although these may have been established at a later date.

Post-medieval

As already mentioned, the name Robin Hood's Bay is a recent appellation, and the range of buildings within and around the settlement reflect this, including houses such as Glebe Cottage (FD37), The Bay Tree (FD38), Plantation House (FD41), Bramblewick (FD46), and the Fisherman's Arms (FD51).

On the foreshore to the east of Robin Hood's Bay lies an area called The Landing (FD47) which is where the fishing boats from the village would be landed prior to being hauled above the high water mark. Unlike Whitby to the north the bay has neither an inshore deepwater mooring nor a proper harbour, and can only be used as a landing place for fishing vessels and small merchantmen at certain states of the tide. To this end a series of marker posts were established along the top of Landing Scar, at either side of the seaward end and centrally at the landward end (FD43). These markers are clearly shown on the pre-World War 1 OS and on many photographs and paintings of the bay area. Local knowledge states that they were apparently removed at the start of World War 1 to deter enemy landings. The circular holes left from the removal of these markers are still present along Landing Scar.

A further aspect of the fishing activity and tied closely to the states of the tide along Landing Scar are a series of square 'chambers' cut into the rock of the southern side of the scar itself (FD48: Plates 16–18). These chambers are locally known as 'hullies' and the remains that are still extant are the square or rectangular chambers which would have originally housed robust wooden boxes (the actual 'hullies' themselves: also a Scottish fishing term). These boxes were bored with numerous holes to allow the tide to flow freely through them and were fitted with a door secured with a simple lock. The hullies here were used up until at least 1967 (Labistour 1997, 5) and are recorded in 1731 in Cox's *Magna Britannica*, although Labistour also refers to a Dutch chart of the

late 1600s which records them (1996, 5). The hullies were used to keep various species of shellfish live until the market price was suitable. It is possible that they were also used for keeping limpets (locally known as flivvers) and other marine molluscs live for baiting long lines during the appropriate fishing season.

In conjunction with the hullies there appear to be several sets of square postholes cut into the rock at the base of Landing Scar (Plates 19–21). These postholes (many still containing the remains of the wooden posts and their surrounding packing timbers) are found in four different locations, often closely associated with a hully. The postholes are arranged in various patterns but they mostly seem to form squares or rectangles (Bowman 1996, 3). Although there is no recorded use for these the most likely interpretation is that they supported platforms whose tops were level with Landing Scar and were used to assist in landing the catch from fishing boats and for baiting lines, cleaning nets etc as they would be washed clean with each tide. A further advantage is that as they are located down the foreshore they would prolong the time that the fishing boats could come alongside in deep enough water to offload/re-supply. One interesting site relating to the fishing industry is that of the Tinkler's Stone (FD77) at the southern end of the bay. This is where traditionally, according to local information, the coble boats were taken for repair alongside the stone. Apparently the actual stone was removed as part of water management works by the National Park in recent years.

Also located on the foreshore, this time on the northern part of the bay, is a short section of rutway (FD29). This rutway is of the same dimensions as the others seen along large sections of the north-east coastline and are found in association with the various foreshore industries of the region: a survey has been carried out into rutways in the Saltburn area in 2005–6 (Tees Archaeology 2007). Broadly, they consist of two parallel ruts cut in the foreshore or rock to guide carts employed to load alum, jet and/or ironstone into waiting boats in the 18th and 19th centuries: the ruts were therefore separated by a standard local cart width, which in the Saltburn area at least was 1.32m (4ft 4in). Although there is no obvious destination for the rutway and it has been suggested locally that it was cut for the salvage of an iron shipwreck, it is quite possible that it was either for the collection of ironstone boulders or to supply the jet workings (FD2, 5) to the north of the bay.

The use of the foreshore as a means of travelling from one side of the bay to another is well known locally and only just outside living memory carts were still taken across the foreshore at low water and up onto the land to the north of Stoupe Bank Farm, the location possibly marked by a series of posts on the beach (FD74: Plate 22), where the old Scarborough Road (FD70) ran up past Whitecake Row (FD82) before turning east and running past Porrits (FD84) and then up the hillside, forming a hollow-way still visible, to be crossed by the later railway. The route is now a series of farm tracks.

As already mentioned above jet was worked from the cliffs along the foreshore (FD2, 5), the presence of which continues to be recorded in the landscape in the place-name Jetticks (a local colloquialism/conflation for jet works) and Jet Holes (FD101).

A second extractive industry was present towards the southern end of the parish at Stoupe Brow where there was an alum plant (FD79). The site includes a series of both buried remains and standing earthworks which encompass the remains of the alum house and other structures. It is located in a broad gully on the cliff with the alum works on a series of level terraces. To the south of the alum plant the 1857 OS records a row

of buildings called Whitecake Row (FD82) which local historians say was a row of alum workers' cottages. The condition survey noted that the site is now covered with modern agricultural buildings. A possible settlement for the alum works has been identified further to the south of the Stoupe Brow works (FD86) which may have served this plant and possibly the one at Peak as well (see below for details about the Peak alum works). The site of a beacon (FD99) is recorded on the 1793 tithe map for Fylingdales parish in the area that has now been quarried away for the Peak Alum Works at the southern end of the parish (FD98). Its location was such that it may have had a significance in the lining up of vessels approaching the dock at the foot of the cliffs at the Peak works.

Local information indicates that there was a further small alum plant at White Stone Hole: the place-name may be indicative in this case (FD1). The condition survey did not have sufficient time to confirm or disprove the existence of this site, although future investigation may achieve this.

The third extractive industry can be seen in the remains of stone quarries to the north of Robin Hood's Bay (FD15, 16) which probably supplied stone and aggregate to the building of the settlement from the later 19th century onwards, as they are not present on the tithe map of 1845.

As well as the various extractive industries and fishing the study area of the parish has also seen the development of widespread agriculture with several 18th-/19th-century farms, for example Bottom House (FD3), Bay Ness Farm (FD14), Smailes Moor Farm (FD13), Copsella Farm (FD24), Millbeck Farm (FD67), South House Farm (FD73), Stoupe Brow Farm (FD94), Browside Farm (FD97), Susanna Hill House (FD90) and Brow Hill Cottage (FD91) along with associated post-medieval ridge-and-furrow field systems (FD17, 66). The agricultural infrastructure can also be seen in a series of farm buildings (barns FD11, 21, 25), watermill (FD65), and hollow-ways (FD93). A windmill (FD18) may also have been built in the period.

Modern

The continued importance of fishing to the local economy can be seen in the description by Galtry in 1820 of the settlement having 45 boats and 130 men engaged in the industry with fish drying for export being a notable feature of the landscape. He also notes that a small amount of tourism is also starting to occur in the bay. Families in the village, however, owned at least 170 boats by 1865, and the larger vessels (yawls) were presumably based elsewhere, probably in Whitby.

A small but interesting aspect of the local fishing industry is the site of Dab Dump (FD61) which is an area of rocks on the foreshore which does not fully dry out at low water and was where dabs were fished for by children from the settlement.

According to local sources the similarly named Strickland Dump (FD68) was apparently 'built' from the rocks on the foreshore by the Strickland family to form a simple tidal pool for swimming in the 19th century.

Industries established in the earlier period continued to operate, including quarrying, jet working and alum processing, although the latter declined, with Stoupe brow works closing in 1817 (Peak Alum Works in neighbouring Staintondale remained in operation until much later), leaving the hinterland largely agricultural, with the existing farms often

extended by adding new ancillary buildings. The presence of Fylingthorpe (the 19th-century school lies just within the study area at FD64) just outside the western limit of the study area, Robin Hood's Bay and Whitby to the north can be seen as being formative in the building of the railway line in 1885 linking Scarborough and Whitby; the line was closed in 1965. The line runs along the coast, now being a foot and cycle path and its remains are present in several of the parishes within the project area along with railway stations at Robin Hood's Bay (FD35), Ravenscar (SD53) and Hartburn Wyke (CG4). A corn mill built in the second half of the century (FD33) probably took advantage of the presence of the railway to market its wares.

Located on the cliff top was a rocket post (FD22) which would have been used to secure the lines fired by rocket to any ships stranded on the foreshore. A second post is also recorded on the early 20th-century OS to the south-west of the rocket post, possibly used as a secondary anchoring point for the cables.

As with Hawsker-cum-Stainacre to the north, the topography of the coastline proved to be suitable for the location for anti-aircraft guns (FD59, 69). With the sheltered nature of the bay and the access to sea level there was a perceived potential for seaborne landings and to this end a series of pillboxes (FD10, 55, 56, 62, 63, 80) were built in order to cover the bay along with a further military building (FD83). Pillbox FD10 north of the village supported a timber observation post, remaining in use until the post-war period; there had been a coastguard lookout post here since 1906. With the height advantage and the proximity of the harbour at Whitby, it acted as a mine observation post in order to monitor the inshore swept channel. Inland of here was a post-war ROC underground monitoring post (FD12).

A Royal Observer Corps post within the village (FD40) was originally built before World War 2 but continued to function as part of the Cold War strategy until closing in the 1960s.

Discussion

From the results described above it can be seen that there has been human activity in the area from at least the Neolithic period onwards. As with the majority of the parishes along this coast the main focus of activity has been in agriculture with concentrated areas of early industrial activity centred on the various alum plants and quarries.

The feature that makes Fylingdales parish unusual is that at Robin Hood's Bay there is a relatively easy access point to the foreshore and sea. This means that the remains of any population wishing to exploit this resource would be expected to be found in and around that access point. However, with the development of the later settlement from the 17th century onwards the evidence for this may well have been removed or obscured.

With this foreshore access the development of foreshore and seagoing activity can be seen in the remains of the hullies and associated post-hole features along the Landing Scar. These features appear to be unique to this section of the north-east coast with other known examples having been recorded at Staithes to the north (Buglass 1996) and show the extent of the importance of the sea and its resources to the coastal communities.

4.4 Fylingdales and Hawsker-cum-Stainacre (Map 5)

Geology and topography

The underlying solid geology of the coastal aspect of the parish area is a complex of Lias formations of the lower Jurassic period (British Geological Survey 2001). In turn this is overlain by a drift geology of glacial till from the Quaternary period (British Geological Survey 1977). The soils in the parish are catalogued as of the Dale association and derived from Carboniferous and Jurassic clay and shale and described as slowly permeable seasonally waterlogged fine, clayey loams, often stoneless (Soil Survey of England and Wales 1983).

The topography of the part of the parish in the study area encompasses the edge of the Brow Moor, an area of moorland rising steeply to c 238m OD, the coastline if one of steep sea cliffs overlooking a rocky foreshore. The land use is for upland grazing.

Historical and archaeological summary

Prehistoric

Palaeolithic

There are currently no recorded sites or finds from this period.

Mesolithic

There are currently no recorded sites or finds from this period.

Neolithic

There are currently no recorded sites or finds from this period.

Bronze Age

Although there is only a very small section of this parish is within the study area it contains part of the remains of a substantial Bronze Age landscape which includes many barrows (e.g. FH4–6, 8, 11). There are also numerous examples of rock art (FH7, 8) revealed by a major moorland fire in 2003 along with possible hut circles and associated settlement activity (FH7).

Iron Age

There are currently no recorded sites or finds from this period.

Late Iron Age/Romano-British

There are currently no recorded sites or finds from this period.

Anglo-Saxon/Early Medieval

There are currently no recorded sites or finds from this period.

Medieval

This section of the study area is a small part of the land which is held in common between the two parishes of Fylingdales and Hawsker-cum-Stainacre and the medieval origins of the place-names for these parishes have already been discussed above. Apart from the place-name evidence there are no other medieval sites recorded within the study area for this parish.

Post-medieval

The small section of landscape within this parish containing the remains of alum works on the edge of Stoupe Brow (FH2) is part of the much wider area associated with the extensive alum works at Peak (SD18). These works are distinct from the works on the coast in neighbouring Fylingdales (FD79), and were connected for many years with Peak Alum Works to the east, with which it was run in conjunction. Possibly related to the alum works as a source of fuel for the clamps or to supply the workers' settlement at FD86 there are the remains of two possible abandoned peat stacks (FH3, 10).

Modern

There are currently no recorded sites or finds from this period.

Discussion

The majority of the study area of this parish is one of major significance with the presence of a substantial Bronze Age landscape including not only funerary monuments but many examples of rock art and potential settlement sites as well. The importance of the area can be seen in that many of the monuments are listed as Scheduled Monuments.

Many of the sites were revealed as a result of a major fire in 2003 which removed much of the overlying peat and vegetation. One of the significances of this is that it has demonstrated that there may be a much greater survival of other prehistoric monuments in other, similar areas. A potential which may only previously have been seen as a relatively small number of plough damaged barrows and occasional artefacts.

4.5 Stainton Dale (Maps 5–7)

Geology and topography

The underlying solid geology of the coastal aspect of the parish area is a complex of Oolitic formations from the middle Jurassic (British Geological Survey 2001), which reflect the gradual tilting upwards of this coastline from south to north. The faults in the around area around Ravenscar show the complexity of this geology well (see Myerscough 1991, 9 for details). Only part of the more inland portion of the study area is overlain by a drift geology of glacial till from the Quaternary period (British Geological Survey 1977). The soils in the parish are catalogued as of the Dale association and derived from Carboniferous and Jurassic clay and shale and described as slowly permeable seasonally waterlogged fine, clayey loams, often stoneless (Soil Survey of England and Wales 1983).

The topography of the coastal section of the parish is primarily one of an undulating upland at c 150m OD but dropping to sea level at the southern boundary of the parish where Hayburn Beck discharges into the sea. Steep sea cliffs overlook a wave-cut rocky foreshore. The land use is for both arable and pastoral agriculture.

Historical and archaeological summary

Prehistoric

Palaeolithic

There are currently no recorded sites or finds from this period.

Mesolithic

There are currently no recorded sites or finds from this period.

Neolithic

As with most of the parishes the Neolithic period is represented mainly by a series of find spots of axes (SD88, 92, 94) and flints (SD82), the latter found near an enclosure of possible prehistoric date, although a medieval or even later date cannot be ruled out. Cup-and-ring markings noted in the garden of the Raven Hall Hotel may also belong to this period (SD23).

Bronze Age

The Bronze Age is well represented in the northern part of the study area for this parish. The remains of an uncertain number of barrows (many of which were investigated by antiquarians) have been recorded in the area of the Raven Hall Hotel (SD37, 46, 48, 49, 51, 52, 54, 61, 89). These barrows produced a wide range of artefacts and human remains, although the specific locations of many of the sites are uncertain. In addition to the barrows/barrow cemetery a possible circle of 32 stones was recorded during various antiquarian investigations (SD53), together with eight Neolithic or Bronze Age cup-and-ring marked stones in the garden of Peak House, now Raven Hall Hotel (see above).

The area of the known barrows also includes several currently undated earthwork features all or some of which may relate to the barrow cemetery and any associated activity. As seen above in the Fylingdales and Hawsker-cum-Stainacre part of the study area there is a very high potential for further remains to be associated with the more obvious extant barrows still seen in the modern landscape. The close proximity of these features to the edge of the upland area known to contain the extensive prehistoric remains seen as a result of the 2003 fire would seem to suggest that at least this northern portion of the parish may be part of the same extensive Bronze Age landscape.

Further Bronze Age sites and finds can be seen throughout the rest of the parish with axes (SD86, 87, possibly 92), an awl (SD85), and urns (SD91, 93).

Iron Age

There are currently no recorded sites or finds from this period.

Late Iron Age/Romano-British

The Raven Hall Hotel is traditionally supposed to have been built on the remains of a Roman signal station (SD24) due to the discovery of a probable dedication stone found during its construction. However, due to the extensive activity of the Peak Alum Works in the area these remains may not have been *in situ*, and an alternative site has also been suggested (SD35).

A sale plan of 1898 names a section of road to the west of the hotel 'Roman Road' (SD22) though whether this was simply named by association or whether there was some dating evidence is unknown. The route is currently used as access to the golf course next to the hotel and is much repaired with ballast and rubble in places.

There are a number of cropmarks which may be related to this period, although all are undated (SD43, 75, 80, 82, 83).

Anglo-Saxon/Early Medieval

The parish name for Stainton Dale is first recorded as *Steintun* in the Domesday Book and later as *Staynton Dale* in 1562. The name means 'farmstead on stony ground' and is from the Old English (replaced by Old Scandinavian *steinn*) and *-tunn* with the later addition of *dale* for 'valley' (Morris 1982, 323).

The small settlement of Ravenscar lies within the study area for this parish at its northern end and is first recorded in 1312 as *Raueneskere* meaning 'rocks frequented by ravens' from the Old Scandinavian *hrafinn* and *-sker* (Mills 1998, 284).

A single poorly provenanced find of an Anglo-Saxon urn (SD90) is currently the only recorded activity from this period in the parish.

Medieval

Agricultural activity seems to have dominated the parish during the medieval period the most obvious of which is the extensive areas of ridge-and-furrow cultivation (SD19, 25, 79). In addition to this there are an enclosure at the south end of the village (SD44), a croft and trackway near Grange Farm (SD64), north-east of which is a scheduled boundary ditch, the 'War Dike' (SD61), a medieval farmstead at Rigg Hall Farm (SD72), and other earthworks (SD34, 39–41, 45, 79, 80, possibly 82).

It should be noted that several of these earthworks lie close to the possible Bronze Age barrow cemetery described above and may relate to this earlier activity.

Post-medieval

As with some of the parishes to the north the post-medieval landscape is dominated by the remains of alum quarrying and its associated industry, mainly related to the scheduled Peak Alum Works (SD17: Plate 23), although there are the remains on the

foreshore of another alum house (SD7) and breakwater (SD6) further east at Old Peak. The remains are spread over a wide area of the landscape from quarries near the landward edge of the study area to the remains of the various docks (SD1, 2, 4, 8), rutways (SD3, 9, 10), foundations (SD12), jetty (SD11) on the foreshore. There was also a causeway leading down the cliff to the dock (SD14), replaced in the 19th century by a tramway (SD14). The remains of the various stages of the alum process which can still be seen at the Peak Alum Works probably represent some of the most complete to survive and as such can help in the interpretation of other more fragmentary sites (for a fuller discussion of the remains see Marshall 2002, 27 *et seq*). They include the alum house, reservoirs, culverts, cisterns, a grinding mill, engine house, calcining platforms, burnt shale mounds (Plate 24), workshops, a shed for storage of blasting powder, liquor troughs, steeping pits and other features (see the period discussion for a description of alum processing). There were two main quarries (Plate 25), east and west, both served by tracks. The site also had workers' cottages (e.g. SD21, 26) and a manager's house, Low Peak Farm (SD20: Plate 23). The works were in use for much of the period between c 1650–1862, at one time including the management of a smaller works under Stoupe Brow in the neighbouring parish to the west (FH2).

Other industries include a potash prospection site (SD29) and a stone quarry (SD38).

Due to the orientation of the geological deposits along the coast (the bedding plane rises gradually from south to north) there is no further mineral extraction as seen in the areas to the north.

Outside the areas of the alum industry the landscape is once again one of agriculture with post-medieval ridge-and-furrow (SD67) and a scattering of farmsteads, e.g. Crag Hall (SD43), Bent Rigg Farm (SD57), Dansdale Farm (SD59), Peggies Farm (SD66), Plane Tree Farm (SD73), White House Farm (SD78), along with several limekilns for improving the land (SD13, 14, 69), although these may be later.

Modern

The 19th century saw the continuation of the alum industry, which at Peak lasted until the 1860s. Advances in technology saw the mechanisation of some of the processes involved, with the original causeway to the foreshore replaced, for example, by an inclined tramway (SD14) and a mineral railway has been identified within the shale quarries (SD36). Later, the coastal railway from Scarborough to Whitby (opened in 1885 closed in 1965) cut through the landscape (SD50), passing the closed alum works, and a brickworks was located within one of the old alum quarries (SD33), with its own railway sidings connecting to the main line. For passenger use, a railway station was constructed to the south-east of the Raven Hall Hotel to serve a proposed new settlement (SD28: Plate 26) that was to be built on the headland as a speculative development by the Ravenscar Estate Company. There was, however, a distinct problem with gaining access to the foreshore down the steep cliff, and potential clients showed little interest in the site. In the end the development never proceeded as the company went bankrupt in 1911, but elements of the infrastructure were built including some services and roads which can still be seen today, and about a dozen houses.

The prominence of Old Cheek or South Peak as the southern end of Robin Hood's Bay has meant that it has been used as a convenient landmark for describing coastal shipping losses. Currently the location is used to record seven post-medieval losses

from 1821 to 1923 and two medieval losses from the 13th/14th centuries. There will have been many further, unrecorded, losses in the vicinity particularly due to the presence of the docks for the Peak alum works.

Despite the more remote nature of this section of coastline, the high cliffs made the area important during World War 2 sites for enemy aircraft interception and countermeasures. There is a 'Diver' anti-aircraft battery near the Raven Hall Hotel (SD27) and possibly another further south (SD35). A coastwatch site was also located at Bent Rigg (SD56), near an important Chain Defence Low/Chain Defence Extra Low radar station (SD55), which has been scheduled. The coastguard station remained in use until the 1960s. Several military buildings were located further south (SD60). The final site is a minefield (SD84) that would have been used to prevent any covert landings at Hayburn Wyke at the southern boundary of the parish.

Discussion

The importance of the Peak Alum Works as the most southerly, and possibly most intact of the alum industry sites dominates the archaeology of the parish. However, the extensive remains of the various Bronze Age sites, although in some instances poorly located and understood, shows that the area has been exploited, probably continuously, for several thousand years. Both of these site types, at either end of the archaeological spectrum, are vulnerable to disruption and destruction. In the case of the various barrows and associated monuments the primary threat is from agriculture whilst the alum works, although under the guardianship of the National Trust, are threatened by coastal erosion with several elements already known to have been lost to the sea.

4.6 Cloughton (Maps 7, 8)

Geology and topography

The underlying solid geology of the coastal aspect of the parish area is a complex of Oolitic formations from the middle Jurassic (British Geological Survey 2001), which reflect the gradual tilting upwards of this coastline from south to north (for details on the complexity of the various deltaic and fully marine transgressions see Myerscough 1991, 10, and King 1965). The solid geology is overlain by a drift geology of glacial till from the Quaternary period (British Geological Survey 1977). The soils in the parish are divided into the Rivington 1 association in the northern part as far south as Cloughton Wyke and then from there south they are of the Salop association. The Rivington 1 association is derived from Carboniferous and Jurassic sandstones and described as a well drained coarse loamy soil (Soil Survey of England and Wales 1983). The Salop association is derived from glacial till and is described as a slowly permeable seasonally waterlogged fine loamy (ibid).

The topography of the coastal section of the parish is primarily one of an undulating landscape between c 30–120m OD but dropping to sea-level at the northern boundary of the parish where Hayburn Beck discharges into the sea. Steep sea cliffs over look a wave-cut rocky foreshore. The land use is for both arable and pastoral agriculture.

Historical and archaeological summary

Prehistoric

Palaeolithic

There are currently no recorded sites or finds from this period.

Mesolithic

There are currently no recorded sites or finds from this period.

Neolithic

Only two find spots, one of a Neolithic axe (CG1) and the other of Neolithic or Bronze Age flints (CG11) currently represent this period within the study area.

Bronze Age

A barrow (CG15) and possible barrow (CG9) along the western side of the study area boundary have been dated to the Bronze Age, together with what was interpreted as a ring cairn (CG8). These along with the flints described above are all that is currently recorded.

The location of the barrows along this western side seems to coincide with the higher ground along the edge of the current moors and as such they could represent the southern end of the extensive Bronze Age landscape seen to the north.

Iron Age

There are currently no recorded sites or finds which can be definitely be attributed to this period, although a settlement described as 'Iron Age' was excavated at Cloughton Hulley in 1923–5 (CG12).

Late Iron Age/Romano-British

Find spots of three beehive rotary querns (CG10, 18) are currently the only evidence of Iron Age/Romano-British activity. However, the presence of relatively heavy domestic items such as querns which would not normally be thought of as moving long distances potentially indicates some form of settlement(s) in the area. It is possible that this is represented by a series of cropmarks (CG21) to the south of the querns. The 'Iron Age' settlement noted above (CG12) may also be of this date.

Anglo-Saxon/Early Medieval

Once again the Domesday Book of 1086 sees the first recording of the place-name for Cloughton, which lies to the west of the study area. The name derives from the Old English *clōh* and *-tun* meaning 'farmstead at a dell or deep valley' (Mills 1998, 89). There are, however, currently no recorded sites or finds from this period.

Medieval

Apart from the place-name evidence the only indication of medieval activity is the well-preserved ridge-and-furrow cultivation (CG24: Plates 26, 27) and a hollow-way (CG27) leading to the beach at Cloughton Wyke, where it formed a distinct notch in the cliff edge (Plate 29).

Post-medieval

The main economic activity in the parish was agriculture with post-medieval ridge-and-furrow (CG17) and a series of farmsteads, e.g. Newlands Farm (CG13) and Sycarham Farm (CG22) and cottages Cawood Cottage (CG3) and Newlands Cottage (CG16). Evidence for the improvement of the land in the 18th/19th centuries can be seen by the presence of limekilns (CG2, 5, 14, 25, 32, 34) along the length of the parish.

The tithe map of 1771 records a 'Public Road to Sea Sands' which has a well-defined hollow-way running from its northern side down to the foreshore, possibly established in the medieval period (CG27). The condition survey noted the presence of the well preserved hollow-way (Plates 27, 29) and that it actually appears to run along the northern side of the current metalled track to the foreshore, effectively the modern route following the top of the earlier hollow-way bank. The tithe also records 'Salt Pans' on the foreshore (CG28) on the northern side of Cloughton Wyke, a place-name that persists today. This appears to be the only location within the whole of the study area that there is any form of evidence for salt production, an activity that is more often associated with the medieval period. The condition survey did not find any direct evidence for salt production on the foreshore as it was covered in a deep layer of boulders and the few areas that were clear of stones were of apparently bare rock (Plates 30, 31). The boulders may have originated from past cliff falls, as the condition survey noted that slippages were active in this area (Plate 32).

Modern

The early 19th century would have seen little change in the area, with farming the predominant occupation, leading to the construction of further farms, such as Newlands House (CG19), but the Scarborough to Whitby railway was constructed through the parish with a station at Hartburn Wyke (CG4), opening in 1885.

As with the cliffs to the north, their height made them suitable locations for anti-aircraft guns, with three Operation Diver batteries built late in the war to combat V1 incursions (CG6, 30, 35), two ROC Monitoring Posts (CG26, 29), the latter with an underground aircraft post nearby, and a mine observation post (CG31). This height and more remote location also made the area suitable for the establishing of a covert underground Special Branch wireless station (CG7). Several military buildings have also been identified from aerial photographic analysis (CG20).

Discussion

A combination of the lack of access to the foreshore, lack of mineral resources and the more remote nature of the area has meant that the recorded activity in the parish has been almost entirely agricultural in nature.

The presence of the salt pans on the 18th-century tithe map is notable with the public road running directly from the coast to the settlement of Cloughton which lies just to the west of the edge of the study area.

4.7 Burniston (Map 8)

Geology and topography

The underlying solid geology of the coastal aspect of the parish area is a complex of Oolitic formations from the middle Jurassic (British Geological Survey 2001), which reflect the gradual tilting upwards of this coastline from south to north (for details on the complexity of the various deltaic and fully marine transgressions see Myerscough 1991, 10 and King 1965). The solid geology is overlain by a drift geology of glacial till from the Quaternary period (British Geological Survey 1977). The soils in the parish are of the Rivington 1 association which is derived from Carboniferous and Jurassic sandstones and described as a well-drained coarse loamy soil (Soil Survey of England and Wales 1983).

The topography of the coastal section of the parish is one of an undulating landscape between 30–80m OD with steep sea cliffs overlooking a rocky foreshore. The land use is for both arable and pastoral agriculture.

Historical and archaeological summary

Prehistoric

Palaeolithic

There are currently no recorded sites or finds from this period.

Mesolithic

There are currently no recorded sites or finds from this period.

Neolithic

There are currently no recorded sites or finds from this period.

Bronze Age

There are currently no recorded sites or finds from this period.

Iron Age

There are currently no recorded sites or finds from this period.

Late Iron Age/Romano-British

There are currently no recorded sites or finds from this period.

Anglo-Saxon/Early Medieval

The settlement of Burniston which lies just to the west outside the study area gives its name to the parish is first recorded in 1086 as *Brinnistun* from the Old Scandinavian personal name and the Old English *tun* meaning 'farmstead of a man called Bryningr' (Mills, 1998, 63).

There are currently no recorded sites or finds from this period.

Medieval

Apart from the place-name evidence there is currently no recorded medieval activity in the study area of the parish.

Post-medieval

As there is only a small section of the parish within the study area there are few archaeological sites recorded and those sites that are recorded from this period both relate to agriculture. The sites are a single farmstead (possibly later) which is depicted on the 1857 OS at Burniston Fields (BT2) along with extensive areas of post-medieval ridge-and-furrow cultivation (BT3) recorded from aerial photographs.

Modern

The area continued to be largely agricultural. Two World War 2 sites are recorded on the cliff top at Long Nab, where there is a minewatch bunker (BT1) sited to take advantage of the prominent location to look for enemy mines in the swept inshore channel.

Discussion

As there is only a small area of the parish within the study area there is a correspondingly small number of recorded archaeological sites. From the recorded sites it can be seen that the area has been dominated by extensive agricultural activity during at least the post-medieval period which may well have acted to mask, modify or destroy any evidence for earlier human activity.

The presence of the mine observation bunker is one of several such posts along this part of the coastline which were used to watch for German mine laying activity in the inshore swept channel. This swept coastal channel (often called the Scarborough Channel) was of considerable importance to UK and Allied shipping during both world wars as it provided a relatively safe and controllable passage for coastal shipping. The channel was kept clear using minesweepers (often converted fishing vessels with their own crew) based at Whitby and Scarborough (Dorling 1935, 96; Terraine 1989).

4.8 Newby and Scalby (Maps 8, 9)

Geology and topography

The underlying solid geology of the coastal aspect of the parish area is a complex of Oolitic formations from the middle Jurassic (British Geological Survey 2001), which reflect the gradual tilting upwards of this coastline from south to north (for details on the

complexity of the various deltaic and fully marine transgressions see Myerscough 1991, 10 and King 1965). The solid geology is overlain by a drift geology of glacial till from the Quaternary period (British Geological Survey 1977). The soils in the parish are of the Rivington 1 association which is derived from Carboniferous and Jurassic sandstones and described as a well drained coarse loamy soil (Soil Survey of England and Wales 1983).

The topography of the coastal section of the parish is one of an undulating landscape around 50m OD with steep sea cliffs dropping down to a rock foreshore, though at the southern parish boundary the ground drops to near sea level where Scalby Beck enters the sea. The land use is for both arable and pastoral agriculture.

Historical and archaeological summary

Prehistoric

Palaeolithic

There are currently no recorded sites or finds from this period.

Mesolithic

There are currently no recorded sites or finds from this period.

Neolithic

There are currently no recorded sites or finds from this period.

Bronze Age

A hoard of late Bronze Age axes (NY13) was recovered from the cliffs in the south at Scalby Ness in 1917 after a cliff fall.

Iron Age

There are currently no recorded sites or finds from this period.

Late Iron Age/Romano-British

There is currently a single find from this period assigned to the parish record; this is of an unglazed pottery lamp (NY18), which was probably Romano-British, although an accurate date and location for its discovery is unknown.

Anglo-Saxon/Early Medieval

The parish name is a combination of names for the Newby and Scalby settlements. Newby is a common name deriving from the Old English *niwe* for new and Old Scandinavian *by* for a farmstead or village (Mills 1998, 253). Scalby is first recorded in 1086 as *Scallebi* from an Old Scandinavian personal name and *by* meaning 'farmstead or village of a man called Skalli' (ibid, 302). There are currently no recorded sites or finds from this period.

Medieval

Although the place-name evidence demonstrates a settlement existed here, there are no recorded sites or finds from this period in the study area.

Post-medieval

The post-medieval landscape is dominated by agricultural activity with ridge-and-furrow cultivation (NY3) and in the north, Scalby Lodge (NY2), appearing between the tithe map of 1771 and the OS of 1857.

The 1771 tithe map records a 'Public Road to the Sea Sands' to the north of Scalby Lodge (NY1) which would have allowed access to the foreshore; no obvious evidence for this road was seen during the condition survey. A similar road to the north in Cloughton parish appears to have been for access to a salt pan though in this instance none were recorded on the tithe map.

A further place-name recorded on the tithe from near Scalby Ness is 'Flather Pickers Leas' which could be a corruption of 'flither picker' – flither or flivver being a local term for limpets which were used extensively as bait for long lines for cod and other fishing, thus the area may have been used for bait collection (NY11).

Modern

The 19th-century OS records three mills along Scalby Beck within the study area out of a total of four watermills along the stretch from Scalby Bridge to the sea: Newby Mill (NY17), Scalby Low Mill (NY12) and an un-named mill (NY14), Scalby Bridge is also named on the 1857 OS (NY16). The condition survey possibly located the remains of Scalby Low Mill (Plate 33), although no trace of Newby Mill was seen. The mill to the north-west of the bridge is now a youth hostel and a wide water course was noted running eastwards from it under the road, which may have been related to an old building standing on the eastern side of the modern road (NY15: Plate 34). The limited access prevented further investigation of this possible relationship.

Downstream of the mills, a smallpox isolation hospital is recorded (NY10), though no trace of this could be seen during the walkover survey.

World War 2 activity in the parish was restricted to the southern end of the parish, with two pillboxes (NY4, 7) located on Scalby Ness, where the remains of one still appear to be present (Plate 35). Along with these there was also a rifle range at Scalby Beck (NY8) and an associated building, possibly an observation post (NY6). There is also an underground air raid shelter, still in good condition, at the south end of the parish (NY19). The condition survey noted the presence of the mound for the flagpole (NY5) for the rifle range and what appeared to be infilled trenches in potentially good condition, probably also part of the rifle range (Plate 36).

Discussion

The parish of Newby and Scalby is archaeologically relatively quiet with the majority of the evidence for human activity occurring during the post-medieval and modern periods.

This is seen by the extensive pattern of ridge-and-furrow agriculture and the extent of milling along Scalby Beck. The presence of the pillboxes reflects the importance of the beach exit here.

Although there is little evidence for prehistoric activity, the late Bronze Age axe hoard recovered after a cliff fall could be seen to indicate that there was once a more extensive prehistoric landscape that has been masked by later agriculture or lost to the sea. The abundance of Bronze Age barrows along other headlands and high points of the coast would seem to suggest that there was once more in this location than is currently recorded.

4.9 Scarborough (Maps 9–11)

Geology and topography

The underlying solid geology of the coastal aspect of the parish area is a complex of Oolitic formations from the middle Jurassic (British Geological Survey 2001), which reflect the gradual tilting upwards of this coastline from south to north (for details on the complexity of the various deltaic and fully marine transgressions see Myerscough 1991, 10 and King 1965). The solid geology is overlain by a drift geology of glacial till from the Quaternary period (British Geological Survey 1977). The soils in the parish are unclassified due to their urban nature (Soil Survey of England and Wales 1983).

The topography of the coastal section of this parish is dramatic. The Castle headland is the dominant feature, dividing the area into two bays. The diamond-shaped top is relatively flat, and measures 500m north–south and 250m across, protected by steep cliffs, except on the south-west side where a steep hill makes access difficult. The sweeps of both North and South Bay are backed by a steeply rising landscape up to over 100m OD. Some sections of the coastline are composed of steep cliffs with a wave-cut rock foreshore whilst others, notably in the two bays, have a sandy foreshore. The land use is now almost exclusively urban with a mixture of residential, light industrial and recreational areas.

Historical and archaeological summary

Prehistoric

Palaeolithic

There are currently no recorded sites or finds from this period.

Mesolithic

The only Mesolithic material from the parish is a series of unprovenanced artefacts found within the Scarborough area generally. The material includes Neolithic stone axes as well as material of later dates (SC180).

Neolithic

In addition to the unprovenanced material mentioned above (SC180), stone axes from the Peasholm (SC15) and Castle areas (SC28) and a macehead from south of the

harbour (SC136) have also been found. A long barrow near Peasholm currently ascribed to the Bronze Age (SC13) could be late Neolithic in date, or may belong to the transitional period.

Bronze Age

The Bronze Age is better represented, as it often is, by a series of funerary monuments located on the areas of higher ground towards the west and north of the study area. A late Neolithic/Early Bronze Age long barrow (SC13) has been identified and investigated in the Peasholm area. Round or bowl barrows have also been identified at Peasholm (SC27) and the Weaponness areas (SC68), along with a barrow cemetery at Scarborough College (SC164). Most of the barrows have now been lost due to redevelopment.

A late Bronze Age/early Iron Age settlement on the Castle headland (SC30) was identified during excavations in the 1920s, including a number of bronze socketed axes and other artefacts; early Beaker pottery was also apparently present, suggesting activity from before c 2000 BC. A middle Bronze Age spearhead (SC123) has also been found in the town, although its exact provenance is unknown.

Iron Age

The settlement on the Castle headland had two main periods of use, one around the 7th century BC with Hallstatt influences, and a second slightly later, in the 6th century BC (SC30). A number of tools and other artefacts were found, and there was evidence for bronzeworking. There were a number of hearths and many pits, some probably for water storage, as well as fragmentary human remains. The site may have become a promontory fort, although the later castle has destroyed any potential evidence for defensive works across the neck of the headland, which was the only area not protected by almost unscaleable cliffs. Additionally, a 'Hallstatt type' armlet or bracelet was found in Paradise Street (SC46), which may well be related to the settlement above.

Late Iron Age/Romano-British

The late Bronze Age/early Iron Age settlement site recorded on the headland at Scarborough Castle (SC29) does not seem to have continued into the later Iron Age, and the next significant activity is represented by a Roman signal station (SC31), constructed c AD 370. This had a tower c 15m square at the base, and possibly 30m high. As already mentioned, this is one of a number along the Yorkshire coast and one of the best preserved. Although there has been some suggestion that these were in fact small forts or refuges (Wilson 1989), this seems highly unlikely to have been their primary purpose, since they were clearly designed and located to act as watchtowers and early warning systems for military garrisons and the local population, in much the same way as their Elizabethan, Napoleonic and World War 2 counterparts. The route of the road to the signal station from Malton could be 'fossilised' in the line of Castle Road (SC133), as there are several sites on the ridge along which it runs (SC44, 66, 71).

In addition to the nationally significant signal station numerous finds of Roman-British artefacts have been made across the town which includes coins (SC136, 138, 144), pottery (SC24, 44, 61, 136, 156, 180), and tiles (SC71). Significantly, fieldwork at the former Convent School in St Thomas Street in 1999 revealed a hearth and gully of

Roman date beneath the medieval rampart (SC66), while a possible Roman wall was found at Eastborough/West Sandgate (SC98). Several of these locations are close to the waterfront which would seem to strongly suggest some form of quay or landing at some stage, although this has probably been left in a more landward position by the continual reclamation of the waterfront during the medieval period.

Anglo-Saxon/Early Medieval

After the Romano-British period the settlement of Scarborough seems to re-appear as a Viking settlement and is named in a Viking saga. In the '*Kormakssaga, Flateyjarbok*' Scarborough is called *Skarþborg* and in the '*Orkneyingasaga*' it is referred to as *Skarþabork*, 'Skarþi's stronghold'. The brothers Kormak and Thorgills were in the service of King Harald Grafeld, who was king of Norway from AD 960–5. If reliable, this would date the Viking foundation of Scarborough to the mid 10th century. Kormak and Thorgils accompanied the king's expedition to Bjarmaland or Permian in northern Russia in AD 966. It is known that the expedition to England immediately followed this and that Kormak died in the year AD 967. This would date the Viking foundation of Scarborough more precisely to AD 966–67.

The accuracy of the saga story cannot, however, be proven, and there has been little excavated evidence for the early settlement compared with the later medieval period, although Peter Farmer recorded evidence on several sites in the 1960s and 1970s: further work is required on the site archives to confirm the original interpretations. At the site of the medieval hospital of St Thomas, what was interpreted as a pre-Conquest settlement site was investigated in 1973 (SC122), including timber structures with hearths and pottery of two early phases, said to be of the 6th/7th century and 8th/early 9th century and a later phase consisting of the foundations of a stone building built in the 10th century and destroyed by fire c 1100. Excavations at 22 St Mary Street in 1968 (SC72) are also said to have revealed evidence for possible 10th- to 11th-century occupation below an early timber structure. Waterlogged deposits and organic artefacts assigned to the same period were found in Eastborough/Sandgate in 1975–6 overlying natural beach sand (SC98). The 10th-/11th-century sites were presumably part of the original settlement which was later incorporated into the 12th-century 'Oldborough': fields associated with a putative early settlement may have been fossilised in the street layout of the 12th-century town's westward extension (Newborough). Remains from the 6th to early 9th century, if verifiable, are more likely to form part of a pre-urban settlement.

More certainly, an early chapel was built c 1000 on the Castle headland (SC32) on the site of a later medieval chapel, and has been considered as potentially part of the settlement allegedly destroyed by Tosti and Harald Hardrada in 1066; a number of burials dated by contemporary artefacts were also excavated, suggesting that there was a local community. It is possible that the community was part of a religious enclave based around the chapel, however, rather than relating to a secular village engaged in fishing and trading on the waterfront.

Medieval

In sharp contrast to the paucity of pre-Conquest remains, the development of the later medieval town is well attested to both in documentary terms and physical remains. There is, however, no reference to Scarborough in Domesday Book, and it appears likely that at the time it was a relatively insignificant settlement forming part of the manor of

Falsgrave. Falsgrave lay a mile inland and was the seat of a royal manor with jurisdiction over 21 other named settlements (Pearson 2005, 6).

Probably the two most obvious features of the medieval town are the castle (SC29) and the harbour (SC108). The construction of the castle was begun early in the reign of King Stephen (1135–54) by William Le Gros, Earl of Aumale (Albermarle), Lord of Holderness. Le Gros, as Earl of York, effectively managed the royal estates in the region during Stephen's unsettled reign. The early castle probably consisted of a ditch, gate-tower, timber palisade, and a few domestic buildings. With the accession of Henry II, however, the monarchy regained direct control of the royal estates at le Gros' expense, and the castle was among properties surrendered to the Crown in 1155; it became a Royal castle until the 17th century. Henry rebuilt the keep between 1158–68, with a timber-palisaded inner bailey and curtain wall. Further improvements were carried out from the later 12th century by John, Henry III and Edward I, including the curtain wall and towers, and the replacement of palisades with stone walls. The plan is unusual, in that the castle's outer defences effectively consist simply of a long wall constructed along the south-west side of the headland, curving to include about 75m of the north-west side; the remainder is protected by cliffs on the eastern and northern sides, and did not require walls. A wall runs from the north-west side to join the south-west wall, forming an inner bailey 100m north–south, 45m wide. The south-west entrance was protected by a barbican, with a drawbridge crossing the moat. Other buildings were located along the line of the curtain wall and in the inner bailey, where an aisled hall and the Mosdale Hall were located. The remainder of the plateau remained largely open and was the site of the Chapel of Our Lady (SC32), initially built by le Gros on the site of the Roman signal station and earlier medieval chapel. It was rebuilt following a fire in 1312, including a priest's house and latrine block, before being dissolved in 1539. The chapel was excavated between 1921–5, together with its cemetery, which included over 400 graves of pre- and post-Conquest date.

The modern harbour is the result of centuries of alterations and extensions, and the present visible remains are all date from the post-medieval period. Surveys of cellars along the waterfront have identified the presence of a medieval stone quay wall, in some instances with mooring rings still attached. Several excavations along the waterfront have recorded the remains of medieval quaysides in Quay Street (SC108, 126) and a pier (SC119). All of these remains are located some distance back from the current seafront, reflecting the extent of reclamation which has occurred since the medieval period. The steep cliff on which the town was built was also terraced from an early period to form house platforms, and terrace walls and levelling deposits have been located on several sites, principally those on an east–west axis, such as Longwestgate and Sandgate (e.g. SC62, 63, 70, 93).

The settlement was effectively contained by the borough boundary until the later post-medieval period, and the defences have been identified in several locations. It was 'tucked in' to the landscape behind the castle and can still be seen today in the surviving street patterns and names. Much of the focus of the settlement would have been towards the waterfront and as such any developments along this area has a high potential of encountering evidence for the maritime development of the town (for further details on the development of medieval Scarborough see Pearson 2005).

The modern town is usually considered to have begun with the creation of Oldborough, to the west of the Castle headland. There may, however, have been an earlier planned

settlement laid out by le Gros, in much the same way as he laid out Hedon, near Hull, and Skipsea. There was probably a small waterfront enclave near West Sandgate (Pearson 2005, 8), since Scarborough is known to have had a port prior to 1155. The main area of le Gros' settlement may however have stretched along the high neck of land leading from the castle gates along the axial Castle Road, and probably incorporating St Mary's Church (SC40). This juxtaposition of castle/moated manor, church and extra-mural settlement follows the same pattern as Hedon and Skipsea. Hedon also had a market place near the church, and perhaps significantly part of Castle Road was also referred to as Marketgate in the 17th century. Like the Hedon model, the early core was apparently replaced by a later planned settlement on a different axis (Oldborough), orientated to take advantage of a port facility, with the original core left as a series of nearly empty tenements.

Oldborough was probably founded shortly after 1155, consisting of a grid of streets extending between the church and the waterfront, although the name may initially have been applied to le Gros' original settlement, being given to the whole area after it was extended westward shortly afterwards to create Newborough, still within the reign of Henry II. Here, the pattern of streets formed long narrow north-south strips with a slight curve reminiscent of the selions of open field systems; this suggests that the Newborough was actually laid out over an existing field system, quite possibly associated with a settlement predating le Gros' planned town.

The Oldborough was defended on the west and south side by walls, ditches and ramparts (SC131), although the north side was probably considered naturally defended by cliffs, and there was no wall. The western defences (SC121) have been recorded at Nos 1-3 and 7 Leading Post Street (SC112, 116), and in 1847 during sewer excavations at the west end of St Sepulchre Street, although features identified as defences were located on a more westerly alignment at St Mary's Parish House, Castle Road (SC71), and Wilson's Mariners Asylum (SC44). The west wall was redundant after the Newborough was built, but remained, in a state of decay, into the 14th century. The southern defences may have run along the top of the cliff above the beach, perhaps terraced into the subsoil north of Merchants Row (SC41), but were allegedly found near St Thomas's Church (SC78), although this site appears to be extramural, as well as in a public house basement in Eastborough in 1968. The Sandgate was thought to have been uncovered in 1976 at the foot of the cliff (SC98), which would be unlikely if the wall ran along the clifftop, so the interpretation is uncertain. The Newborough defences, consisting of a rampart and ditch on the west and north sides, may not have been built until after 1225 (SC102). Elements of the defences have been recorded in several locations, including Queen Street (SC66), Balmoral Hotel (SC122), 4 North Street (SC128), and the sites of Auborough Gate (SC151) and Newborough Gate (SC132). Significantly, the rampart observed at 4 North Street sealed an earlier gully, which may be an element of an earlier field system relating to a settlement predating the New and Old Boroughs as discussed earlier. During the reign of Richard III, a town wall was built on the north and west sides of the town, replacing the Newborough rampart, recorded in Queen Street (SC66).

The settlements also contained the usual medieval elements of chapels, almshouses and hospitals most of which were in existence by the end of the 14th century, including the almshouse and chapel of St Mary Magdalene, *alias* the Charnel House (SC37), St James's Hospital (SC51), the Blessed Virgin Mary Almshouse or Hospital (SC50), St Thomas's Hospital (SC122) and Church (SC129), St Stephen's Hospital or Almshouse

(SC162), and the chapel of St Sepulchre (SC91). St Nicholas's Hospital (SC140) was established for lepers in 1297–8, and was therefore located on the edge of the settlement, on St Nicholas Cliff. There may also have been chapels of St Helen and St John (SC118). There are several documented market crosses, or markers including the blue basalt Bargain Stone (SC39), the Rede Cross (SC64), the Butter Cross (SC83), the Corn Cross (SC103) and St Thomas's Cross (SC125). Elements of what must have been an extensive cemetery near St Magdalene have been found on several occasions from the 19th century onwards (SC36). Northstead Manor (SC14) was founded north of the town in the modern Peasholm area around the same time. The extensive church of St Mary's situated near the Castle (SC40, 45) was probably founded around 1120–35, although the present church dates from the later part of the century and was granted in 1189 to the abbey at Citeaux. For a while it developed thereafter as a Cistercian alien cell or priory, before passing to the Augustinians of Bridlington Priory. The Proctor of Citeaux had a house in the town, although its location has not been established. A possible site was suggested by Farmer at 101 Castle Road (SC52), but this was probably too far from St Mary's and the Paradise area is more likely, although the successive buildings present were high-status. The town's Court of Pleas held sessions in a purpose-built Hall in Butcher's Street as early as 1298 (SC89), but it was located in East Sandgate in 1378.

A Franciscan friary was also established in 1239 (SC67), being removed in 1245 and re-established in the St Sepulchre Street/Longwestgate area of the Oldborough in 1267; it has been excavated in part (SC91, 97, 105), also revealing portions of an extensive medieval gutter or sewer, the *Damyet* or *Damgeth* (SC104); a conduit was found in the area in 1968 (SC82). The *Damyet* was also recorded where it reached the foreshore on West Sandgate (SC98), and organic deposits on its line were noted at the Opera House site, St Thomas' Street (SC113). Adjoining the friary was the site of the Chapel of St Sepulchre and its cemetery (SC91), which was possibly already in existence by c 1189. A Dominican friary was founded c 1252 in the Newborough near modern Friar's Way (SC130) and the site of the demolished Castle Hotel (SC96), where some displaced tracery has been found. A Carmelite friary was also established immediately to the south in 1319 (SC115), fronting Newborough street, with an underground conduit supplying it and the surrounding area, one of three documented 14th-century conduits in the town (SC117). St Thomas's Chapel (SC80) was located near the hospital of the same name next to the Newborough Bar (SC77), probably in the late 12th or early 13th century; it survived until 1649.

All of these features show a thriving settlement with a busy port which figured prominently in the fishing industry and merchant trade. Although market charters had been granted in 1155 and 1163, by 1235 Scarborough also had a chartered fair established by Henry III, with a six-week trading festival held between Assumption Day (15th August), and Michaelmas Day (29th September) to attract merchants from all over Europe; the Fair continued to be held for 500 years, from the 11th to the 18th century.

Although thriving, being in the top 35 tax-paying towns in 1334 and 1337 (Pearson 2005, 12), and supporting three large friaries, there was little suburban growth outside the borough walls, and plenty of empty properties within, particularly in the north, where plot sizes were larger than the more commercial areas to the south. This was increasingly the case after 1350, when economic decline set in, perhaps partially as a result of the Black Death. Settlement in the south was, however, highly concentrated in areas south of Longwestgate. A number of domestic sites have been investigated across the town

area (e.g. SC43, 44, 53, 59–62, 65, 69–77, 79, 81, 82, 84–6, 91–3, 100, 106, 110, 114, 122, 124, 134, 137), revealing buildings, cesspits, rubbish pits, roads, yards, hearths and ovens, including a bakery at 30 Quay Street near Bakehouse Steps (SC84). Sites immediately behind the early quays revealed levelling deposits laid on the foreshore to raise the ground level for building (SC88, 90, 93, 98, 126).

Industrial and craft activity is represented, with several kilns relating to a thriving pottery industry examined, particularly around the former Nesfield's Brewery site, St Peter's and St Mary's churches, and St Mary's Parish House, all in the Castle Road area (SC47, 49, 52, 53, 71). Clay quarries and wasters were also found in Auborough Street (SC57). Scarborough ware was to become an important trade item in England and on the northern continent between the later 12th and mid to late 14th centuries. It had a variable pinkish-buff, reddish-pink or off-white fabric, with a distinctive glaze, and included highly-decorated pieces such as elaborate knight jugs and aquamaniles. The presence of a pottery industry within a town is unusual, although this may either have been a partly empty quarter, or it may have been established before the defences were completed. Other industrial activity includes a possible nail forge (SC75), limekiln and iron smelting at Wilson's Mariners Asylum, Castle Road (SC44).

Post-medieval

Later medieval economic decline continued to affect the town into the 16th century, and although the medieval street plan was maintained, there were empty tenements, particularly in the north of the town, in the Castle Road/Paradise area. The Dissolution, c 1538–9, saw the demolition of many of the medieval institutions, including the three friaries, hospitals, chantries, and the chapel at the Castle, and there is evidence that the Franciscan friary was not built on for some time, probably not until the 18th century, although other sites were redeveloped more rapidly. Investment in the harbour, however, began around 1565, with work on a new pier to replace the medieval structure (SC119) and an extended quay (SC126), helping to bring trade and prosperity back to the town. The Harbour Pier was extended further in 1732, and Vincent's Pier and the East Pier added. The improvement in the town's fortunes led to a wave of new building and reconstruction works. The 'Richard III House', although probably late medieval in origin, was substantially rebuilt (SC94), and the former Lancaster Inn (SC95) and Three Mariners (SC90), all near the harbour on Quay Street, belong to this period. A building identified by Farmer as the medieval Sandgate (SC98) was demolished c 1500 and replaced by a house, possibly similar to the others on the street.

New foundations, included Trinity House Hospital, built in 1602 (SC71). St Thomas's Hospital survived the Dissolution as an almshouse and was rebuilt in 1575, being finally demolished in 1862 (SC77), although St Sepulchre (SC91) had been demolished in 1564. St Nicholas's Hospital (SC140) likewise survived the Dissolution in some form, although latterly as a ruin until final demolition in 1798. Excavations have revealed some of the features of the town, including an 18th-century bakery (SC68), the foundations of many buildings and general evidence for occupation (SC61, 63, 72, 74, 75, 84, 110, 114, 120, 137, 141, 143); a number of standing buildings within the town were built during this period. Late 18th- or early 19th-century cisterns, possibly for tanning, were found at the Opera House site in 2004 (SC113).

There was also a thriving local brick industry in the north of the town, with kilns and clay quarries located on several sites in the Castle Road/Paradise area (SC43, 48, 65, 86),

exploiting the same clay sources as the medieval pottery industry. The quarries consisted in some areas of parallel long narrow trenches set 0.3–0.5m apart. Building stone for the town was probably extracted in a number of small local quarries, perhaps including one on the Castle headland (SC21) and several on Scalby Beck (SC1); the products of the latter may have been destined for the construction of the series of mills in the area, and perhaps, buildings in Scalby village.

Although the medieval defences of the castle (SC29) became outdated with the introduction of increasingly effective artillery, its strategic position ensured that it remained the scene of various conflicts during the post-medieval period. In 1536 the castle withstood a siege by the anti-Reformist forces of Robert Aske during the 'Pilgrimage of Grace'. During the equally abortive 'Wyatt's Rebellion' in favour of placing Elizabeth on the throne at Mary's expense, it was briefly taken by a deception of Thomas Stafford in 1553. More serious events were to follow during the Civil War in the next century. In 1644 the castle's commander Sir Hugh Cholmley switched his allegiance to the Royalist cause and was besieged by Parliamentarians who eventually captured the castle in 1645, following substantial artillery damage to the castle, town, and Parliamentary positions at St Mary's Church (SC40). A substantial portion of the east end of the church and other areas of the fabric were destroyed by Royalist counter-battery fire from the castle. The new commander, Colonel Matthew Boynton was also to switch sides following a pay dispute, but he was eventually defeated in yet another siege in 1648.

A Star Fort on Ramsdale Hill (SC11) apparently dates from this period, and was probably built by the Parliamentary army to control the northern approaches; it was known as 'Oliver's Fort' over a century later. A small earthwork, Peasholm Fort, was also constructed at Peasholm on the site of Northstead Manor Garden (SC9). Bushell's Battery was built west of the Castle barbican (SC33), possibly to allow counter-battery fire with the Parliamentary forts in the North Bay and protect the approaches. Outside the castle, immediately to the south was a possible breastwork (SC58) and the South Steel Battery (SC80), which was maintained as a defensive position until at least the mid 18th century. Newborough and Aurborough Gates (SC132, 151) were both rebuilt in 1642, presumably to assist in controlling the approaches to the walled town; the latter was demolished in 1817.

The castle was partially dismantled after the war by order of Parliament, although it remained substantially intact, where other castles met a more severe fate; it was used from about 1650 as a prison. Later developments included a gun battery (SC17) constructed on the northern tip of the headland, and a Master Gunner's house (SC23), both certainly built before 1716. Brick barracks were constructed after the 1745 Scottish rebellion; at the end of the century, a further battery (the Holmes Battery) was constructed overlooking the North Bay (SC19). The town's medieval defences also received some attention in 1745, with the Newborough ditches, silted up by 1600, cleaned and in some cases realigned, with batteries built along its line, including one in the grounds of Horley Lodge. These defences were maintained to some extent during the Napoleonic Wars, being finally infilled in 1817.

Scarborough is probably most famous today for its role as a holiday resort. The town's development as a select tourist destination began in 1620 when spa water was discovered by Elizabeth Farrow, who claimed that the water had beneficial qualities. Although there would have been an interruption during the Civil War period, the spa was

well known by the end of the century, and some facilities for the growing number of visitors would have been provided in the 17th and 18th centuries, although the greatest period of expansion came in the following period. A wooden 'Spaw' building was constructed on the present site (SC161) c 1700, and was sufficiently well-established to encourage rebuilding following storm damage in 1735 and an earthquake in 1738. Horse racing, sea bathing and boating also developed to provide additional amusement. An engraving of 1635 already shows bathing machines in use on the foreshore around the harbour.

Although the bulk of the study area for this parish is composed of the urban mass of the medieval town with its focus on the harbour and castle, it should be noted that the majority of the spread of the settlement has taken place in the post-medieval and modern periods and as such has certainly obscured earlier remains, such as the Bronze Age barrows north and south of the old town. Two small sites of interest outside the town worthy of mention are firstly a carnelian mine (SC173) at Cornelian Bay and a possible rock-cut dock nearby (SC165). The mine was apparently only operated on a very small scale but was sufficiently well known to give its name to the bay, whilst the dock may well have served the small coastal community in the area. As has already mentioned, quarrying has been identified in the north of the parish along part of Scalby Beck (SC1), possibly to obtain stone for local building works. Post-medieval ridge-and-furrow has also been mapped in the area (SC169, 172).

Modern

The early 19th century saw an increase in interest in the town as a fashionable destination, particularly with the presence of the Spa. A series of disasters struck the site, with storm damage to the Spa in 1808 and 1836 leading to rebuilding works. The present Spa buildings, designed by Sir Joseph Paxton, were completed in 1858 (SC162), although a fire in 1876 again required extensive restoration works.

The arrival of the railway (SC145) from York and Hull in 1845 and 1847, and a line to Whitby in 1885, coupled with the growth of workers' holidays, saw an additional increase in the development of the resort and the establishment of more amusement sites such as the Valley Gardens (SC157), cricket ground (SC22), hotels (e.g. SC159), the Rotunda Museum (SC146) and Natural History Museum (SC150), seawater baths (SC127), and various inns (e.g. SC143). The Grand Hotel, opened 1863 was one of Europe's first purpose-built hotels, and guests had the option of running seawater in their baths. A very large number of boarding houses were also established, many in large purpose-built premises, others in converted houses. The construction of the Marine Drive around the base of the Castle headland and North Bay cliffs allowed access between the bays and provided a popular walk or drive for visitors when it opened in 1908. Five cliff railways were also provided between 1873 and 1930 to counter the steep climb required from the promenade to the hotels and other facilities on the cliff; three remain in the South Bay, one in the North Bay having closed as early as 1887 following a landslip, another at Peasholm was dismantled in 1996 for transfer to Cornwall. In addition, for the resident population there were new churches scattered through the town (e.g. SC154, 170) and grand terraces were constructed, particularly along the cliff where they had fine views of the sea (e.g. SC139, 147, 148, 152). The completion of Valley Bridge in 1865 linked the top of the cliff from the old town to the new estates and hotels above the Spa. St Thomas's Hospital was built on the waterfront in 1858–60 (SC135); its healthy location ensured that it remained in use as a convalescent home for the town hospital until the

late 20th century. Wilson's Mariners Asylum, almshouses for retired sailors, was constructed in 1836 (SC44). The plentiful provision of water ensured that the town also had a thriving brewing industry, with Nesfield's brewery constructed in 1854, revealing extensive remains of the medieval pottery industry (SC25, 49). Scarborough Brewery was located in Westborough. There were also a number of mineral water manufacturer's, of which Clarke's Aerated Water and Bottling Co of North Street survived into the late 20th century.

Military installations were still important during the period. The late 18th-century Holmes Battery (SC19) probably remained in use during the Napoleonic War. The extensive Burniston Barracks complex (SC7) was constructed in 1862, a period when the British Army were establishing better facilities across the country, and modernising in the aftermath of the Crimean War. A gun battery was also established on the Castle headland in the late 19th century (SC16), overlooking the North Bay, in a similar location to a late 17th-/early 18th-century battery (SC17), and a rifle range was built there in the 1890s (SC38). Other structures include the Victoria Mill (SC142) and a workhouse (SC101), and mass terraced housing was provided for the working population, greatly extending the town beyond the original medieval settlement across the former open fields, of which no trace remains.

Scarborough saw active service again with the shelling of the town and castle by the German cruisers *Derrflinger* and *Von der Tann* in December 1914, which destroyed the barracks and caused substantial damage to the town, before the vessels moved on to Whitby. A naval listening station built on the headland in 1904 (SC26) was also a casualty of the 1914 shelling, as was the harbour lighthouse, which was not replaced until 1931.

The inter-war years also saw continued development of the town as a major holiday resort with the construction of a water chute (SC10), Lido (SC12), and Peasholm Park Pleasure Gardens (SC20) in the north of the town, and a swimming pool in the south (SC158). A coastguard station was built on the Castle headland in the 1920s (SC42).

Due to the location and importance of the harbour and the potential for enemy landings during World War 2, the area around Scarborough, particularly Scalby in the north and Cornelian Bay in the south, was well defended with a series of pillboxes (SC2, 5, 167, 174, 176), road blocks (SC3), minefields (SC6, 18, 171, 175), observation post (SC163), trenches (SC178) and a coastal battery (SC166). Making use of the height of the castle headland was a radio direction finding post (SC35). There were also a number of public air raid shelters, including several located at schools (SC55, 57, 99, 153, 160), and an ARP reporting centre at Valley Bridge (SC149).

Discussion

As can be seen from the sites described above, Scarborough has a long and important history starting within the prehistoric periods with at least one known prehistoric settlement. Its strategic importance as a natural refuge for shipping can be clearly seen with the construction of the Roman Signal Station and the subsequent development of the castle and harbour during the medieval period. This means that archaeological remains from all periods would be expected to be encountered within the greater part of the study area. It could be expected that these remains would have a greater maritime slant as the nature of the topography of the coastal margin of the parish allows easier

access to the foreshore and out to sea than has been seen in other parts of the study area. Currently, despite the plethora of archaeological investigations within the town, there is relatively little information regarding the extent of the pre-Conquest and pre-1155 settlements or the development of the medieval and early post-medieval harbour and waterfront. These are all key areas for understanding the history of Scarborough.

4.10 Osgodby (Map 11)

Geology and topography

The underlying solid geology of Osgodby parish and the Cayton Bay as a whole is a complex sequence of middle and upper Jurassic rock formations (British Geological Survey 2001). These sedimentary deposits include important floral fossil beds are further complicated by a major fault line (see Myerscough 1991, 10 and King 1965 for details). The solid geology is overlain by a drift geology of glacial till from the Quaternary period (British Geological Survey 1977) which blocks the main pre-glacial channel draining to the sea (Myerscough 1991, 11). The soils in the parish are of the Burlingham 2 association which is derived from chalky till and described as a well drained coarse loamy soil (Soil Survey of England and Wales 1983).

Generally the topography of the coastal section of the parish rises steadily from Cayton Bay encompassing a broad belt of woodland to a height of c 50m OD. Within this general landscape there are areas of steep slope and the foreshore is a mixture of sand, shingle and rock. The majority of the land is occupied by the settlement of Osgodby with the remainder being either woodland or foreshore.

Historical and archaeological summary

Prehistoric

Palaeolithic

There are currently no recorded sites or finds from this period.

Mesolithic

There are currently no recorded sites or finds from this period.

Neolithic

There are currently no recorded sites or finds from this period.

Bronze Age, Iron Age

There are currently no recorded sites or finds from this period.

Late Iron Age/Romano-British

There are currently no recorded sites or finds from this period.

Anglo-Saxon/Early Medieval

There are currently no recorded sites or finds from this period.

Medieval

The first mention of Osgodby is in 1086 where it is recorded as *Asgozbi* from the Old Scandinavian personal name and *-by* meaning 'farmstead or village of a man called Asgautr' (Mills 1998, 262; Morris 1982, 105).

There are extensive surviving remains of the deserted village of Osgodby (OS16) within and around the current settlement, areas of which were investigated in the 1950s and more recently. Remains dating from the 13th to 18th centuries were encountered including several buildings, building platforms, associated working areas, boundaries, ridge-and-furrow cultivation (OS17), and St Leonard's Chapel (OS13), which is now used as a stable. Ridge-and-furrow has also been recorded in the north, to the west of Osgodby Lane (OS12), and in the south of the parish (OS19), although some has now been built over.

Post-medieval

The area of the medieval village continued to be used, with Hall Farm (OS13) constructed on the site, but with much of the study area of this parish occupied by the modern settlement there is little in the way of post-medieval archaeology apart from some ridge-and-furrow recorded from aerial photographs in the south of the area (OS19).

In addition to this the 1848 tithe map records a building (OS9) seaward of the main Filey Scarborough road.

Modern

With the foreshore in the area known as Johnny Flinton's Harbour being potentially suitable for landings, a series of pillboxes were constructed along the head of the beach (OS1, 5, 7, 11, 15) which would have provided some form of defence in depth in case of a break out from the beachhead. The pillboxes were supported by concrete and steel girder anti-invasion defence blocks sited inland (OS6) and minefields (OS2-4, 8). Two structures on the foreshore (OS10) may be command posts, since no embrasures are apparent. There was a roadblock (OS18) on the A165.

Discussion

Even though there is only a relatively small part of the parish within the study area, this contains a significant proportion of the important remains of the DMV of Osgodby along with World War 2 defences protecting the area around Johnny Flinton's Harbour. The DMV site has largely been built over, although fieldwork has proved that features clearly survive, whereas a number of the wartime coastal defences are vulnerable to coastal erosion.

4.11 Cayton (Map 11)

Geology and topography

As with Osgodby to the north the underlying solid geology is a complex sequence of middle and upper Jurassic rock formations (British Geological Survey 2001). These sedimentary deposits include important floral fossil beds are further complicated by a major fault line (see Myerscough 1991, 10–11 and King 1965 for details). The solid geology is overlain by a drift geology of glacial till from the Quaternary period (British Geological Survey 1977) which blocks the main pre-glacial channel draining to the sea (Myerscough 1991, 11). The soils in the parish are of the Burlingham 2 association which is derived from chalky till and described as a well drained coarse loamy soil (Soil Survey of England and Wales 1983).

Generally the topography of the coastal section of the parish rises steadily from Cayton Bay encompassing a broad belt of woodland to a height of c 50m OD. Within this general landscape there are areas of steep slope and the foreshore is a mixture of sand, shingle and rock. The land is split between agriculture and the Cayton Bay Holiday Village.

Historical and archaeological summary

Prehistoric

Palaeolithic

There are currently no recorded sites or finds from this period.

Mesolithic

There are currently no recorded sites or finds from this period.

Neolithic

There are currently no recorded sites or finds from this period.

Bronze Age

A single round barrow (CY8), which was totally excavated during a road improvement scheme, was found to have been kerbed and also had an outer ring ditch (NYCC Newsletter 2006, 13). No other early prehistoric activity has been recorded in the study area of the parish. However, as the barrow was overlain by medieval ridge-and-furrow cultivation further evidence may have been destroyed in the past.

Iron Age

There are currently no recorded sites or finds from this period.

Late Iron Age/Romano-British

A Romano-British settlement was partially excavated as part of the mitigation for the Scarborough to Leeberton Diversion (CY14). Some undated ditches which appear to respect barrow CY8 could be of this period, or earlier (CY10).

Anglo-Saxon/Early Medieval

First recorded as *Caitun(e)* in the Domesday Book of 1086 the name derives from the Old English *-tun* and a personal name and means 'farmstead of a man called Caega' (Mills 1998, 74).

The village itself lies to the south-west of the study area, and there are currently no recorded sites or finds from this period.

Medieval

Extensive areas of ridge-and-furrow (CY12) have been recorded in the parish, overlying the Bronze Age barrow and probably masking earlier features. Much of this has, however, been covered by a caravan park either side of Mill Lane.

Post-medieval

Post-medieval ridge-and-furrow has been identified from aerial photography in the southern part of the study area (CY15).

Modern

The tithe map of 1857 records several buildings, the first is a mill (CY1), the second is Mill House (CY6) both of which are located on the coast whilst the third lay further inland (CY16) on the edge of an area of ridge-and-furrow. The mill may be earlier, having given its name to Mill Lane, connecting Cayton village to the coast.

This part of the parish forms the southern portion of Cayton Bay, which was perceived as a possible landing site, and the series of pillboxes seen to the north in Osgodby parish continued along the head of the beach (CY5, 7, 9, 11), together with a further minefield (CY4). A military camp (CY13), trenches (CY3) and building (CY2) all formed part of the same defensive complex.

Discussion

As with Osgodby to the immediate north only a small part of the parish lies in the coastal margin and what there is appears to be mostly agricultural in nature. However, the parish, along with Osgodby, does have a section of shoreline where there is access to the foreshore and even though there is no direct evidence, it is possible that some form of beach activity did take place in the past. This could have been in the form of static fish nets, shellfish collection or small-scale beach-launched fishing.

The presence of a Bronze Age barrow and Romano-British settlement reflect early activity in the coastal section of the parish, both sited not far from Mill Lane, which gives access to the beach. The same access point led to the area being defended during World War 2 by an extension of the system from neighbouring Osgodby, consisting of a mixture of active (pillboxes, trenches) and passive (minefield) defences.

4.12 Lebberston (Map 12)

Geology and topography

Lebberston parish lies on the southern edge of the Corallian sandstones of the upper Jurassic rock formations seen along the rest of Cayton Bay (British Geological Survey 2001). These sedimentary deposits include important floral fossil beds are further complicated by a major fault line (see Myerscough 1991, 11 and King 1965 for details). The solid geology is overlain by a drift geology of glacial till from the Quaternary period (British Geological Survey 1977) which blocks the main pre-glacial channel draining to the sea (Myerscough 1991, 11). The soils in the parish are of the Burlingham 2 association which is derived from chalky till and described as a well drained coarse loamy soil (Soil Survey of England and Wales 1983).

The topography of the parish rises steadily from inland to c 80m OD at the cliff edge with steep cliffs leading to a generally rocky foreshore. The land use is mainly agricultural though at the eastern boundary of the parish, crossing into Gristhorpe, a large area is occupied by the Blue Dolphin Holiday Park.

Historical and archaeological summary

Prehistoric

Palaeolithic

There are currently no recorded sites or finds from this period.

Mesolithic

There are currently no recorded sites or finds from this period.

Neolithic

There are currently no recorded sites or finds from this period.

Bronze Age

Iron Age

There are currently no recorded sites or finds from this period.

Late Iron Age/Romano-British

A possible Romano-British settlement site (LB1) was observed in a cliff face in 1926. The remains including 4th-century 'signal station' type pottery (Huntcliff ware) identified as similar to examples found at Filey during excavations on the Roman site on Carr Naze. The site was visible as a deposit along the cliff edge, which suggested that it had formerly been extensive, perhaps occupying the adjoining headland. It is possible, therefore that a considerable portion of this survives inland.

Anglo-Saxon/Early Medieval

Although there are currently no recorded sites or finds from this period within the study area for the parish the place-name for Lebberston is first recorded as *Ledbeztun* in 1086 meaning 'farmstead of a man called Leodbriht' from the Old English personal name and *tun* (Mills 1998, 217).

The village itself lies inland of the study area and there are currently no recorded sites or finds from this period.

Medieval

There are currently no recorded sites or finds from this period.

Post-medieval

Currently only ridge-and-furrow cultivation is recorded for this period extending across the study area in several blocks (LB2).

Modern

There are currently no recorded sites or finds from this period. The Blue Dolphin holiday park has been established since the last war and now covers a considerable area, extending to the cliff edge in neighbouring Gristhorpe.

Discussion

The small coastal section of Lebberston parish is largely bereft of archaeological remains, with the only significant remains being what appears to have been a small Romano-British settlement which was exposed in the cliff edge. Inland elements may remain on the adjoining headland.

4.13 Gristhorpe (*Maps 12, 13*)

Geology and topography

The underlying solid geology of the coastal area of this parish is the Corallian sandstones of the upper Jurassic rock formations seen along the rest of Cayton Bay (British Geological Survey 2001). These sedimentary deposits include important floral fossil beds are further complicated by a major fault line (see Myerscough 1991, 11 and King 1965 for details). The solid geology is overlain by a drift geology of glacial till from the Quaternary period (British Geological Survey 1977). The soils in the parish are of the Burlingham 2 association which is derived from chalky till and described as a well drained coarse loamy soil (Soil Survey of England and Wales 1983).

The landscape rises steadily from inland at c 50m OD to c 80m OD at the edge of Gristhorpe Cliffs where the steep cliffs give way to a generally rocky foreshore. The land use is predominantly agriculture though at the western boundary a large area is occupied by the Blue Dolphin Holiday Park.

Historical and archaeological summary

Prehistoric

Palaeolithic

There are currently no recorded sites or finds from this period.

Mesolithic

There are currently no recorded sites or finds from this period.

Neolithic

There are currently no recorded sites or finds from this period.

Bronze Age

A series of three barrows (GT1, 3, 4) are recorded along the cliff top. The central example (GT3) contained the remains of a high status burial in a hollowed-out tree trunk used as a coffin and widely known as 'Gristhorpe Man'; the well-preserved remains of the skeleton and coffin were on display as a central exhibit for many years in the Rotunda Museum, Scarborough. The contents of the Gristhorpe Man burial were recently re-analysed by the Department of Archaeological Sciences at the University of Bradford and the burial has now been dated to the early Bronze Age.

Iron Age

There are currently no recorded sites or finds from this period.

Late Iron Age/Romano-British

A possible Roman road leading to Filey from the north is recorded at GT16.

Anglo-Saxon/Early Medieval

First recorded as Grisetorp in 1086 and derived from the Old Scandinavian personal name *Griss* and *-thorp*, meaning 'outlying farmstead of a man called Griss' or 'farmstead where young pigs are kept' (Mills 1998, 157).

The village lies inland of the study area, and there are currently no recorded sites or finds from this period.

Medieval

Medieval activity in the parish is restricted to a heavily disturbed moated site in the south-east at New Biggin (GT13) and a possible boundary stone (GT14) noted on early mapping, although some distance from the present eastern parish boundary with Filey. An undated earthwork on the study area boundary to the west (GT11), now ploughed out within an area of later ridge-and-furrow (GT12), could belong to this period.

Post-medieval

Two limestone quarries (GT5, 15) along the cliff edge often with associated cranes (GT7, 8) which would seem to indicate larger scale workings. In association with the quarries there are several limekilns (GT6, 9, 10) for burning the lime for adding to the land to improve soil quality or for use in lime mortar for building. Interestingly, on the 1857 OS, GT9 has a trackway leading directly to New Biggin which may simply be for access or to provide lime directly to the building for construction work.

Jeffery's map of 1775 notes two beacons (GT2) within the study area, perhaps for the benefit of coastal shipping, although they may have been part of the invasion warning system in place along the coast. They may have been located on two of the burial mounds described above.

A considerable area of ridge-and-furrow (GT12) was formerly present in the eastern half of the study area, with some smaller blocks extending west to the boundary with Lebberston.

Modern

There are currently no recorded sites or finds from this period. A considerable area of the western part of the study area is taken up with the post-war Blue Dolphin holiday camp.

Discussion

The remains of three Bronze Age barrows along the cliff top suggest, particularly as one is of a high status, that there could have been further burials which have been lost due either to erosion or the establishment of the holiday camp, although they may have been deliberately sited along a ridge inland from the cliff. The other principal feature of interest is the small moated site (CT13).

4.14 Filey (*Maps 14, 15*)

Geology and topography

The underlying solid geology of Filey parish is split between the Corallian sandstones of the upper Jurassic rock formations running out to form Filey Brigg and then south of the Brigg lie the clays of the Ampthill and Kimmeridge beds (British Geological Survey 2001; see Myerscough 1991, 11–12 and King 1965 for details). The solid geology is overlain by a drift geology of glacial till from the Quaternary period (British Geological Survey 1977). The soils in the parish are of the Burlingham 2 association which is derived from chalky till and described as a well drained coarse loamy soil (Soil Survey of England and Wales 1983).

The landscape of the parish is marked by two very different topographies, in the north there are the steep cliffs rising to c 60m OD which then form the remains of Filey Brigg whilst in the southern part the sandy foreshore of Filey Bay gradually rises landward to a height of c 50m OD. The land use is divided between the urban area of the settlement of Filey along with extensive areas of holiday parks (most notably the Primrose Valley

Holiday Village and development on the neighbouring Amtree Park/Butlins site) and the remainder is given over to agriculture.

A number of streams enter the bay, cutting a series of deep ravines through the boulder clay, forming entry points at Arndale (north of Filey), three examples in Filey itself, with several others at Primrose Valley, Hunmanby Gap and Reighton Gap.

Historical and archaeological summary

Prehistoric

Palaeolithic

There are currently no recorded sites or finds from this period.

Mesolithic

There are currently no recorded sites or finds from this period.

Neolithic

Currently there are only two recorded finds of axes (FY39, 46) within the parish to represent the Neolithic period. However, with the ease of access to the foreshore and the presence of other prehistoric sites inland it would be expected that there is a potential for other finds and possibly sites to be encountered.

Bronze Age

A possible barrow is recorded on the southern boundary with Hunmanby south-east of Moor Farm (FY81), although it is also suggested that it may be the remains of a medieval mill mound. However, the OS of 1857 names the farm to the north as Sun Heath Howe, indicative of a barrow, although the identification could have been incorrect or based on folklore when the farm was named.

Iron Age

There are currently no recorded sites or finds from this period.

Late Iron Age/Romano-British

The importance of Filey Brigg as a seamark for the navigation of shipping through time can be seen with the location of the Roman Signal station at Carr Naze (FY8) in the 4th century. The station was located towards the landward end of the Brigg, presumably as there was already perceived threat from erosion at the seaward end. The site has been investigated over a number of years, ending with the almost total excavation of the few surviving remains prior to their loss to landslip caused by coastal erosion. The signal station is one of a series along the north-east coast with other known examples to the north at Scarborough (SC34), Ravenscar (SD21), Huntcliff and Goldsborough. It has also been suggested that there is a possible station on the northern side of Robin Hood's Bay (FD8).

The location of the signal station on the Brigg is almost directly above the location known as 'Old Quay Rocks' which may have acted as the landing point for supplies, as it has done in more recent times. Three sections of a possible east–west Roman road have been recorded within the northern part of Filey (FY35–7) though these are more likely to be medieval or post-medieval in date. The alignment does not head for the signal station, or apparently towards either of the established beach access points at Cargate Hill or Church Ravine.

At the north end of the parish, a small area of probable field boundaries and/or linear ditches has been identified next to the western boundary with Gristhorpe (FY3). These could be late Iron Age/Romano-British, although a later date is possible.

A small Romano-British settlement site has been recorded at the southern end of the parish (FY73) in the area later occupied by Butlin's holiday camp, and another may be present at Long Whins, Primrose Valley (FY54), where pottery eroding out of the side of the ravine leading to the beach was collected in 1924.

Anglo-Saxon/Early Medieval

The Domesday Book of 1086 records the name as *Fiuēlac*, altered by the 12th century to *Fivelai*. One possible meaning is a 'promontory shaped like a sea monster' which comes from the Old English *fifel* and *-eg* (Filey Town Guide 2001, 28–9). The allusion could be to Filey Brigg (Old Scandinavian *bryggja* for jetty). An alternative and more likely derivation is from the Old English *fif* and *-leah* meaning 'the five clearings' (Mills 1998, 138), which might refer to cleared spaces either side of the three ravines within the town.

A small amount of early medieval material has been recorded in the parish which includes an 8th-century fragment of interlace-carved grave marker in St Oswald's Church (FY28) and 9th-/10th-century timber buildings from excavations within the town at 34 Queen Street (FY33), on the edge of Church Ravine in the heart of the old fishing community. This latter site may well relate to a precursor settlement referred to in Domesday as belonging to the manor of Falsgrave (FY30).

The presence of the grave marker, buildings remains, documentary evidence and ease of access to the foreshore would all seem to indicate that there is a high potential for further remains from this period to be encountered.

Medieval

Filey formed part of the extensive royal manor of Falsgrave, but was granted to Hunmanby manor in 1080. Although the settlement is mentioned in Domesday there are surprisingly few medieval finds and sites within the parish. This is probably due to the continual habitation of the site with later buildings destroying or obscuring the earlier ones. The church of St Oswald's (FY27) has 12th-century origins with the inevitable later additions. A 13th- to 15th-century pit was encountered during building work in Mitford Street (FY38), while at 34 Queen Street, 12th- and 13th-century buildings were recorded near the Church Ravine (FY33). The town was known to have had a market cross (FY30). Several sections of road, considered originally to be Roman, are more likely to be medieval or later (FY35–7).

Although the only physical evidence for medieval shipwrecks has been recovered from further south at Speeton Cliffs (see below) there are documentary accounts of for the loss of five vessels on Filey Brigg or on the foreshore of the bay between 1311 and 1542 (Buglass 2005, 22). These are only the recorded losses and there will have been many more from prehistory onwards as Filey Bay is one of the few sheltered areas along this section of coastline.

A concentration of boulders at Old Quay Rocks (FY14) immediately south of the landward end of the Brigg may as the name suggests be part of a medieval or post-medieval quay or pier relating to quarrying on the Brigg, although its identification and date are uncertain.

Much further east, two substantial mole-like structures known as The Spittals or Spittal Rocks are located on the southern side of Filey Brigg (FY19). Over many years this feature has been variously described as either of geological origin or the remains of a breakwater or harbour for the nearby Roman Signal Station: e.g. Shaw (1867) describes how it stretched across Filey Bay and he refers to it as "*the remains of a breakwater, built by the Romans*".

The Spittals is a low lying, reef-like structure, made of rounded boulders of various sizes. The landward part of Spittal Rocks dries on some low tides and on good spring tides over 250m of it is exposed. A detailed investigation into the structure was carried out by The Filey Brigg Research Group which involved both photographic and bathymetric surveys along with geological analysis of the stones. The results of this work revealed that some 80% of the material used to make the structure was derived from the upper layers of Oolitic limestone and sandstone that formed the adjacent Brigg and that it runs for over 500m (to a maximum height of 8m) in a south-easterly direction with a second smaller mole lying to the east forming a classic harbour shape. Its position is in keeping with other harbours along this coast giving protection from excesses of weather and tide predictable in this part of the North Sea.

The suggestion is that the upper Oolitic layers were quarried away and the stones had then been used to create to form the shape of a harbour to allow vessels a safe loading area to remove the lower sandstone beds that provided good quality building stone. The first reference to quarrying at Filey is in the 12th century (Johnson nd, 6) when a grant is made to the Canons of Bridlington for stone "...to be delved and taken at their charges, and a good free way over the cliff of the quarry for the length of the said cliff in the place called Le Hok and elsewhere where they can find rock and egress for their carts". The 'Hok' (Hook) has been identified as the Brigg, which is likely, although not certain. There are traces of extensive evidence for quarrying all along the Brigg which is discussed in more detail below.

A carved stone at the low tide mark between the Old Quay Rocks and the Spittals could be of medieval origin (FY18).

Near Primrose Valley are a series of old closes, almost certainly associated with the deserted settlement of *Fowthorpe*, which lies immediately outside the study area in front of the Royal Oak Inn on the A165 (T. Brigham pers comm: shown on Map 14).

Post-medieval

Post-medieval Filey remained a relatively small settlement grouped around Queen Street, but towards the end of the period it began to expand. The discovery of a mineral spring led to the development of a Spa in about the 1670s (FY4), attracting fashionable early visitors, although the spring and the brick Spa building have been lost as the cliff receded. The development of the town can be seen not only from additions to St Oswald's Church (FY28) but in the building of a number of substantial houses, for example the manor house of the Buck family (FY26), 8–10 Queen Street, built in 1696 now a local folk museum (FY31), and Church Cliff House and Farm (FY23, 24). The Queen Street area was also the traditional home to the fishing community, and an excavation at No 34 in 1976 (FY33) revealed the remains of an 18th-century bait shed at the rear of one of the properties below a later yard, containing a drainage gutter heading towards the Ravine at the back of the property, and large quantities of opened mussels. The layout was recognised by local fishermen as still used for the purpose in living memory (T. Brigham pers comm).

Some of the raw materials for these developments would have been derived locally. Chalk was locally quarried, although its use was increasingly replaced for building in the 18th and 19th centuries by brick, and clay for production at a local brickworks (FY46) presumably came from a brick field marked on OS maps (FY20), while the basis for the lime mortar were obtained from a limestone quarry (FY1) to the north of the settlement: the quarry is associated with a crane and limekiln (Plates 37, 38) and there is a further kiln (FY2) slightly inland. As with the similar sites discussed above in Gristhorpe parish the lime could have been used not only for lime mortar but also in order to add to the land to improve soil quality. Interestingly on the 1857 OS the kiln at FY2 has a track-way which runs directly to Church Cliff House. This could have been for access or for supplying lime for mortar into Filey itself. The walkover conditions survey recorded this kiln, and a further associated pit or earlier kiln structure, as still being substantially intact, although right on the edge of the current cliff line and vulnerable to land slip.

The importance of the shape and location of Filey Bay as a shelter and landing point for shipping can be seen in the development of the Coble Landing, the establishment of the Lifeboat and the number of post-medieval wrecks recorded around the bay and particularly on Filey Brigg itself. Of the 133 recorded wrecks in and around the bay 27 are on the Brigg (or as it was often known Filey Bridge) itself (Buglass 2005, 22–7). The cobbled slope of the Coble Landing has long been used for standing large cobbles on single-axled wheeled carriages, formerly pulled into the sea by horse, but since the mid 20th century by tractor. Smaller cobbles and double-ended vessels ('mules') for salmon and crab/shellfish fishing are pulled to a flat area at the top of the slope in front of the lifeboat station and other 19th-century buildings.

During the conditions survey the massive extent of quarrying of the Brigg in at least post-medieval times became very apparent. Myerscough (a local geologist) and Robinson (a local researcher) have noted that along both the northern and southern sides of the Brigg a series of 'scallop'-shaped areas of varying size have been removed leaving a distinctive shape in the pattern of the overlying boulder clay (FY6, 9, 16: Plates 42–44). Most of the quarrying probably took place in the post-medieval period and the early 19th century (including for stone setts: see below), although it may have begun earlier. It would appear that the lower beds of Birdstall Grit were quarried, which has led to the slumping of the upper parts of the Brigg: according to Robinson the width of the top of

the Brigg in the area of the signal station has decreased from well over 30m to what is seen today during his lifetime. The effect of the quarrying on the south side is very apparent from aerial photographs, and seems to be restricted to the landward end, suggesting the quarrymen were working from the west, and may have removed stone by cart along the beach. The eastern section is straight and does not appear to have been touched, implying that quarrying halted before the available stone was exhausted.

In the area between Agony Point and the end of the Brigg and close to the low water mark there is a series of nine postholes arranged in three rows of three (FY15: Plates 47, 48). This pattern of nine postholes is very similar to those identified in Robin Hood's Bay and Saltwick Bay to the north which may suggest some form of similar function, perhaps supporting the a base for a windlass or similar mechanism for moving material around the foreshore and warping boats in and out of berths.

In addition to these sites, at the eastern end of the rock shelf extending from the end of the Brigg there is an extensive boulder field (FY16) which is largely composed of regularly cut stone blocks of around 1–2m². Many of these blocks show cut marks and grooves from the extraction process (Plates 49, 50). The greatest concentration is opposite The Spittals and they appear to be stockpiled ready for shipping, and there may well have been a pier in this area, referred to by Blaeu in his 'Sea Mirror', published for the use of pilots in 1625: 'Without the head of Filey lieth a rock underwater called Filey Bridge, betwixt it and the pier, you may safely lie afloat with a ship of 100 lasts in 5 fathoms at low water'. A possible pier existed to the west at Old Quay Rocks (FY14).

A possible gun battery was noted on top of the Brigg (FY5: Plate 40) which was apparently manned by the local militia and positioned to control the southern part of Scarborough Bay. Its date seems to be uncertain, but it is most likely to be of the late 18th-/early 19th-century, for use during the Napoleonic Wars.

At the south end of the parish, the area was formerly a commons, Hunmanby Moor, prior to enclosure in 1809, and a rabbit warren was established there by the improving landlord Humphrey Osbaldeston (FY74), surviving for some time as a low mound, Warren Hill.

The sand in the bay is occasionally partially or wholly removed by wave action, leaving the eroded boulder clay platform visible. A number of posts set in a possible double row aligned north–south near to the cliff have been seen in the 1970s at the north end of the bay between the Filey Yacht Club and the Brigg, possibly the remains of an old jetty or revetments (T. Brigham pers comm). Their age could not be ascertained, but they are presumably 18th- or 19th-century.

There were formerly extensive areas of post-medieval ridge-and-furrow north and south of the town (FY10, 58), and extending to Primrose Valley (FY73). The former areas pre-date the enclosure of Filey in 1791, prior to the enclosing of the remainder of Hunmanby manor (including the Primrose Valley area) in 1809. There were, however, some areas of old closes near Primrose Valley, probably connected to the former settlement of *Fowthorpe*, just outside the study area.

Modern

At the start of the period, Filey consisted of around 100 houses, located in the Queen Street area, with a population of under 600. Originally, visitors to the Spa would have stayed as boarders in ordinary houses until the early 19th Century when the Foords Hotel (built 1824) was opened as the first purpose-built hotel, taking guests from the Hull–Scarborough coach which started to call at Filey during this period. In the 1830s, plans were, however, drawn up by the West Riding businessman J.W. Unett to build a settlement ('New Filey') to the south of the existing core, creating a new seaside resort. Roads were laid out, including Murray Street, West Avenue, and The Crescent, to provide a framework for new houses, hotels, boarding houses, shops, pubs and other buildings in a series of land purchases from the Hunmanby estate up to the 1840s.

The arrival of the railway from York to both Filey and Scarborough and southwards to Bridlington in 1846–7 (FY41) meant that what had started in the 18th century as a relatively small number of visitors became more numerous, and it was now possible to attract day-trippers from the industrial West Riding, although Filey remained relatively 'select'. Elegant houses were built along the cliff top on The Crescent (1835) in front of the new development to rival Scarborough, with formal gardens cascading down the cliff to Foreshore Road where further hotels and boarding houses were constructed on a terrace behind a 1km 20th-century seawall, continuing northwards to join the Coble Landing, which was the site of the lifeboat station. The Crescent Gardens contain a stone base, one of five found on the site of the Roman signal station during excavations in the 19th century. More prosaically, the town also had an early gasworks (FY40) near the station, supplying Filey and surrounding villages with town gas.

Tourist developments continued into the 20th century, although the town itself retained its character. A golf courses was created in former fields north of the town in 1897, removing areas of former ridge-and-furrow. The area now includes a clifftop car park with visitor facilities. South of the town, there is a caravan park next to the Hull–Scarborough railway line. The golf course was moved here in 1897 and extends along the cliff from Filey to Primrose Valley, where a holiday village near Fowthorpe Lodge has been expanded to comprise an extensive self-contained tourist facility. Bordering this site on Hunmanby Moor was Butlin's Filey camp. Started immediately before the war, the site was transferred to the War Office at the outbreak of hostilities as an RAF training camp, although building works continued, with the chalets being used as barracks, the theatre as a camp cinema, the lake as a parade ground etc. The camp reverted to civilian use at the end of the war, divided into two for its first season in 1945, with demobilised servicemen holidaying on one side of the fence, and others still awaiting 'demob' on the other. The site was given its own railway line, and flourished until the changing holiday market brought a decline in trade in the 1970s, leading to closure in 1984. A brief attempt to revive the site as Amtree Park failed, and the area has been cleared in recent years to make way for a new residential and leisure village, while the northern portion has been absorbed by an expansion of the Primrose Valley site. Further south is an area of inter-war and post-war housing on the cliff edge at Hunmanby Gap.

As already mentioned above in relation to the Roman signal station, it has long been recognised that there is active erosion around the bay and the provision of a series of breakwaters along the foreshore during the 19th century or perhaps a little earlier can be seen as an early attempt to try to reduce its effects (FY32, 43, 53).

Quarrying on the Brigg continued in the 19th century (FY16), and a large area of regular parallel grooving running approximately north–south along a large part of the landward end of the southern side of the Brigg (FY9: Plates 45, 46) appear to be the remains of quarrying to extract stone setts of a regular size. The extent of the extraction can be more clearly seen from the top of the Brigg along with another possible area of quarrying to the north of the grooves. Brigg stone was used in various locations, a notable example being the gatehouse (Low Lodge) to Hunmanby Hall, which took the form of a ruined folly built around 1825, making decorative use of the water-worn rock surface to create an appearance of age (T. Brigham pers comm). Parts of Bridlington Harbour may also have been rebuilt using Brigg stone c 1819–20. Lime production continued into the 19th century.

Fishing remained an important industry, supporting around 100 boats and 400 men in 1870, falling to 250 in the early 20th century. There are currently only around seven cobbles on the Coble Landing, with a number of smaller boats and pleasure boats.

The sweeping sandy beach of Filey Bay was considered by the War Office as a potential target for seaborne landings during World War 2. Not only is the bay enclosed and relatively sheltered, there are three suitable exit points for vehicles in Filey and a fourth at Primrose Valley to the south, together with a number of other ravines usable for troop exits between Arndale at the north end (Filey Yacht Club) and Reighton Gap in the south, as well as scaleable cliffs. In order to defend against possible landings, a series of defensive measures was undertaken to protect beach exits and the RAF camp at the pre-war Butlin's site (RAF Hunmanby Moor). These measures included the construction of numerous pillboxes (FY34, 45, 48, 50–2, 59, 69, 71, 74, 77, 80), coastal gun batteries (FY63, 79), an observation post (FY78), beach defences (FY54, 64, 72, 76), anti-tank defences (FY66), buildings (FY21, 56, 57, 67, 68, 70) and trenches (FY17, 62, 81). In addition to this there was an anti-aircraft battery with searchlights near Promrose Valley (FY56) and a gas decontamination centre in the town itself (FY42). A possible searchlight battery was established at RAF Hunmanby Moor (FY60) to serve a battery there (FY61). A coastguard lookout and watch hut was established on the Brigg (FY11), where a bomb crater indicates the results of an enemy raid (FY13: Plate 39); two other craters are visible to the south-west, north of Church Ravine (FY22). The coastguard lookout was demolished in the 1990s as the site became unsafe due to the erosion of the boulder clay cliffs (Plate 41).

Discussion

Although not a natural harbour, the sweep of Filey Bay and the protection afforded by Filey Brigg and the freshwater supply along what is now called The Ravine makes it an obvious area for settlement. The evidence for prehistoric activity is very sparse but this is probably due to it having been modified or destroyed by later activity.

The earliest significant feature in the area is the establishment of the Roman Signal Station at Carr Naze in order to assist coastal shipping and it is the importance of the sea for its trade routes and fishing that then dominate the landscape over the next 2,000 or so years.

A medieval port at Filey is first mentioned in 1275/6 (Johnson nd, 2) and it is then mentioned in various documentary sources along with an associated settlement almost continuously until the modern day (Johnson nd; Eaton 2005; Buglass 2005). The debate

over the exact location of the port has placed it variously at Old Quay Rock, the Spittals or as a simple beach landing in the area now known as the Coble Landing. The argument for the Spittals being of Roman origin has seemed to revolve around its proximity to the remains of the signal station; however as work by the Filey Brigg Research Group (FBRG) on the Spittals demonstrated, it appears that an estimated 168,000 tonnes of stone would have been required to create the structure. This quantity of stone and size of structure is not seen at any of the other known signal stations along the coast and is more akin to the commercial Roman harbours seen in the Mediterranean, rather than a remote location on the North Sea coast during the latter part of the Roman occupation. Furthermore, although the signal station is close to the Spittals, it does not overlook the site, unlike Old Quay Rocks which it does. In terms of military security it would normally be expected that the docks would be defensible by having a direct field of fire to prevent it being captured.

In support of a medieval origin for the Spittals and the possible quarrying of the Brigg, the discussion above strongly suggests removal of large areas for building material, and recent work by members of the FBRG shows that some of the stonework in Bridlington Priory is geologically the same as that from the Brigg (Robinson *pers comm*). This would suggest that the upper unsuitable strata of the Brigg were removed and dumped into the sea to form the harbour to allow a safe haven for boats to load stone. The harbour could then have continued in use completed as a refuge after the quarrying had been completed, until it became silted, although Brigg stone was still being used in the early 19th century. The results of the condition survey showed that the quarrying along the Brigg was far more extensive than originally thought and that the stockpiling of blocks opposite the Spittals 'harbour' would seem to strongly indicate a quarrying role for the remains rather than a military one. This would not however, preclude the re-use of an existing structure. That said the Spittals are currently undated and further work would be required to substantiate or refute this suggestion.

As with Whitby and Scarborough to the north there was once a significant fishing industry based at Filey using the distinctive north-east coble (Hill 1978; Mannering 1997; March 2005; Mckee 1983). However, unlike Whitby and Scarborough the industry was much smaller and beach launched, as were those of Flamborough, with resulting differences in the construction of local boats due to the lack of safe deep water moorings; these included 'skids' at either side under the stern to protect the bottom (and later the propeller shaft) during recovery.

Local information relates that wooden posts are occasionally seen sticking out of the foreshore after scouring episodes; it has been suggested that these could be the remains of a prehistoric forest, although Robinson is of the opinion that it is more likely that they are earlier phases of sea defences, although they could in some instances represent permanent or temporary landing stages (T. Brigham *pers comm*).

4.15 Hunmanby and Reighton (Maps 15, 16)

Due to only a small part of Hunmanby parish falling within the study area it is discussed along with the results for Reighton.

Geology and topography

The underlying solid geology of these parishes is divided between the clays of the Ampthill and Kimmeridge beds in the north, with an area of Lower Cretaceous greensands in the central part and finally the start of the Cretaceous chalk which eventually forms Flamborough Head to the south (British Geological Survey 2001; also Myerscough 1991, 12; King 1965). The solid geology is overlain by a Quaternary drift geology primarily composed of glacial till with a small area of glacial sands and gravels inland around the settlement of Reighton (British Geological Survey 1977). The majority of the soils in the parish are of the Burlingham 2 association which is derived from chalky till and is described as a well drained coarse loamy soil, however, there is a narrow band of Rivington 1 association between Reighton and Speeton which is derived from Carboniferous and Jurassic sandstones and is described as a well drained coarse loamy soil over sandstone (Soil Survey of England and Wales 1983).

The topography of the parish is one of lower cliffs than have been seen elsewhere along the head of the foreshore (c 30m OD) which then rises gradually towards the ridge of the Speeton Hills at over 110m OD. The foreshore is predominantly sand giving way to shingle towards the southern boundary. The land use is mainly agricultural along with an area occupied by the Reighton Sands Holiday Village and the settlement of Speeton.

Historical and archaeological summary

Prehistoric

Palaeolithic

A possible Palaeolithic flintworking site is recorded in the east (RE42), indicating the importance of the Flamborough area as a source of raw material for toolmaking.

Mesolithic

A Mesolithic flintworking site is recorded near the cliff edge at RE32 beneath 1.2m of overburden.

Neolithic

There are currently no recorded sites or finds from this period.

Bronze Age

A possible barrow is recorded at Muscle Howe (HY1), close to another just to the north in Filey parish (FY82) whilst four more are recorded at the eastern end of the parish (RE45), not far from a Bronze Age or Iron Age boundary ditch (RE51).

Iron Age

There is an Iron Age ditched enclosure and square barrow in the east of the study area (RE54), with a Bronze Age or Iron Age boundary ditch (RE51) further to the north-east. Other earthwork banks and ditches to the north-west and east could be Iron Age boundaries (RE35, 40/41).

Late Iron Age/Romano-British

A small complex of possible late Iron Age/Romano-British series of ditches (RE47) appear to form part of a complex system of boundary markers lying on the southern edge of the study area.

These features along with the Bronze Age barrows and Iron Age features described above form part of a wider prehistoric landscape presumably masked, at least in part, by later medieval activity.

Anglo-Saxon/Early Medieval

The place-name Hunmanby is derived from the Old Scandinavian *hundamann* and *-bi*, (*Hundemandedi* DB), meaning 'farmstead or village of the houndsman or dog keepers' (Holderness 1881, 15; Morris 1982, 126; Mills 1998, 191). Reighton is also first recorded in 1086 (*Rictone* DB) from the Old English *hrycg* and *-tun* meaning 'farmstead by the straight ridge' (Ekwall 1974, 384).

The village lies outside the study area and there are currently no recorded sites or finds from this period.

Medieval

Probably the most significant remains within the parish are those of the medieval villages of Reighton and Speeton (RE50, 52), which survived largely intact as earthworks until the 1960s. Although much of these sites have been levelled there are still visible elements surviving, albeit in a reduced state. St Leonard's Church, Speeton, is early Norman (RE53). A number of boundaries, including hedgelines and banks, probably form part of a series of old enclosures (RE38, 39), and an area of ridge-and-furrow was documented on Land Moor in 1632 (RE12). A concentration of medieval pottery and other material south-east of Peggy Myne's well suggests the presence of a medieval croft (RE46).

A chance find and recovery made by a member of the public some years ago was of a substantial medieval ships timber which had been washed up in the vicinity of Speeton Cliffs (RE28). The 1.7m long oak timber was a side frame from a clinker-built vessel which originally would have had three or four planks 0.55m wide attached by wooden trenails (Buglass 2005). The timber was in very good condition and showed little or no evidence of water rolling or decay strongly suggesting that it had recently be disturbed from a previously secure burial environment. By comparison with excavated remains of medieval vessels the size and type of frame along with the size of the planks that would have been attached show seem to indicate that the vessel from which it came would probably have been around 15–20m long (Hutchinson 1994; McGrail 1993; Nayling 1998).

Post-medieval

Post-medieval ridge-and-furrow has been recorded in the parish (RE16), representing the remains of the pre-enclosure field system, while two visible wrecks on aerial

photographs could be of this period, although are more likely to be 19th-century. One of the few other features is a post-mill mound at Mill Hill (RE49).

Modern

The World War 2 defences seen to the north in Filey continue along the coast into Reighton parish and are particularly numerous here. They include pillboxes (RE2–5, 8, 9, 11, 14, 15, 19, 24–7, 29–31, 37, 43), tank traps (RE10, 13, 18, 22), trenches (RE1), machine gun posts (RE6, 7, 36), a coastguard lookout (RE42), anti-landing poles (RE23), obstructions and a possible minefield (RE33). An area of buildings, barbed wire, ditches and banks (RE17) at the present Reighton Gap holiday park may be the location of a military camp or installation, although only faint traces of the southern bank now survive. The location of the pillboxes both along the coastline and a short distance inland clearly shows that the plan was to create defence in depth in order to slow any enemy advance.

There is a large caravan and leisure park at Reighton Gap

Discussion

Reighton parish is different to much of the rest of the coastline of the rest of the study area in that it is generally lower lying and instead of steep cliffs dropping down to a relatively inaccessible rock foreshore there is a the southern part of the sandy sweep of Filey Bay. This difference is due to the change in the underlying geology which in turn has influenced the nature of human activity of the area. The proximity of outcrops of flints among the chalk formations of Flamborough Head has made the area attractive to early hunters seeking raw materials for their tools and weapons, and the Palaeolithic and Mesolithic periods are both represented here; this association has been seen to the south in the Bridlington/Flamborough area as a whole, and contrasts with the lack of evidence for the early prehistoric periods further north.

The sandy foreshore and exit points from the beach suitable for both vehicles and personnel meant that the area had a potential for enemy landings during World War 2 and therefore the extensive remains of pillboxes and other structures spread along the potential beachhead. However, the softer nature of the geology has resulted in significant erosion which can be seen in both the loss of modern concrete structures from the cliffs to the beach as well as the discovery of Mesolithic material along the cliff face.

The condition of the once well-preserved DMVs of Reighton and Speeton also demonstrate the change in the geology, with the resulting soils being suitable for extensive agriculture which may well have started here in the Bronze or Iron Age, as seen by the various monuments of that date.

5 RAPID FIELD ASSESSMENT

As an integral part of the project a series of rapid field visits were undertaken on sites and areas identified during the desk based phase of the work. The areas visited were selected for three primary reasons; firstly sites of known archaeological remains were assessed for the potential for further, currently unrecorded, remains to be present; secondly these sites were also assessed for the potential for survival of the recorded remains; and thirdly areas of no recorded archaeology were assessed for the potential for undiscovered remains.

The rapid walkover survey was undertaken at the end of January and the beginning of February 2008, and was timed to coincide with low water during the afternoon/early evening to allow access to a larger part of the study area. Access to the study area was only possible from public access points and nature reserves etc. as no permissions had been sought to enter private land. This meant that in some places only a relatively small part of the potential area could be directly inspected. In areas where there was more difficult access inspection as far as possible was carried out using binoculars, this was found to be effective when considering large areas of earthworks or specific buildings such as WW2 pillboxes.

The initial locations identified were:

- The area along the banks of the River Esk;
- The remains of the alum works around Saltwick Bay;
- The possible barrow at Highgate House;
- The previously identified various rock cut features in Robin Hood's Bay;
- The potential barrow cemetery at Ravenscar;
- The previously identified foreshore remains at Peak alum works;
- The possible salt production site at Cloughton Wyke;
- Possible mills along Scalby Beck;
- The limestone quarries and kilns along the cliffs north of Filey.

During the field visits it was possible to visit all of the sites though at several locations due to a paucity of public rights of way as detailed an inspection as would have been liked was not possible.

The area along the banks of the River Esk

Here a rapid walk over of the bank side of the Esk was carried out on the flood tide which partially reduced visibility of potential archaeological remains within the current bank. Although no structural remains of dry docks were seen within the study area the western bank of a river, a hundred metres or so outside the study area, was clearly seen to contain the blocked remains of some of the 18th-/19th-century dry docks (Plates 8–10). Evidence for a dry dock on the eastern side of the river at TA 9015 1050 is possibly seen in the location of the houses along the roadside being set considerably further back from the frontage, apparently to allow for the bowsprits of docked vessels to overhang the road.

The remains of the alum works around Saltwick Bay

Due to a neap tide and the inspection of other foreshore sites a more detailed walkover was not possible. However, it was possible to see the remains of the pier (Plate 11),

alum house and associated structures (Plates 12, 13) from the cliff top which clearly showed their vulnerability to tidal and storm damage.

A new feature recorded during the site visit was a series of four foot holds cut into the sheer rock face on the northern side of the small headland to the north of the remains of the alum works (Plates 14, 15). The steps appear to provide access from the cliff top to an entrance, either a natural cave or tunnel, partially obscured by debris slips. It is possible that the entrance is linked with one of the extractive industries, though, romantically it has been suggested that it is related to smuggling.

The possible barrow at Highgate House

No trace of this was seen at ground level.

The previously identified various rock cut features in Robin Hood's Bay

The remains of the numerous rock cut features previously recorded along the southern side of Landing Scar were re-located and photographed. The hullies (Plates 16–18) were seen to be slightly more eroded, particularly at their outer ends, than when first visited in 1996/7 though the postholes (Plates 19–21) appeared to be relatively unaffected, though this is probably mainly due to being frequently covered in rocks and shingle. The posthole for the navigation marker was readily identified (Plate 22) and appeared unchanged.

The potential barrow cemetery at Ravenscar

No obvious evidence for the barrows at Ravenscar was noted. The fields containing them have obviously been well ploughed over the years which has left a rounded landscape.

The possible salt production site at Cloughton Wyke

The current metalled single lane road leading to Cloughton Wyke appears to have been built on the southern bank of the hollow way which leads down to the foreshore as there is a deep ditch only on the northern side of the road which connects with the hollow way towards the end of the road. The hollow-way to the foreshore is clearly visible running between the extant ridge-and-furrow (Plate 27) with a number of large gorse bushes growing in it. The ridge-and-furrow, along with a post medieval lime kiln, survives in very good condition to the north of the road (Plate 28). The hollow way can also be easily seen from the beach as a distinctive 'notch' in the skyline (Plate 29).

The foreshore at Cloughton Wyke was almost entirely covered in large rocks (Plate 30) which obscured what appeared to be a wave-cut rock platform (Plate 31). It is possible that if there were salt production here it was by evaporation from shallow rock cut or enhanced rock features (Plate 20) close to the high water mark.

A large, fairly recent, rock fall was noted on the southern side of the bay (Plate 32).

Possible mills along Scalby Beck/Scalby Ness

The condition survey along Scalby Beck noted that the watercourse has undergone fairly extensive management with large areas of concrete banks being built to control erosion. The possible remains of Scalby Low Mill were noted from the opposite bank (Plate 33). If these are the remains of the mill they appear to have been consolidated by the liberal application of concrete. There was no trace of Newby Mill on the southern side of the beck though in the undergrowth along the southern side there appears to be a number of

small quarries or borrow pits cut into the side of the valley, possibly for stone extraction to build the mills.

On the northern side of Scalby Bridge running eastwards from the mill which is now a Youth Hostel there is what appears to be a large watercourse which disappears under the road, there is no obvious re-emergence on the eastern side of the road though there is the remains of an old stone building, currently housing cattle (Plate 34). It is possible that this building could be associated with the aforementioned water course.

A brief inspection of Scalby Ness noted the extant remains of the mound for the signal flag for the rifle range and part of one of the concrete structures (possible a pillbox) (Plate 35). It also recorded on the south-eastern side of the mound the remains of what appear to be a series of trenches, either for the rifle range or observation post, in what appears to be very good condition (Plate 36).

The limestone quarries and kilns along the cliffs north of Filey

One of the several limekilns and possible quarries along the cliffs north of Filey was located (Plate 37). This appears to consist of either a large, two chambered partially sunken structure or of two kilns slightly overlapping each other in sequence. The easterly chamber has been built with an access slope running in from the east end which presumably linked to the track-way which ran into Filey. The western chamber obviously retains heat-affected stonework (Plate 38). The structure now stands very close to the cliff edge which has retreated noticeably in the last few years according to local sources.

Filey Brigg

A more detailed walkover of Filey Brigg than was originally anticipated was undertaken as there was the opportunity to undertake this with the assistance of detailed local knowledge. The result of this was that several new features and sites were identified the most significant of which was the extensive quarrying all along the Brigg on both the north and south sides.

The first features noted were the remains of one of the bomb craters (Plate 39) on the cliff edge of the northern side of the Brigg. Very close to this and probably also described as a bomb crater in the archaeological record is a large, rectangular sunken feature oriented approximately north-west to south-east (Plate 40). This feature is supposed to be the remains of a 19th-century (or possibly earlier) gun emplacement manned by the local militia and positioned to control the southern part of Scarborough Bay.

To the east of the bomb craters and emplacement are the remains of a series of rectangular structures. Some of these are definitely the bases of the walls of the former coastguard station, though according to local information the coastguard building was not as big as the structures visible on the ground (Plate 41).

As mentioned above evidence for extensive quarrying has been observed on almost every part of the Brigg as a result of a visit by Myerscough and Robinson. Along the northern side there is a series of very large 'scallop' shaped areas have been removed (Plate 42) leaving a distinctive pattern to the coastline. Parts of the southern side, particularly in the area between Old Quay Rocks and Agony Point, have also been subjected to smaller scale extraction again leaving a distinctive pattern (Plates 43, 44).

To the south of these cliff face quarries there is a large area of regular parallel grooves running approximately north to south along a large section of the foreshore (Plate 45, 46); these appear to be the remains of quarrying to extract stone setts of a regular size. The extent of the extraction can be more clearly seen from the top of the Brigg along with another possible area of quarrying to the north of the grooves.

To the east of this area of extraction between Agony Point and the end of the Brigg and almost down on the low water mark there are a series of nine postholes arranged in three rows of three. As the site visit was undertaken at neap tides only the uppermost series of postholes were visible (Plates 47, 48). This pattern of nine postholes is very similar to those identified in Robin Hood's Bay and Saltwick Bay to the north which may suggest some form of similar function. This function has been suggested as a base for a windlass for moving material around the foreshore and warping boats in and out of berths.

In the area beyond High Brigg there is an extensive boulder field which is largely composed of regularly cut stone blocks of around 1 to 2m² (Plate 49). Many of these blocks show cut marks and grooves from the extraction process (Plate 50).

Additional sites

In addition to the sites identified specifically for inspection several additional locations were also visited during the condition survey in Whitby and Ravenscar (see below).

First of these was the two lighthouses located on Whitby's East and West Piers (Plate 1) which are currently maintained. Also noted on West Pier was the row of capstans used to warp sailing vessels in and out of the harbour (Plate 2). Up until quite recently these were still functional but have been concreted up to prevent accidents with children turning them.

When viewed looking east across the outer harbour at least two of the phases of construction of Burgess Pier can clearly be seen (Plate 3) with the change from vertically arranged stone work to a more horizontal bedding (Plate 4). The remains of a series of pontoons constructed as moorings for the local minesweeper fleet in World War 2 are also still extant, although in poor condition (Plate 5). Seaward of Burgess Pier on the eastern side of the harbour lies Henrietta Street (Plate 6) which is notable as it is built on the remains of an 18th-century landslip.

The last item recorded in the town was the remains of an iron anchor outside a restaurant opposite the fish pier (Plate 7). This is one of several maritime artefacts in and around Whitby and Robin Hood's Bay which clearly indicate the large number of lost vessels along this coastline.

Whilst visiting the former site of Whitecake Row at Stoupe Brow alum works the opportunity to record the remains of the Peak Alum works in its surrounding landscape was taken (Plate 23) along with the remains of some of the burnt alum shale mounds (Plate 24) and original quarry (Plate 25). At Ravenscar, the site of the potential railway station at Ravenscar was recorded (Plate 26) which survives as a platform alongside the old trackbed.

6 DISCUSSION & RECOMMENDATIONS

5.1 Discussion

General

The significance and potential impact on the archaeological resource has been outlined in Section 4. Clearly, national and local planning and heritage management policy insists that steps must be taken to preserve the resource from development where possible, but this is more problematic when dealing with natural processes, in this case principally erosion; the approach needs to be holistic. Shoreline Management Plans present an overall policy for coastal management, but do not deal with development, while Seascapes does outline human impact and use, area by area.

From the point of view of development pressures, the planning process requires the archaeological resource on each development site to be evaluated on a case by case basis where such a resource is considered likely to be present. Property ownership within such a large area is naturally fragmented; although the main risk comes from relatively large land blocks such as caravan and holiday parks, other sources of potential damage caused by smaller scale developments are still a reality. Although there is generally a tightly-controlled development policy for the coastal area, which restricts the size, placing and nature of developments, an overall archaeological strategy will still be difficult to develop and implement.

Probably the most obvious topographic feature of this coastline is its dramatic sea cliffs which are amongst some of the highest in England. This means that over much of the study area there is very limited access to the foreshore and the sea itself. This has meant that much of the human activity recorded along the coast appears to be relatively unrelated to the maritime zone and more reminiscent of what might be considered as conventional terrestrial activity. This is possibly best illustrated by the extensive remains of Bronze Age funerary monuments which are seen in varying numbers in almost every parish along the coast. Here they seem to be making use of the higher ground in order to be easily visible monuments within the landscape. It is interesting to note that the presence of the tall cliffs was also an important factor in the sighting of anti-aircraft guns, searchlights and mine observation posts where the elevated location provides a clear military rather than ceremonial benefit.

Within the study area the clearest example of the extensive Bronze Age is best seen along the edge of the moors in the northern part of study area at Fylingdales where the extensive moor land fire revealed a wide range of previously unknown monuments. The presence of this prehistoric landscape can be seen to have an echo all the way along the coastline to the high status coffin burial at Gristhorpe and on down to the occasional barrows at Reighton where an later Iron Age landscape starts to dominate. It is possible that the density and range of sites revealed after the 2003 fire at Fylingdales may well have been repeated along part or all of the study area but has been lost through later agriculture, as clearly seen around the heavily reduced barrows at Ravenscar.

Apart from the Bronze Age prehistory is generally poorly represented within the area and where it has been recorded it tends to be in the nature of find spots of axes or other more durable artefacts. A notable exception to this is the settlement on the headland at Scarborough which preceded the Roman signal station that had made use of the

headland and had probably made it into a promontory fort. Similar headlands are present at other locations within the area and many of them seem to have had some form of activity on them, be it the Saxon monastery at Whitby, another Roman Signal Station at Filey along with possible Romano-British activity at Ravenscar, Yons Nab (Cayton Bay), Beacon Hill (Robin Hood's Bay) and medieval activity at Whitestone Point. But as already mentioned these are cliff top locations and have limited (if any in some cases) access to the foreshore, though in the case of the signal stations are strategic for coastal security and navigation.

The place-name evidence would seem to indicate that the majority of the area was first widely settled during the early medieval period as a lot of the names refer to farmsteads and are taken from the Old Scandinavian. This would again seem to reinforce the idea of a more terrestrial set of activities along the cliffs. This combined with the exposed nature of the coast, poorer soils in many places has led to a dispersed population with the few larger towns located at the points where there is either a natural harbour or a suitable headland for refuge combined with an accessible foreshore – Whitby, Scarborough and Filey.

With the rocky nature of the coast described above the importance of these few harbours becomes accentuated and this can be seen particularly clearly at Whitby which, probably as a result of the founding of the Saxon monastery and later medieval abbey, developed into a major medieval and early post-medieval port in terms of fishing, trade and ship and boat building. Much of the evidence for which can still be found in the town. With the distinctive nature of the coast and the close ties with Scandinavia over the North Sea the boat building tradition of the north-east coast became very distinctive and is often cited (Anson 1944, 29; Finch 1976, 74; Gillmer 1994, 88; March 2005, 141; Mannering 1977, 45; McKee 1983; Starkey *et al* 2000) though little has been recovered or described archaeologically (Buglass 1999).

The maritime role of the coastal settlements can be divided between fishing and trade. The extent and importance of the fishing trade from the medieval period onwards can be clearly seen in documentary sources (e.g. Barker 2007, Pearson 2005) though its subsequent decline over the 20th century has meant that it now barely figures in the economics of the coastal communities (Pawson *et al* 2002). Documentary accounts for Scarborough and Whitby from the 13th and 14th centuries along with tantalising remains of medieval ships being washed ashore testify to the importance of commerce and construction. This developed widely in the 17th/18th centuries, particularly at Whitby where the trade was not only in the supply and ownership of international vessels (e.g. Cook's *Endeavour* and *Resolution* and the early whaling fleets) but equally importantly in the trade with the various alum plants (Britain's first chemical industry) and other extractive industries along the coast (Buglass 2002).

The combination of topography and geology that gives rise to the dramatic coastline and its early chemical and quarrying industries also means that the foreshore is not easily exploited. Within the study area this seems to have led to the creation of both extensively modified landscapes around the various quarries (e.g. Saltwick Bay, Peak and Filey Brigg) and a range of possibly unique rock cut features relating to the different activities. These can be seen to relate to the fishing industry (e.g. the hullies at Robin Hood's Bay), rock-cut docks for the alum plants (e.g. at Peak and Saltwick Bay), rutways for the transportation of goods and raw materials as well as communication routes (e.g. Saltwick and Robin Hood's Bays) and numerous postholes possibly for jetties/piers or

even overhead ropeways (e.g. Saltwick Bay). In one case the activity has been so great it would appear that a small harbour has been specifically created in order to satisfy the need for safe anchorage in order to continue quarrying: The Spittals at Filey.

Away from the more traditional maritime roles the development of tourism as a replacement of the decline of the fishing industry can be clearly seen along the southern part of the study area around Scarborough southwards. Here the landscape seems to be largely divided between agricultural and residential/tourism.

Period overview

Prehistoric

Palaeolithic

Although the area was undoubtedly visited by early hunter-gatherers, they have left little trace of their presence within the narrow confines of the study area, apart from a possible flintworking site in Reighton (RE42). This is a northern outlier of similar early prehistoric sites in the area to the south, including Bridlington, Bempton and Flamborough parishes, although the area may simply have been a 'stopping-off' point for producing tools and hunting implements before moving on.

Mesolithic

The only Mesolithic material recorded within the study area is a series of unprovenanced artefacts found within the Scarborough area generally, which includes early stone axes among later material (SC180). A possible flintworking site was also identified in Reighton parish (RE32), part of a larger flint production area centred to the south, and exploiting flint nodules either eroding from the Flamborough cliffs or occurring in the brash overlying the solid chalk.

Neolithic

The Neolithic period is principally represented by casual findspots, including hammers (FD34), axes (possibly HS30, HS56, FD44, SD88, 92, 94, CG1, SC15, 28, FY39, 46), a macehead (SC136), and flint tools (SD74, CG11). A possible standing stone in Hawsker-cum-Stainacre may also be of this period (HS45), as may eight cup-and-ring marked stones at Raven Hall (SD23), while a long barrow in the Peasholm area of Scarborough could be of either Neolithic or Bronze Age date (SC13).

Bronze Age

Evidence for the Bronze Age from the study area mainly consists of burial mounds and chance finds rather than settlement sites. These are simply the eastern outliers of an extensive prehistoric landscape stretching across the North Yorkshire Moors and further south, the Yorkshire Wolds. The burial mounds themselves were relatively easily visible in moorland areas where no ploughing has taken place, while others survived as earthworks long enough to be recorded before they were covered by housing estates or destroyed by modern farming methods. Many were investigated in the early modern period, and no longer survive, whereas a handful which survived into the 20th century have been scheduled.

Barrows have been recorded at many locations, either singly or in cemetery groups (HS48, 63, FD4, FH4–6, 8, 11, SD37, 46, 48, 49, 51, 52, 54, 61, 89, CG15, possibly CG9, SC13, SC27, 164, 168, CY8, GT1, 3, 4, possibly FY82, HY1, RE45). Urns, presumably associated with cremations, have also been recorded in the past (SD91, 93). Other features include a ring cairn (CG8), examples of rock art (FH7, 8) and a possible Bronze Age/iron Age boundary ditch (RE51). A settlement site (FH7) has also been identified, while a possible stone circle was reportedly present in the 19th century in Ravenscar (SD53); the cup-and-ring markings at Raven Hall (SD23) may also belong to this period, as many of the barrows in the parish are grouped in the same area. A settlement site on the Castle headland, Scarborough (SC30) has been dated to the late Bronze Age/early Iron Age. Although most of the features are probably of the 7th/6th century BC, the reported presence of Beaker pottery suggests an earlier settlement: since no burial mounds of the period have been identified it was probably not part of a funerary landscape despite its prominent location.

Finds from the area include axes (WH67, possibly HS30, HS64, SD86, 87, possibly 92, NY13), an awl (SD85), a spearhead (SC123), and a palstave (WH72). The axe from Whitby, a short-hole type, is of Mediterranean origin, suggesting early trade, although this may have been indirect (i.e. traded up the coast from an original landing place elsewhere).

Iron Age

Firm evidence for the pre-Roman Iron Age (principally the Early and Middle Iron Ages) is limited compared to the later periods, and mainly consists of chance finds. A possible settlement site was, however, located at Cloughton Hulley (CG12), although this may be later, and an important early Iron Age settlement has been investigated on the Castle headland, Scarborough (SC30). A square barrow and ditched enclosure have been identified in Reighton (RE54) where a Bronze Age/iron Age boundary ditch may also be present (RE51). Other banks and ditches in the area could also belong to the period (RE35, 40/41).

Casual finds from the study area included beehive querns (WH49, 71, CG10, 18), which could all be later, and an early armlet (SC46). A coin of Carthage found in Whitby (WH73) may be a product of trade, but could also be a later keepsake or heirloom. The hinterland was, however, still used by agricultural communities.

Late Iron Age/Romano-British

Despite the strategic importance of the area, evidence for late Iron Age settlements, field systems and other features is relatively limited as in earlier periods, partly due to the presence of moorland, which masks such evidence except where earthworks survive, and partly because they have been hidden elsewhere by ridge-and-furrow systems, modern housing or industrial estates. Where they have been identified, dating is impossible except in a few instances where they have been investigated, and many either probably continued into the Romano-British period or were established after the Romans arrived in the area in the AD 70s.

Examples of cropmarks or earthworks which have been identified include enclosures, ditches, and occasionally pits (HS23, 41, 43, FD6, 9, SD43, 75, 80, 82, 83, possibly

CY10, FY3, RE47). A possible settlement site was identified at Cloughton in the 1920s, but may be earlier (CG12). A number of beehive querns (WH49, 71, CG10, 18) may be of earlier Iron Age date.

The area was strategically important to the Romans, initially perhaps as a supply route to the expanding northern frontier. Filey, Scarborough and Whitby probably provided a series of havens and landing places at suitable intervals, and they established a network of roads, probably including a coastal road linking settlements near modern Bridlington, Filey, and Scarborough, continuing north to Whitby and beyond, and linked to inland routes to York and elsewhere. Many sections of supposed Roman road are, however, quite probably later (e.g. SD22, GT16, FY35–7), although it is probable that a genuine alignment (which has never been seen) exists on or near Castle Road, Scarborough (SC133). It is possible that there were elements of the Roman fleet (*classis Britannica*) operating against raiders in the area, perhaps from a base on the Esk near modern Whitby, but later, a chain of signal stations was established, with examples at Scarborough (SC31), and Filey (FY8), and probably at Ravenscar (SD24/35). A site has also been suggested in a rectangular enclosure in Fylingdales (FD9), although this has not been confirmed by fieldwork.

In Whitby, a ford of possible Roman date was examined crossing the Esk in the harbour area (WH36) and said to be on or close to the projected line of a Roman road from Malton. A possible culvert was also recorded (WH49) in the old town. Certainly, the number of Roman coins recovered in Whitby (WH61, 74–7, 79, 80, 82) suggests a Roman presence; unsurprising, as the mouth of the Esk provided one of the few true harbours on the coastline. Coins were also found near Saltwick Bay (HS1, 11) and in Scarborough (SC136, 138, 144), together with pottery (SC24, 44, 61, 136, 156, 181), and tiles (SC71). Roman sites have also been identified in Scarborough itself (SC66, 98), although the latter, at Bland's Cliff, is a particularly unreliable dating of a cobble wall. A settlement was excavated in Cayton parish during road diversion works (CY14), whilst another was identified eroding from the cliff in Lebbeston (LB1), possibly dating to the 4th century. A small site has also been recorded in Filey (FY73) and at Primrose Valley (FY54).

A site for a possible harbour has traditionally been suggested at Filey Brigg near Old Quay Rocks or the Spittals, although there is no evidence to support this.

Anglo-Saxon/Early Medieval

The presence of an early monastery at Whitby (WH25) ensures that the period is represented in the study area. The presence of the early settlements of Whitby (WH43) and Prestby (WH17) also indicates the importance of the abbey headland and the East Cliff areas, although there would undoubtedly have been at least a rudimentary harbour with its own small settlement nucleus along the river's edge. An extensive 8th-/9th-century cemetery near the abbey indicates a substantial local population, although it may have drawn on a sizeable area of surrounding settlement rather than Prestby, Whitby and the abbey alone.

Scarborough contains several sites identified as belonging to the period, despite the fact that it does not appear in Domesday under its own name, but formed part of the Falsgrave estate. A key location like this is unlikely to have been ignored at any period. The St Thomas's hospital site (SC122) includes what is claimed to be 6th-/7th-century

and 8th-/early 9th-century phases, followed by a 10th-/11th-century phase. Possible 10th-/11th-century occupation was also noted at St Mary Street (SC72) and West Sandgate (SC98). If some or all of these sites have been correctly interpreted, they suggest an early nucleus in the town, presumably with pre- or proto-urban phases, and perhaps concentrated along the line of the *Damyet*. Further work would clearly be needed to elucidate whether there was an early 'emporium' here, with traders operating from the beach, but such a site would be of international importance. A more definite identification is the site of a 10th- or 11th-century chapel on the Castle headland (SC32), incorporating part of the Roman signal station in its structure; this included a cemetery, perhaps serving a religious enclave in the area, although there may have been a secular community in the vicinity, comparable with the situation at Whitby.

Elsewhere, there is some evidence for the reuse of Bronze Age barrows as Anglian burial sites, with an early glass bead found in Gnipe Howe, Hawsker (HS47). One or more 6th-century graves were also found in the Robin Hood's Bay area (FD45), complete with a range of gravegoods. An 8th-century grave marker is present at St Oswald's Church, Filey (FY28), and a 9th-/10th-century occupation site was investigated on the opposite side of Church Ravine in Queen Street (FY33).

Medieval

The presence of Whitby, Scarborough, and to a lesser extent, Filey and a string of coastal settlements, ensures that the medieval period is extremely important in the study area. Whitby Abbey and its components (WH27) continued to be an important site following its refounding in 1078, although there was a shift in the focus of the main settlement to the present harbour area, where quays and piers were established and maintained from at least as early as the 14th century (WH19, 44). Prestby continued to function as a separate settlement into the medieval period, apparently with its own field systems.

Scarborough has been extensively investigated by active local archaeologists, particularly from the 1960s onwards. More recently, commercial archaeological organisations have added to the picture of a thriving medieval settlement. The Castle headland has been the subject of many investigations, targeting elements of the castle itself (SC29), also the chapel (SC32) and its large cemetery. The waterfront has also been investigated; although there has been relatively little work on the quay structures themselves (SC108, 126), several phases of reclamation have been identified from a study of the levelling deposits on a number of sites. It is clear that there is a phase of occupation relating to le Gros' tenure of the town as Earl of York, probably located along the Castle Road/St Mary's Church/Castle axis, with another nucleus near the harbour. This was, however, fairly effectively swept away with the creation of the Old Borough and the enlarged castle shortly after 1155, followed by the Newborough, which was probably built on earlier open fields. The defences of Oldborough (SC131, SC121) and Newborough (SC102) have left their traces in the street pattern and their names (e.g. Bar Street), but no extant remains, although they have been excavated on a number of sites (e.g. SC66, 122, 128, 132, 151), and a later wall replacing the Newborough rampart in the late 15th century has also been examined (SC66). There have been numerous excavations in the town, identifying many of Scarborough's documented sacred and secular structures, include the Franciscan, Carmelite and Dominican friaries (SC67, 115, 130), as well as domestic and craft/industrial sites. Particularly important was the pottery industry located in the north-west of the town (SC47, 49, 52, 53, 71). The

demise of the industry in the 14th century seems to have fallen within a period of economic decline.

Medieval Filey has been investigated in a small number of sites in the old town, but relatively little archaeological work has been undertaken considering the number of late 20th-century developments (FY33, 38). Old Quay Rocks and the Spittals (FY14, 19) may both be the sites of landing places or breakwaters on the south side of the Brigg.

Traces of ridge-and-furrow cultivation was very extensive in the past, although much has been ploughed out since the last war (HS25, 40, 50, 58, FD17, 66, SD19, 25, 79, CG24, OS12, 19, CY12, LB2, RE12), or built over, as was the case in Scarborough, where none survived to be recorded. Several deserted or shrunken settlements have been identified, such as Prestby (WH17), *Lingehou* (HS33), Osgodby (OS16, 17), Reighton (RE50) and Speeton (RE52). A handful of moated sites (HS40, GT13) and farmsteads or crofts (SD64, 72, RE46) are also known, together with boundary ditches (SD61), enclosures (SD44, RE38, 39) and earthworks (SD34, 39–41, 45, 79, 80, possibly 82, CG27, GT11).

Post-medieval

The post-medieval period was in some ways a continuation of what had gone before, although changes became apparent throughout the course of the 16th century.

In the towns, the Dissolution of the Monasteries in 1538–9 was to have a considerable effect economically and no doubt in other terms, such as in the provision of hospital facilities and almshouses. Although Whitby Abbey (WH27) was separated physically from the main part of the town, Scarborough had three friaries occupying a large proportion of the walled settlement. Two of the sites seem to have been redeveloped relatively quickly, but the Franciscan friary site was left largely empty until perhaps as late as the 18th century. A late medieval economic downturn seems to have reversed itself to a degree by the end of the 16th century, with increased trade with northern Europe resulting in increased affluence, partly manifested in the construction of substantial private houses, of which a number remain in Scarborough and Whitby. Scarborough also invested in an extensive new quay (SC126) and stone pier (SC119). The Castle (SC29) continued to have strategic importance, playing an active role in the Pilgrimage of Grace, Wyatt's Rebellion and the English Civil War and being refortified (together with the Newborough defences) during the Highland Rising of 1745. New artillery batteries and a barracks were built at several stages throughout the 17th and 18th centuries to update the defences and provide some seaward protection (SC17, 33, 58, 80).

The provision of harbour facilities in the two main ports was expanded towards the end of the period; Whitby became one of the country's premier shipbuilding centres, with wharves, slipways, dry docks, and a miscellany of chandlery trades serving an industry which produced a range of sea-going trading vessels, colliers and fishing boats, including large yawls ('farmanboats') and smaller cobs. One dry dock has been examined in some detail (WH44), and more remain to be excavated if the opportunity arises. Examples of boat timbers were incorporated into the dock as well as being abandoned in the fill, and the potential resource is substantial. The mercantile, fishing and whaling industries between them supported a large proportion of the population of Whitby and surrounding villages. The fishing industry is represented elsewhere by a

series of rock-cut tanks or pits, sometimes surrounded by postholes, on the foreshore at Saltwick and Robin Hood's Bay, the latter known as 'hullies', almost certainly used for keeping live catches (HS10, FD48). Robin Hood's Bay, despite its relatively small size, was an important fishing centre, with the larger boats owned by 'Baytown' families kept in permanent moorings in Scarborough or Whitby. Part of a fisherman's house, comprising an 18th-century bait shed) was excavated below a building in the traditional centre of Filey's fishing community, Queen Street (FY33), indicating the continuity of the community.

The coastal location gave rise during this period to an emerging tourist industry, initially restricted to small numbers of upper class individuals in the 17th and 18th centuries, with the discovery of mineral spa springs creating an attraction in Scarborough and Filey from the 1620s and 1670s respectively (SC161, FY4). The industry, although small, began to shape the development of the area, particularly towards the end of the period as the fashion for taking spa water and sea bathing became more popular and began to spread down the social scale to the emergent middle classes. The importance of the seaside has been recognised by the recent English Heritage Seaside Resorts Project (Brodie & Winter 2007).

In the countryside, the pattern of fields and villages continued with only a slow pace of change, with (for example) timber-framed dwellings being slowly replaced by stone, and heather or straw thatched roofs by pantiles, a process largely completed by the early 19th century (the 'Great Rebuilding'), so that there are few examples of the 'earlier architecture' remaining. Enclosure (and the 'agricultural revolution'), the turnpiking of roads, and the spread of rural industries, particularly alum production (see below), were the main engines of change in the 17th and 18th centuries. Enclosure led to the replacement of the existing pattern of open fields and commons, and the construction of many new farmhouses at intervals outside the main settlements and townships, surrounded by foldyards, barns, stables, granaries and other structures. Some of these were on the site of former townships or moated sites, such as Widdy farm, Hawsker-cum-Stainacre (HS44), but most were in new locations, reached by a purpose-built network of minor roads and tracks. Traces of post-medieval ridge-and-furrow survive in some places, indicating either continued use of the open field system or the creation of new closes before the area was enclosed (FD17, 66, CG17, NY3, SC169, 172, OS19, CY15, FY10, 58, 73, RE16).

Other activities, such as lime production (HS15, 60, SD12, 13, 69, CG2, 5, 14, 25, 32, 34, GT6, 9, 10, FY1, 2), jetworking (HS2, 3, 20, 53, 59, FD2, 5), potash mining (SD29), quarrying (HS7, 21, 27, 28, 32, 36, FD15, 16, SD38, SC1, 21, GT5, 15, FY1, 6, 9), coalmining (HS49), saltmaking (?WH52, CG28), milling (FD18, 65, RE49) and brick/tile production (SC43, 48, 65, 86, FY46) were all carried out in the area, often by farmers or rural landowners holding mineral rights and seeking to maximise the returns on their newly-consolidated holdings. Carnelians were mined in Cornelian Bay (SC173), although the date of extraction is uncertain. A possible pier at Filey Brigg (FY14) may have been used to remove quarry products; further east was an area of quarried blocks (FY15) and a series of postholes which may have been used for warping vessels in and out of moorings, although local knowledge suggests this may have occurred in the 19th century: most of these industries continued into the early modern period, although by the 20th century, the study area had almost completely returned to agriculture outside the principal settlements.

Of the contemporary industries, alum extraction was probably the most important, employing a large number of workers and transforming the landscape between the 17th and 19th centuries. In the study area it was concentrated between Saltwick Nab and Ravenscar, where remains have survived representing most of the stages in the production of alum, which was important as a mordant (chemical fixer) in dyeing, for chemical tanning (tawing), paper production and other processes. The principal production centres were Saltwick (HS9), Stoupe Brow (FD79) and Peak (SD17), but there were also minor sites (HS55, FD1, FH2). The physical remains include alum houses (HS14, SD7, 12), docks (SD1, 2, 4, 8), piers or jetties (HS5, SD11), rutways (WH8, 16, 20, 22, HS4, 8, FD29, SD3, 9, 10), cliffside ramps (HS6, SD13), roads across the foreshore (WH5), possible foreshore ropeways supported on posts (HS17), gutters (HS16), breakwaters and platforms (HS19, SD6), workers' dwellings (FD82, 86, SD20, 21, 26), and quarries (FD98).

Until the mid-16th century, supplies were imported, but thereafter a search for domestic sources began. In the early 17th century, sources were discovered near Whitby, but production was slow until 1635, when c 1800 tons per annum were produced. The alum monopoly was abolished around 1648 allowing new alum works to be set up on outcrops of the Upper Lias shale.

The Yorkshire industry had an advantage in that the shale was exposed along near-vertical cliff faces, allowing the seams to be relatively easily reached without the removal of large areas of horizontal overburden, effectively by quarrying sideways. The proximity of the coastline also allowed the final product to be removed relatively easily and in bulk, without recourse to the appalling inland road system, as well as allowing raw materials required for processing (such as coal, for example) to be imported.

Once quarried, with the removal of the overlying cementstone dogger sometimes removed by blasting, the alum-bearing shale was barrowed along walkways to be tipped onto a bed of brushwood about 1m thick, which was then set alight, with further material added to create a large mound which might be allowed to burn (calcine) for a year. The mound was then opened to allow the alum to weather, before being washed or steeped. This required clean water, and reservoirs were built where there was no ready supply. The calcined alum was initially tipped into steeping pits into which water was added to leach out the soluble salts, including the aluminium sulphate. This process was repeated and the liquor was run between several pits until all the soluble salts were judged to have been extracted, and the waste solids were discarded. The liquor contained iron and magnesium salts as well as the aluminium sulphate at this stage, and required concentration and purification by evaporation. It was run by gravity through stone channels to the Alum House, where it was first boiled in open lead pans over a furnace to remove impurities. The cleared liquor was then boiled again to concentrate it further, at which point an alkali (potash or ammonia from urine) was added to convert the aluminium sulphate into alum and cause alum crystals to begin to precipitate out of solution.

Finally, the crude alum crystals were redissolved in very hot water and transferred to large wooden 'roaching' casks to cool and recrystallize, leaving any remaining impurities still in solution. The casks and their contents were allowed to stand for eight days, then the casks were dismantled, exposing a crystalline mass. After final slow drying, the pure crystals could be bagged up ready for transportation.

Modern

The late 18th and 19th centuries saw a considerable increase in the local population, due partly to more reliable food supplies as a by-product of agricultural improvements, and partly to increased prosperity as the industrial revolution gathered pace. The movement of people from the countryside to the towns, with their better employment prospects, led to an expansion of urban settlement, with Scarborough, Whitby and Filey all growing far beyond their traditional cores. Scarborough was already connected to York from 1845 and Hull by 1847. Whitby was already linked to York and the south via Pickering by 1836, and other lines to Middlesborough and Northallerton followed, with the arrival of the line to Scarborough in 1885 completing the coastal line from Hull. Stations at intervening villages, such as Robin Hood's Bay, Ravenscar and Hartburn Wyke, increased the prosperity of settlements along the route. The Ravenscar Estate Company attempted to take advantage of the changing times by establishing a planned village (SD28) next to what became Raven Hall Hotel, but this failed as a speculative exercise. In the later 19th and 20th centuries, the needs of the mass tourist industry transformed the towns, with large areas of the commercial centres and traditional harbour areas being increasingly given over to servicing visitors, as fishing, freighthandling and other industries declined. Recent years have seen the number of people taking one or two week breaks fall, and a return to an earlier pattern of day-trippers and short break holidays; this has led to some readjustment of the tourist economy.

As well as passengers, the railway also took agricultural and industrial products from the area, including grain, dried or salted fish, and alum, with the latter continuing as an industry until the 1860s at the Peak works. Improvements there included the construction of a tramway to replace an earlier ramp (SD14), and a railway at the shale quarries (SD36). Following the end of the industry, a brickworks was built in one of the former shale quarries (SD33), connected to the railway. Agriculture continued to be important, with related industries such as milling also represented (FD33, NY12, 14, 17, CY1).

Harbour facilities in Scarborough and Whitby were expanded as fishing fleets and trading vessels grew in size, reaching their peak in the 1870s/80s, and continuing at a lower level into the mid 20th century, although at Robin Hood's Bay, the lack of a harbour meant that fishing ceased before World War 2 (it has revived in recent decades, based on shellfish). A decline in post-war whitefish trawling, the growth of deepwater container ports, and the decline of the domestic shipbuilding industry have, however, made great inroads into the maritime economy, although the increasing numbers of private yachts and boats have ensured that marina facilities are maintained at Scarborough and Whitby. Filey, with no harbour, has suffered, with the number of fishing cobbles in single figures, 'docked' on the slipway and hardstanding above with a small number of pleasure boats.

Whilst the country villages continued to be backward, with no running water, piped sewers or other facilities, the towns were able to develop an infrastructure to support their populations. Whitby was one of the first towns to benefit from a gas supply, lit using whale oil (WH55) instead of sewer gas, acetylene or coal gas.

The high cliffs which characterise most of the study area would superficially seem to make them fairly resistant to invasion, but they are punctuated, mainly in the south, by a large number of access points, the majority of them created by streams cutting through

the till which caps most of the cliffs to a greater or lesser degree. By the same token, the elevation of the cliffs made them suitable for the location of early warning defences and anti-aircraft batteries. World War 2 therefore saw particular sections of the area being relatively heavily defended, with anti-aircraft and anti-VI 'Diver' batteries (WH35, HS24, 42, FD59, 69, SD27, possibly SD35, CG6, 30, 35, FY56), coastal batteries (SC166, FY61, 63, 79), searchlights (FY60), pillboxes (FD10, 55, 56, 62, 63, 80, NY4, 7, SC2, 5, 167, 174, 176, OS1, 5, 7, 11, 15, CY5, 7, 9, 11, FY34, 45, 48, 50–2, 69 71, 74, 77, 80, RE2–5, 8, 9, 11, 14, 15, 19, 24–7, 29–31, 37, 43), ancillary buildings (FD83, SD60, CG20, NY6, OS6, CY2, FY21, 56, 57, 67, 68, 70, RE17), anti-tank defences (WH9, FY66, RE10, 13, 18, 22), mortar positions (WH10, 12), machine gun posts (RE6, 7, 36), barbed wire obstructions and beach defences (HS51, FY54, 64, 72, 76, RE23), road blocks (SC3), minefields (SD84, SC6, 19, 171, 175, OS2–4, 8, CY4, RE33), observation or minewatch posts (SD56, CG31, BT1, SC163, FY11, 78, RE42), a military camp (CY13), trenches (SC178, CY3, FY17, 62, 81, RE1), a radar station (SD55), radio direction finding post (SC35), a covert wireless station (CG7), gas decontamination centre (FY42), Home Guard facilities (WH56, 60), ARP centre (SC149), and rifle range (NY8). The civil population was protected against bombing raids by public shelters (NY19, SC55, 57, 99, 153, 160). The area was still important for defence after the war, with ROC monitoring posts either continuing from wartime or being established (FD12, 40, CG26, 29).

The tourist trade in the area is centred principally on the main towns and countryside, with the high cliffs and the statutory protection of most of the coastline north of Scarborough restricting the establishment of large caravan parks and holiday villages, such as those seen around Gristhorpe, Cayton and Filey Bay, where development is similar to that of Holderness.

Archaeological potential

The area differs from those examined as part of the Rapid Coastal Zone Assessments for the East Yorkshire and Lincolnshire coasts in that it has been relatively stable for a longer period, suffering neither advanced erosion nor accretion (or cycles oscillating between the two). The area has been protected to a degree by the presence of rock foreshore platforms, and the principal settlements are either set several kilometres from the cliff edge (e.g. Burniston, Cloughton, Osgodby, Cayton, Reighton) or are protected by sea defences (Whitby, Scarborough, Robin Hood's Bay, Filey). In effect, this has ensured that sites and installations purposely constructed on the coast and dating back at least to the Roman period still survived into the modern period, including the signal stations at Filey and Scarborough, and potentially any evidence which may exist for Roman harbours. There is also at least a possibility that the landward elements of less prominent coastal settlements are also present, such as a late Roman site noted in the cliff edge at Lebberston despite the relatively slow erosion of the till capping of the cliffs.

There is therefore a considerable potential for the survival of archaeological remains along this coastline, although the earlier prehistoric periods are currently under-represented; this is to be expected for the Palaeolithic period, but there is also little evidence for Mesolithic and Neolithic activity, and there are few traces of Bronze Age or Iron Age settlement, as opposed to the more obvious funerary sites. This, however, is reflected in other coastal and inland areas. The presence of high cliffs means that the study area has relatively little potential for the survival of buried prehistoric landscapes at foreshore level, although the immediate hinterland contains areas of moorland and peat

bog which do have considerable palaeoenvironmental importance. This potentially includes areas of undercliff affected by previous rotational failures, where these have stabilised, and the many ravines which characterise the area, particularly in Filey Bay. The examples of South Landing and the south end of Danes Dyke, both in the East Yorkshire study area at Flamborough, suggest that as access points to the beach and a source of fresh water, the North Yorkshire ravines are likely to preserve evidence for activity from the earlier prehistoric periods onwards, and would reward further investigation.

The predominant use of the landscape forming the coastal hinterland has been for agricultural production in all periods and as such this gives some scope for the survival of a range of potential archaeological sites, including settlements and field systems. A number of known medieval sites exist, but there are relatively few identified Iron Age/Romano-British settlements or cropmark sites compared, for example, with Holderness. The reasons for this may be the impact of medieval and post-medieval open field farming in the areas surrounding settlements, and the extent of moorland and woodland in the uplands of the North Yorkshire Moors National Park. The area suitable for arable farming has been squeezed between the Moors and the coast, and farming has therefore traditionally occupied much of the area to the cliff edge, as the extent of medieval and post-medieval ridge-and-furrow demonstrates. None of these landscape types are conducive to the identification of cropmarks through aerial photography or to fieldwalking, although the presence of earthworks in areas of moorland or common which have not been ploughed since before the historic period led to the survival of a considerable number of Bronze Age barrows (for example) into the early modern period. There is the potential for further such remains to be found: the recent moorland fire in the Fylingdales area revealed many new prehistoric monuments, although the majority lie immediately outside the study area boundary.

The North Yorkshire coast itself has seen significant levels of coastal and deepwater traffic and trade, and there is clearly the potential for further archaeological discoveries in relation to the harbours, waterfronts, fishing-related and trading industries in Whitby and Scarborough, and potentially, Filey and Robin Hood's Bay. The presence of boat timbers in an excavated drydock in Whitby suggest that the remains of post-medieval (and possibly medieval) vessels may be recovered. The possibility that new types of craft may be found should be considered, particularly given the former importance of the international harbours at Scarborough and Whitby. It may also be possible to trace the origins and structural development of local boat types such as the various types of coble. In addition, there are a considerable number of extant features relating to the industry, such as the 'hullies' of Robin Hood's Bay, which have the potential to add to our understanding of how the industry operated, particularly when added to documentary and eyewitness evidence.

Evidence for both inshore and offshore coastal trade and traffic can be clearly seen both in the number of recorded wrecks along the coast and in the large numbers of documentary records of losses. As with the majority of documentary sources these are biased towards the later post-medieval and early modern periods, and the remains of earlier vessels are unlikely to survive in the aggressive environment of the intertidal zone.

Although now principally agricultural, the North Yorkshire coastline has seen varying degrees of industrial exploitation, particularly within the later post-medieval and early

modern periods. The most significant remains are those of the alum extraction and production sites at Saltwick Nab and Robin Hood's Bay. These have been extensively investigated and published, although further features undoubtedly remain to be uncovered by fieldwork and coastal erosion, which affects parts of these sites.

With the rapid rise of the coast as a holiday destination, coupled with the availability of cheap and rapid mass transportation in the form of railways, came the development of Whitby, Scarborough, Filey, and more recently, Robin Hood's Bay. Even a rapid comparison between the mid 19th-century 1st Edition Ordnance Survey and present-day maps will demonstrate the expansion of these coastal settlements during the course of the modern period. These centres saw the beginnings of mass holidays and developed a unique urban landscape in response. However, with the continual change that is the nature of tourism, many of the early features have disappeared and others continue to do so. The wholesale loss of the pre- and post-war Butlin's holiday camp at Filey between the 1990s and early 2000s is a good example of this, although it was fortunately recorded using a variety of media, including film, photography, and eyewitness accounts. This topic has been highlighted in the recent English Heritage 'Seaside Resorts Project' (Brodie & Winter 2007).

Finally, significant portions of the coastline became important as the result of a series of military conflicts. Scarborough Castle is a dominating image, but also the Roman signal stations and post-medieval to early modern batteries and 20th-century installations reflect the range of structures constructed as a response to the changing nature of warfare. The erosion of most of the Filey Roman signal station site reflects the danger to these sites, although in this instance, recording work mitigated the loss. The most extensive remains in this category are those of the defensive infrastructure relating to World War 2, elements of which still survive in the modern landscape. This is also at risk, however, with many pillboxes and other installations such as gun batteries damaged or lost to cliff falls and wave action, a process which has accelerated since the 1970s. To a lesser degree there have been losses to development processes or deliberate demolition, although the Heritage Coast designation of much of the North Yorkshire coast has controlled and restricted development to a greater degree than elsewhere. Other features, such as minefields and trenches, were intentionally of short duration, although may survive as archaeological features.

In summary, although the North Yorkshire coastline is not as vulnerable to coastal erosion as Holderness and areas of Lincolnshire, natural process are still a threat;

5.2 Recommendations

Although the nature of development within the study area means that archaeological work will necessarily be piecemeal, the local SMR/HER provides a continually-updated area-wide deposit model based on the results of the evaluations as they are completed. This would potentially allow the identification of key sites as part of the impact assessment process by providing a predictive tool using MapInfo GIS-based system.

The coastal margin along this section of coastline is generally considered to be relatively stable; however, there will always be cycles of erosion and with the sheer nature of the cliffs this will sometimes result in spectacular cliff falls of large volumes of material. During the course of editing this volume, there were several such falls due to rational failures at Knipe Point, Cayton, resulting in the loss of several modern dwellings. Due to

the rocky nature of the foreshore it is unlikely that much, if any, organic material would be preserved beyond what has already been observed within rock cut postholes associated with the various alum plants and docks, though the assessment of these posts for potential dendrochronological dating should be considered.

For the section of the study area between Whitby and Scarborough the generally slightly remote and agricultural nature of the coastline means that there is currently little pressure from re-development and tourism outside the settlements of Whitby and Scarborough. However, in the area to the south of Scarborough there are several holiday camps and caravan parks which are heavily utilised as holiday destinations. As such they are frequently the site of re-development and renewal/re-generation in a constant effort to maintain tourism to power the local economy. This activity coupled with any 'roll back' of caravan parks may well have an impact on the inland sites and areas identified within this study.

Any impact upon buried features can only be mitigated for if the full potential for the range of different site types is known and an idea of their current status is ascertained. To this end it is recommended that the following is considered in order to establish a base line of information to proceed from. The recommendations form a hierarchy of investigation as it is recognised that it would be impractical to investigate every potential site to its full extent.

Level 1 Investigations

- Targeted fieldwalking and monitoring of selected areas (e.g. where high levels of erosion have been identified);
- Selective geophysical survey, particularly of sites near the cliff edge;
- Detailed recording of the quarrying of Filey Brigg;
- Detailed map regression for each parish.

These investigations would allow for the simple written description of the sites encountered along with sketch plans and photographs. Due to the remote nature of some parts of the study area site locations would be recorded by the use of hand held GPS.

Based on the field walking study above those areas of highest potential and/or threat would be selected for more detailed study. To this end the following methods are suggested in order to achieve that. Which particular methodology to use would have to be determined in relation to the site identified.

Level 2 Investigations

- Detailed field walking and recording along targeted areas of the coastal margin;
- Detailed foreshore survey and recording in the areas of known rock-cut features, particularly Saltwick Bay, Robin Hood's Bay and Peak Alum works;
- Topographic survey of earthworks;
- Trial trenching or test pit excavation, for example on eroding sites;
- Documentary research.

Level 2 Investigations can only be undertaken when significant funding becomes available, whether through the Historic Environment Commissions programme or from other sources. Properly targeted, they could, however, be used to answer specific research questions.

Once these had been completed and the results considered in relation to any threats posed then a full investigation could be considered.

Level 3 Investigations

- Development of a Resource Assessment and Research Strategy for the coastal extractive industries;
- Full excavation;
- Publication of results of excavation and documentary research.

Specific Site Investigations

In tandem with the above generic investigations the following specific areas should be considered as the first part of any field validation prior to any generic investigations in order to better inform those investigations. As already discussed above large parts of the study area have low numbers of visible archaeological sites, although the range and number of monuments and finds would seem to suggest that there is an as yet unrealised potential for further discoveries. One such area could be the survival of a more widespread prehistoric landscape as seen from the results of the 2003 moorland fire at Fylingdales. To this end it is suggested that areas apparently devoid of archaeology from each parish could be subjected to trial geophysics and possibly trenching depending on the results, in order to determine whether archaeological remains are present or hidden by later activity.

Whitby Parish

The following is recommended for this parish:

- Assess the potential for surviving evidence of boat and shipbuilding industries;
- Detailed survey of rock-cut features on foreshore (e.g. WH16, 20, 22);
- Assess settlement for sites relating to the development of the area as a seaside resort, where not already covered by the Seaside Resorts Project.

Hawsker-cum-Stainacre Parish

The following is recommended for this parish:

- Updated or ongoing survey of foreshore and cliff face remains associated with Saltwick alum works to monitor rate of loss (e.g. HS5, 6, 14, 19);
- Assess organic remains in foreshore postholes for dating evidence;
- Updated survey of rock-cut features on foreshore either side of the alum works and within Saltwick Bay (e.g. HS4, 8, 10, 16, 17, 52);
- Geophysical survey and possible trial excavation of areas around abandoned medieval settlement and prehistoric features (Bronze Age barrows and Iron Age enclosures) for further remains, including an investigation of cropmarks HS23;
- Assess the potential of the foreshore and cliffs for evidence of jet and other extractive industrial working (e.g. HS2, 3, 53, 59);

Fylingdales Parish

The following is recommended for this parish:

- Assess organic remains in foreshore postholes for dating evidence;
- Detailed survey of rock-cut features on foreshore within Robin Hood's Bay, relating to alum works and fishing (e.g. FD48);
- Assess the potential of the foreshore and cliffs for evidence of jet and other extractive industrial working (e.g. FD2, 5, 101);
- Examine the area of the possible alum works at White Stone Hole (FD1);
- Geophysical survey and possible trial excavation of areas around various prehistoric features (Bronze Age barrows and Iron Age enclosures) for further remains;

Fylingdales and Hawsker-cum-Stainacre Parish

The following is recommended for this parish:

- Detailed survey of prehistoric remains including barrows (FH4–6, 8, 11);

Stainton Dale Parish

The following is recommended for this parish:

- Detailed survey of foreshore and cliff face remains associated with Peak alum works (SD17) due to threat of erosion and to establish a starting point for rate of loss (e.g. SD1–14);
- Assess organic remains in foreshore postholes for dating evidence;
- Geophysical survey and possible trial excavation of areas around Bronze Age barrows and earthwork features south of Raven Hall Hotel for further remains (e.g. SD37, 46, 48, 49, 51, 52, 54, 62);
- Geophysical survey and possible trial excavation of area around undated farmstead (SD71) and similar features;
- Geophysical survey and possible trial excavation of areas of undated cropmarks.

Cloughton Parish

The following is recommended for this parish:

- Geophysical survey and possible trial excavation of areas around Bronze Age barrows (CG9,15);

Burniston Parish

The following is recommended for this parish:

- Assess the condition of the World War 2 minewatch post (BT1) for erosion.

Newby and Scalby Parish

The following is recommended for this parish:

- Survey to assess the potential for surviving remains of the various mills;
- Monitoring of the foreshore, particularly after storm events, for eroding material;

Scarborough Parish

The following is recommended for this parish:

- Monitoring of the foreshore, particularly after storm events, for eroding material and features such as the rock-cut dock, Cornelian Bay (SC165, 174, 76);
- Assess the potential of the remains of further prehistoric material from around the known barrow sites (particularly SC164);
- Assess settlement for sites relating to the development of the area as a seaside resort, where not already covered by the Seaside Resorts Project;

- Survey of World War 2 monuments, particularly in Cornelian Bay (e.g. SC166, 167)

Osgodby Parish

The following is recommended for this parish:

- Condition survey of World War 2 monuments in Cornelian Bay to create a starting point for erosion monitoring (e.g. OS1, 2, 6, 7, 10, 11, 15).

Cayton Parish

The following is recommended for this parish:

- Monitoring of the foreshore, particularly after storm events, for eroding material;
- Geophysical survey and possible trial excavation of area around the Iron Age/Romano-British site (CY14) for further remains;
- Condition survey of World War 2 monuments to create a starting point for erosion monitoring (e.g. CY5, 7, 9).

Lebberston Parish

The following is recommended for this parish:

- Geophysical survey and possible trial excavation of area around the Romano-British site (LB1) for further remains;
- Monitoring of the foreshore, particularly after storm events, for eroding material from cliffs (potentially Iron Age/Romano-British finds).

Gristhorpe Parish

The following is recommended for this parish:

- Geophysical survey of area around the Bronze Age barrows (GT1, 3, 4) for further remains;
- Geophysical survey and possible trial excavation of area around the moated site (GT13) to determine age, nature and importance.

Filey Parish

The following is recommended for this parish:

- Monitoring of the foreshore, particularly after storm events, for eroding material from cliffs (potentially prehistoric finds) and wreck material from the seabed;
- Monitoring of the foreshore after beach scour to attempt to determine the nature of wooden posts seen after storm events;
- Condition survey of World War 2 monuments along southern end of parish to create a starting point for erosion monitoring;
- Detailed recording of the quarrying of Filey Brigg (FY6, 9);
- Further investigation/trial excavation into the nature of Spittal Rocks (FY19) to attempt to determine age and manner of construction;
- Attempt to locate limestone quarry and kilns on cliff edge as monitoring point for erosion (FY1, 2, 16);
- Investigation into the rectilinear features around the former coastguard station (FY12);
- Assess settlement for sites relating to the development of the town as a seaside resort, where not already covered by the Seaside Resorts Project;
- Geophysical investigation into the approach to the Carr Naze signal station (FY8) for access route and any other related remains.

Hunmanby Parish

The following is recommended for this parish:

- Geophysical survey of area around Bronze Age barrow (HY1) for evidence of further monuments.

Reighton Parish

The following is recommended for this parish:

- Monitoring of the foreshore, particularly after storm events, for eroding material from cliffs (potentially prehistoric finds such as RE32) and wreck material from the seabed;
- Condition survey of World War 2 monuments to create a starting point for erosion monitoring;
- Geophysical survey of area around Bronze and Iron Age sites, particularly close to cliff edge (RE40, 41, 45);

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