

Hartley Cove to the River Tyne Coastal Strategy

Strategic Environmental Assessment Environmental Report

Non Technical Summary

Consultation Draft, August 2016



North Tyneside Council

Working in partnership with
CAPITA

01 | Introduction

Background to the Hartley Cove to the River Tyne Coastal Strategy

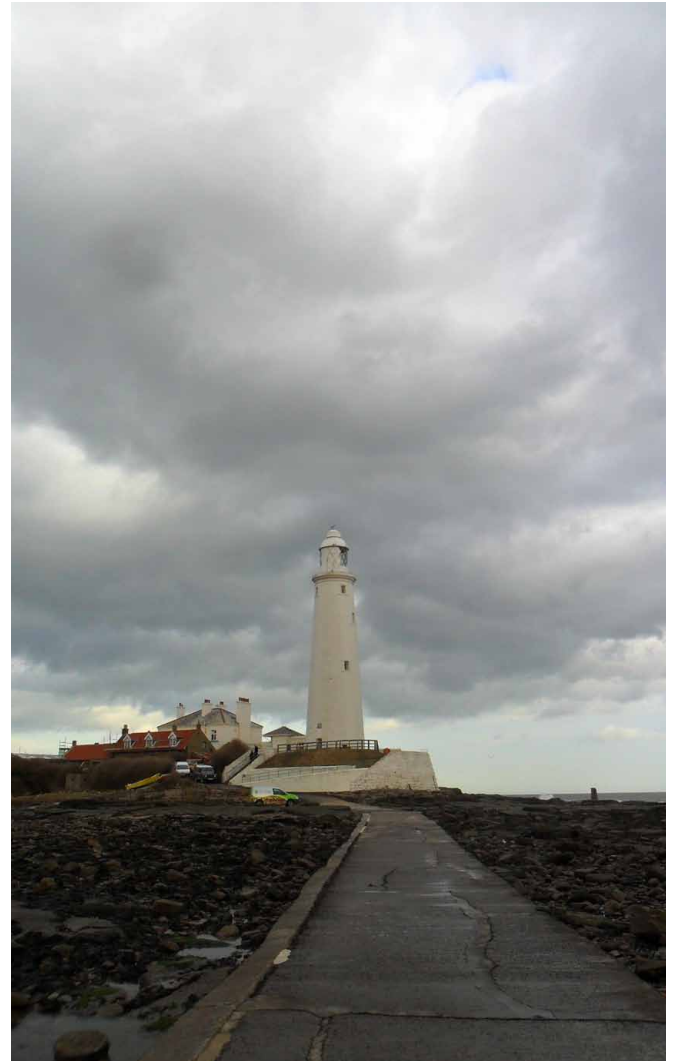
The Hartley Cove to the River Tyne **Coastal Strategy** is a non-statutory document outlining policies for coastal management over the next 100 years.

The Coastal Strategy appraises a range of coastal defence options to determine the most **socially** and **environmentally acceptable** and **cost effective** methods of managing risks such as flooding, erosion and sea level rise.

The first Coastal Strategy for the coastline was published in 2007. Since this initial document:

- a number of related policy documents have been updated (such as the Northumberland and North Tyneside Shoreline Management Plan (SMP2));
- several coastal defence schemes identified in the Strategy have been completed and further schemes have emerged;
- there have been a number of important changes to legislation; and,
- various detailed studies have been completed providing a better understanding of the issues and local community needs.

In light of these changes, a comprehensive review of the 2007 Coastal Strategy has been completed. 'The Hartley Cove to the River Tyne Revised Strategy' sets out an updated list of long term, sustainable policy solutions for coastal management within individual project areas on the coast.



The Coastal Strategy Policy Area

The Strategy coastline stretches from **Hartley Cove** in the north to the **River Tyne** in the south and covers the urbanised areas of Whitley Bay and Tynemouth; a distance of approximately 10km.

The coastline consists of undefended short sections of rock outcrops, cliffs and shore platform, between which are (mostly) defended or managed beach frontages backed by cliffs and dunes.

Policy Area Map



02 | Strategic Environmental Assessment

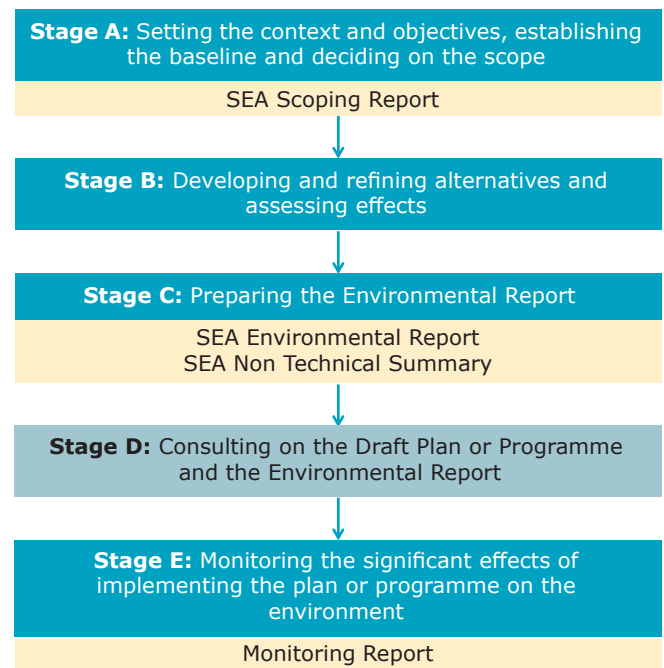
What is a Strategic Environmental Assessment?

European legislation (EU Directive 2001/42/EC, the 'SEA Directive') requires a **Strategic Environmental Assessment** (SEA) for certain plans and programmes which are likely to have a significant effect on the environment.

Currently there is no legal requirement to apply the SEA Directive to Coastal Strategies however, as these plans clearly help to set the future framework for planning, have significant environmental implications and require extensive consultation, it is considered **best practice** to do so.

By including SEA during high-level decision-making, it is possible to carry out a systematic appraisal of the potential environmental consequences of all options, allowing schemes to be directed towards the most **appropriate solutions**.

To this end, an SEA has been undertaken in parallel with the development of the Hartley Cove to the River Tyne Coastal Revised Strategy, allowing for the environmental effects of the plan and its proposed options to be considered from an **early stage**.



Stages in the Strategic Environmental Assessment

A summary of the principle stages in the SEA process is shown above.

The SEA is currently at **Stage D**, where the draft Coastal Strategy and Environmental Report is made available for key stakeholder and the public to comment on proposals.

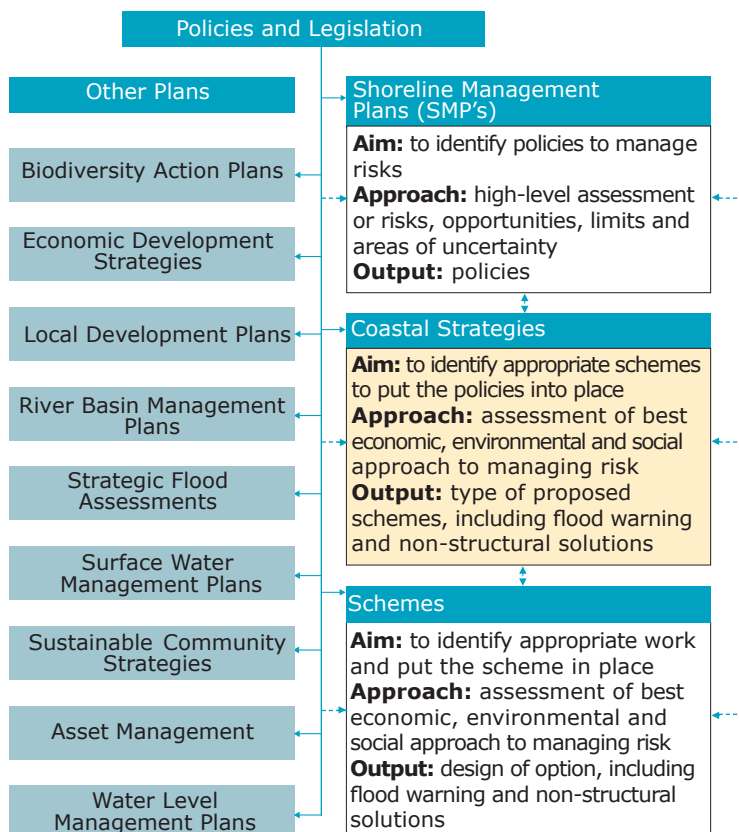


Relevant Plans and Policies

The Coastal Strategy will be influenced by, or will influence, **other plans and programmes** as well as any environmental objectives, such as those laid down in policies or legislation. These include European and national policies, as well as regional and local plans.

An understanding of the relationships between the various policies is required to take advantage of potential **similarities** and to deal with any **inconsistencies** and constraints.

The diagram below shows how the Coastal Strategy is linked within a hierarchy of decision making and how it can be derived from, or lead to, a number of other strategies and plans.



National Policies and Plans

- National Planning Policy Framework (DCLG, 2012)
- UK Marine Policy Statement (Defra, 2011)
- Flood and Water Management Act, 2010
- National Flood and Coastal Erosion Risk Management Strategy for England (Defra, 2011)
- Appraisal of Flood and Coastal Erosion Risk Management (Defra, 2009)
- The Marine and Coastal Act, 2009
- The Wildlife and Countryside Act, 1981 (as amended)
- Conservation of Habitats and Species Regulations, 2010 (as amended)

Regional and Local Plans

- North Tyneside Council Unitary Development Plan (NTC, 2002)
- North Tyneside Local Plan (NTC, 2015 – Draft)
- Northumberland and North Tyneside Shoreline Management Plan 2 (NCAG, 2009)
- Authority Annual Plan 2013-2014 (NIFCA, 2013).
- North Tyneside Coastal Zone Strategic Framework and Masterplan (NTC, 2011)
- Tynemouth Village Conservation Area Management Strategy (NTC, 2014)
- North Shields Fish Quay Neighbourhood Plan (NTC, 2013)
- Fish Quay Banksides Management Plan (NTC, 2011)
- The Green Space Strategy (NTC, 2008)
- Green Infrastructure Strategy (NTC, 2011)
- North Tyneside Tourism Strategy 2007 – 2012 (NTC, 2007)
- Newcastle and North Tyneside Biodiversity Action Plan (NCC & NTC, 2008)

03 | The Current State of the Environment

Population, Human Health and Recreation



Several properties and assets are at risk of **flooding** and/or **erosion**. These include:

- the boat house, miniature golf course and car park north of Brierdene Burn;
- the Dove Marine Laboratory, the Lifeboat Station and the 'Brae' in Cullercoats Bay;
- the cafe on Tynemouth Longsands; and
- residential and commercial properties in the Fish Quay Area.

The coast provides numerous opportunities for recreation and makes an important contribution to the economy and the **health and wellbeing** of local communities.

Access to the coast should be maintained and improved where possible and consideration should be given to the development of the new **Coastal Path**.

The needs of a **wide variety of users** should be taken into account i.e. walkers, surfers, canoeists, kayakers, sailors, anglers.



The Local Economy



The North Tyneside coast and its attractions are an important element of the borough's economy, drawing visitors from across the North East and beyond. Permanent attractions located along the coast include; St Mary's Island and Lighthouse the Blue Reef Aquarium, Tynemouth Priory and Castle, Spanish City, Lost World Adventure Golf and several Blue Flag beaches.

Fishing and its associated industries are synonymous with the areas of Cullercoats and the Fish Quay and have been a constant presence for over 700 years. The once vibrant white fishing industry has suffered **significant decline** in recent years and despite the main fishing quay on the River Tyne remaining the biggest prawn port in England, this has led to industrial dereliction and the **need for change**.

The Port of Tyne, the only passenger port in the region, supports regular passenger services to Northern Europe and provides a **significant contribution** to the regional economy.

Heritage Conservation



The **built heritage** of North Tyneside should be protected. Assets include:

- Tynemouth Castle and Priory (a Scheduled Ancient Monument);
- numerous Grade I, II* and II Listed buildings; and
- local cultural assets such as, the Tynemouth Open Air Pool, the Lions Head Fountain, the Dove Marine Laboratory and Tynemouth Sailing Club Hut.

Transport

Current defence provision ensures that the majority of the road network within the study area is at a low risk from flooding and erosion. An exception to this is the Western Quay.

There are a number of public car parks immediately adjacent or within close proximity to the sea front. The car park at Brierdene is at **immediate risk** due to erosion of the undefended soft boulder clay cliffs upon which it is built.



Nature Conservation



There are a diverse range of **natural environments** along the coast, many of which are recognised for their local, national and international importance through statutory and non-statutory designations. These sites need to be protected.

The **Northumbria Coast Special Protection Area** (SPA) consists of discrete sections of rocky shore which supports internationally important numbers of wintering birds. Some of this habitat is at risk of being lost due to the effects of '**coastal squeeze**'.

Two **Sites of Special Scientific Interest** (SSSI) are found on the coast and both are currently in a favourable condition. These include **the Tynemouth to Seaton Sluice SSSI** and **Northumberland Shore SSSI**. The SSSI's provide an important wintering ground for shore birds including purple sandpiper, turnstone, sanderling, golden plover and ringed plover.

Several Local Nature Reserves (LNRs), Local Wildlife Sites (LWS) and Sites of Local Conservation Interest (SLCI) are also recognised including: St Mary's Island LNR, Curry's Point and Wetlands LWS, Brierdene LWS, Brown Point Clifftop Grassland SLCI and Tynemouth Longsands SLCI.

Water



The coastal waters are **susceptible to pollution** from a number of sources including Combined Sewer Overflows (CSOs) and runoff from agricultural, highway and urban areas. The majority of pollution enters coastal waters through rivers and culverts from these inland sources.

Three of the four beaches along the coastline are currently awarded **Blue Flags** in recognition of high environmental and quality standards. These include Whitley Bay, Tynemouth Longsands and Tynemouth King Edwards Bay. All beaches received a 2015 **Quality Coast Award** in recognition of high water quality and high standards of maintenance.

Landscape, Seascape and Visual Amenity

Key characteristics of the landscape include;

- Sweeping **sandy beaches** and **rocky headlands** within a largely **developed coast**, along with mudflats and salt marshes in river estuaries
- A long history of **settlement, mining and industry** evidenced through historic buildings and settlement patterns which form a core part of today's landscape; and
- A heavily modified estuary supporting regionally important numbers of wintering waterbirds and breeding shelduck; and
- **Busy port** terminus at North Shields for sea ferries to Norway and Denmark.

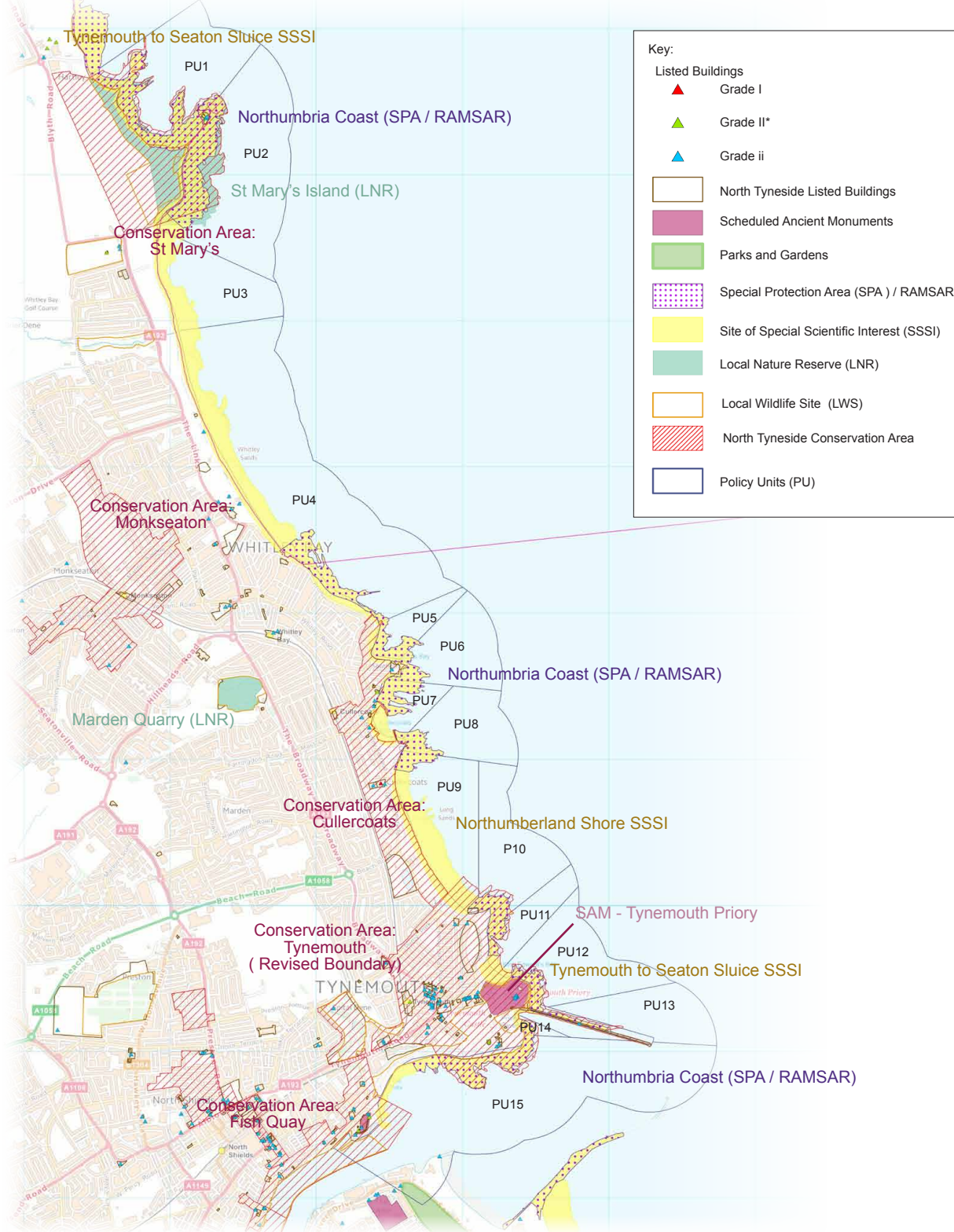


Geology, Soils and Material Assets





The stretch of coastline is of **outstanding geological interest** and diversity. Recognised by its designation as the Tynemouth to Seaton Sluice SSSI, it contains one of the **best exposures** of coal seams and mudstone horizons in Great Britain.

Environmental Constraints Plan



04 | Key issues and Opportunities

Topic	Key Issues and Opportunities
Population, Human Health and Recreation	<ul style="list-style-type: none"> There is currently a risk of flooding and coastal erosion to people and property within the study area; safeguarding human health and safety is of high importance. Recreational resources along the coast are important for ensuring the health and wellbeing of the population; opportunities for walking, cycling, surfing, diving, rowing, canoeing, sea angling and sailing must be preserved or enhanced where appropriate. A network of Public Rights of Way, footpaths, cycle ways, bridleways and nationally promoted routes provide important links to sites used for recreation along the coast; these links should be preserved or enhanced where appropriate.
Local Economy	<ul style="list-style-type: none"> The populated areas of Whitley Bay, Cullercoats and Tynemouth are economically important areas for independent business; safeguarding commercial assets is of high importance. The coast and its attractions are an important element of the borough's economy; safeguarding commercial assets associated with the tourism industry is of high importance. A number of temporary events hosted along the coast provide an important boost to the local economy; the ability to host these events should not be compromised. The fishing industry is an important part of the local economy; the industry should be supported alongside the programme for regeneration. The Port of Tyne provides a significant contribution to the regional economy; these activities should be preserved or enhanced where appropriate. 
Transport	<ul style="list-style-type: none"> Parts of the road network, which provide an important link to the coast and its attractions from surrounding conurbations, are at risk from flooding and/or erosion; safeguarding the road network is of high importance. The Port of Tyne is a key part of the transport infrastructure; opportunities for growth of this infrastructure should not be compromised and enhanced where appropriate.
Biodiversity, Flora and Fauna	<ul style="list-style-type: none"> There are a number of statutory and non statutory sites designated for their nature conservation value within the study area; many are located within the inter-tidal zone and should be protected or enhanced. There is potential for the loss of intertidal habitat associated with sea level rise and 'coastal squeeze'; areas of rocky foreshore should be protected or enhanced to ensure no net loss of the habitat. The study area supports diverse habitats of flora and fauna which are recognised through national and local Biodiversity Action Plans; these habitats should be protected or enhanced.

Topic	Key Issues and Opportunities
Water	<ul style="list-style-type: none"> ● Coastal water quality currently meets the higher standards under the Bathing Water Directive; minimising pollution and maintaining coastal water quality (or improving it where possible) is important. ● Surface water courses within the study area currently have poor to moderate ecological water quality status; minimising pollution and maintaining surface water quality (or improving it where possible) is important.
Land Use	<ul style="list-style-type: none"> ● The coastal strip is generally maintained in an open state; maintaining or enhancing the open character is important for tourism and recreation. ● Growth and development along the coast should integrate with the protection and enhancement of the natural and historic environment. ● The coast is undergoing a programme of regeneration and development; an appreciation of future projects and land uses is important. ● Land uses related to the Port of Tyne and fishing industries should be supported in appropriate areas along the coast. 
Landscape / Seascape	<ul style="list-style-type: none"> ● The coastal landscape and seascape is defined by a unique combination of landscape, biodiversity, geodiversity and cultural and economic activity; this character should be maintained or enhanced.
Cultural Heritage	<ul style="list-style-type: none"> ● There are several nationally important archaeological sites and historic buildings within the study area; these sites and their setting should be protected and where possible enhanced in a manner commensurate with their significance. ● There are numerous locally important archaeological sites and historic buildings within the study area; these sites and their setting should be protected and where possible enhanced in a manner commensurate with their significance. ● There are several conservation areas along the coast; it is desirable to consider development opportunities that enhance or better reveal their character or appearance. ● There is potential for unidentified (un-designated) archaeology within the study area; it should be appreciated that these sites may be of national significance.
Geology, Soils and Material Assets	<ul style="list-style-type: none"> ● Parts of the coastline are of national geological interest and this is recognised through its designation as a SSSI; preserving these sites is important. 

05 | The Strategic Environmental Assessment Framework

What is a Strategic Environmental Assessment?

The **SEA framework** forms the basis for identifying, measuring and comparing potential environmental effects associated with the different coastal flood and erosion management options developed for the Strategy.

The assessment criterion helps to guide the assessment and provides a focus for the **most important** environmental issues.

A number of **SEA objectives** have been established through; an understanding of the environmental baseline, a review of related plans and programmes, and consultation activities undertaken with stakeholders and the public.

The framework has been used throughout **options development**. Initial high level assessments on a the long list of management options were conducted (alongside other technical, social and economic appraisals) to discount the **most unacceptable alternatives**. The shortlisted options were then subject to a more **detailed assessment**.



SEA Objectives		
Population, Human Health and Recreation	1	Ensure people and property are protected against coastal erosion and flooding risk.
	2	Promote good health and well being through the provision of, and access to, coastal recreational resources.
Local Economy	3	Support the local economy through protection of assets related to the tourism industry.
	4	Recognise and support the role of the fishing and port based industries when considering coastal defence options.
Transport	5	Ensure that the transport infrastructure is protected from coastal change and flooding risk.
Biodiversity, Flora and Fauna	6	Protect and seek to enhance sites designated for their nature conservation value.
	7	Look at opportunities to improve the biodiversity and ecological value of sites through coastal defence management, including priority habitats indicated in BAPs.
Water	8	Minimise pollution to coastal and surface waters and ensure targets established by the Water Bathing Directive and Water Framework Directive are not compromised.
Land Use	9	Protect and enhance existing and proposed land uses.
Landscape/ Seascape	10	Protect and enhance landscapes and seascapes through sympathetic coastal defence management.
Cultural Heritage	11	Conserve and seek to enhance designated archaeological sites and historic buildings, including their setting and provision for access.
	12	Conserve and seek to enhance non-designated historic assets of local interest, including their setting and provision for access.
	13	Maintain and where possible, enhance the distinctiveness and historic character of local settlement.
Geology, Soils and Material Assets	14	Protect and seek to enhance sites designated for their geological interest.

Developing Coastal Management Options and Evaluating the Environmental Effects

In conducting the SEA the **likely significant environmental effects** of implementing the Coastal Strategy were appraised. A number of 'options' were developed and then assessed under the SEA process to understand the **positive** and **negative effects** of each and help to direct decision making towards adoption of the **most appropriate** alternatives.

During the options development process, a series of Policy Units (PU) dividing up the coast were defined and appropriate management policies assigned to each (taking into account adopted policies in SMP2).

A long list of alternatives implementing these policies was then developed based upon a number of generic management options.

Generic Management Option	Description
Do Nothing	Undertake no further work, maintenance or repair on the defences. The defences would deteriorate over time and eventually fail. Natural processes would be allowed to take their course. This option relates to the ' No Active Intervention Policy ' in SMP2.
Do Minimum	A minimum intervention action, with works restricted to a reactive manner, i.e. repairing breaches when they occur. This option relates to the ' Hold the Line Policy ' in SMP2.

Generic Management Option	Description
Do Minimum	Maintaining the defence in a good working order and restoring it to its previous condition in the event of a failure. The maintenance and repair works do not change the defence or its performance. The standard of protection would reduce over time (due to sea level rise and risk from flooding). This option relates to the ' Hold the Line Policy ' in SMP2.
Sustain	An option that responds to potential increases in risk from climate change, urban development and land use change into the future. The defences and the current standard of protection is sustained through works, including construction of new defences where necessary. This option relates to the ' Hold the Line Policy ' in SMP2.
Improve	Improving the defences, usually through replacement with a new structure or the addition of new structural elements. The current standard of protection is increased. This option relates to the ' Hold the Line Policy ' in SMP2.
Managed Realignment	The placement of new defences on the landward side of the existing defences or realignment to higher ground. This option relates to the ' Managed Realignment Policy ' in SMP2.
Advance the Line	Construct new defences seaward of the existing defences to reclaim an area of land. This option relates to the ' Advance the Line Policy ' in SMP2.

06 | The Strategic Environmental Assessment of Options

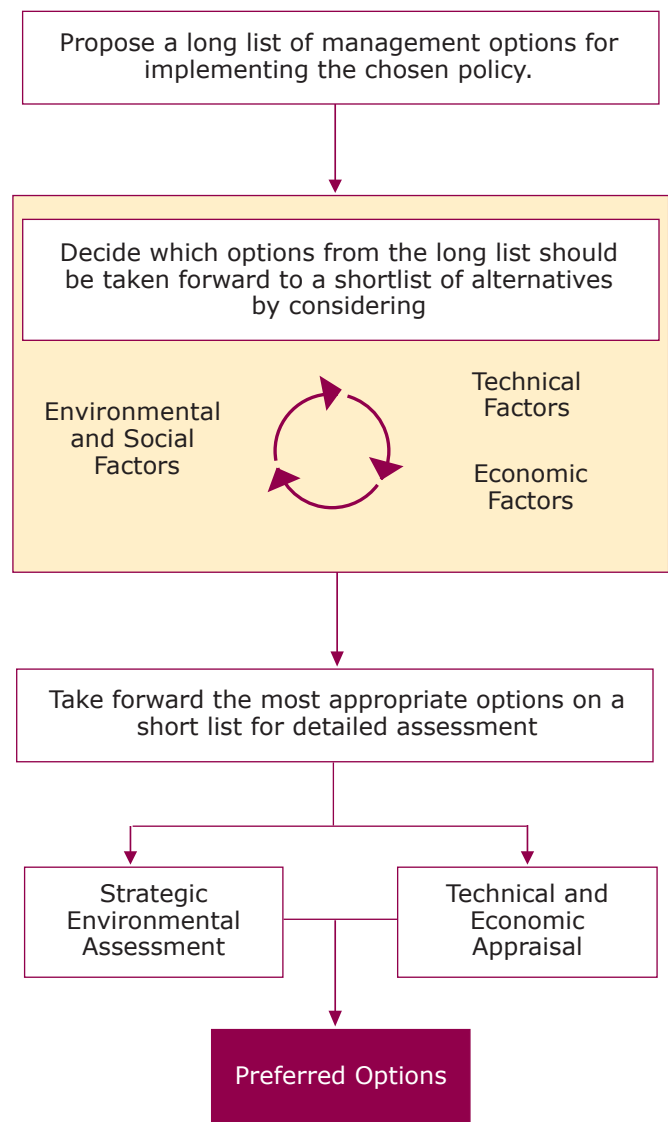
Assessment of Management Options

In conducting the SEA the **likely significant environmental effects** of implementing the Coastal Strategy were appraised.


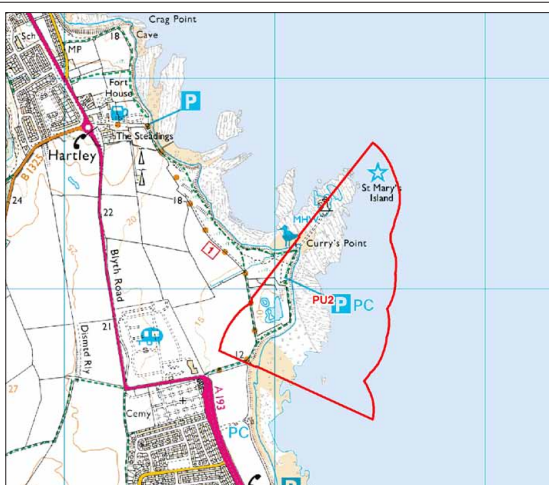

The options developed for each Policy Unit (PU) were assessed to understand the **positive** and **negative effects** of each and help to direct decision making towards adoption of the **most appropriate** alternatives.




Assessments were undertaken several times:

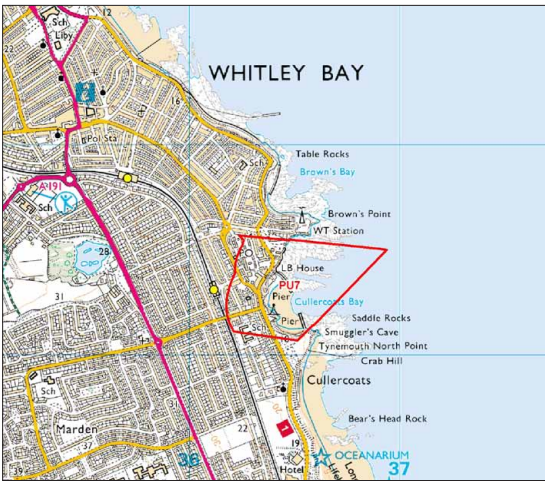


- Firstly, broad assessments were carried out on the **long list** of options, alongside a consideration of other technical and economic factors, to identify any potential issues that may make an option unsuitable.
- The most appropriate alternatives were then placed on a **short list** and taken forward for detailed assessment using the SEA Framework.
- Following this assessment a **preferred option** for each PU was identified.


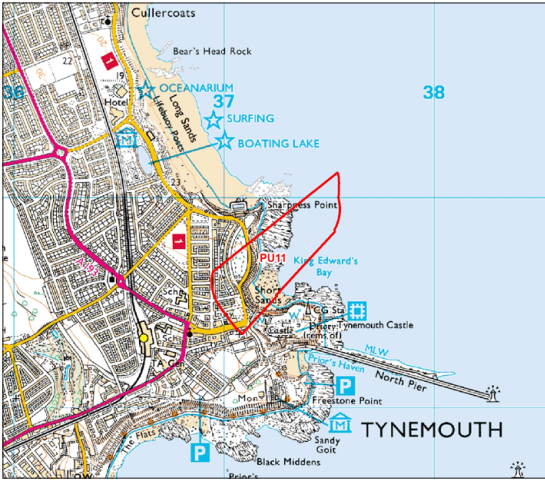
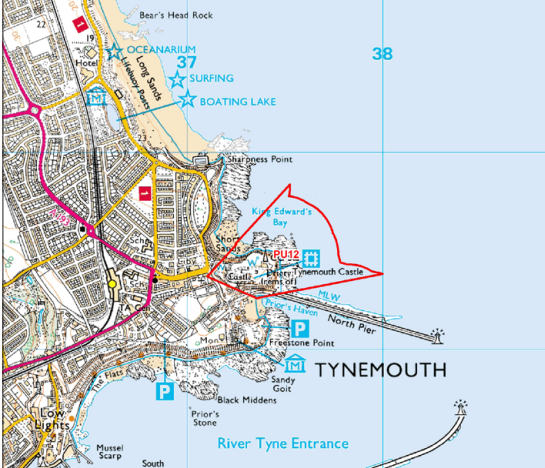


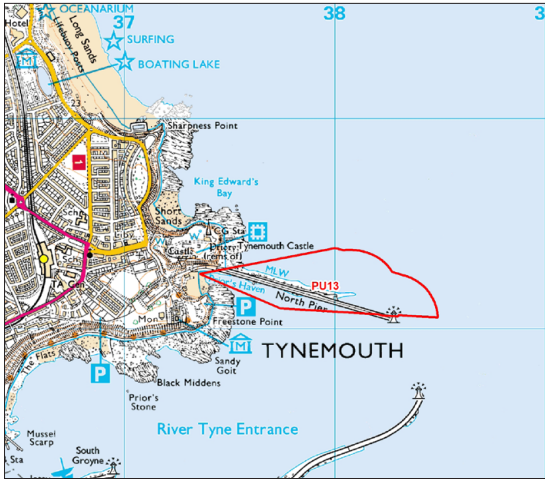
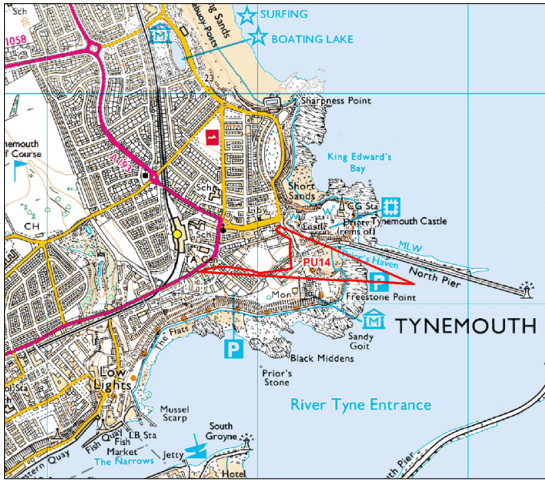

Preferred Options and their Environmental Effects

Policy Unit	Preferred Option	Environmental Effects
	<p>PU1: Hartley Cove to Curry's Point (SMP 24.2)</p> <p>Do Nothing</p>	<p>Under this option the cliffs would be allowed to erode naturally but the access steps would be maintained. Significant effects include:</p> <ul style="list-style-type: none"> eventual loss of a section of Public Right of Way (PRoW) and National Cycleway on the cliff top; erosion of important geological features associated with the Tynemouth to Seaton Sluice SSSI; and, the creation of new rocky shore habitat through natural retreat of the coastline inland, benefitting European protected species.
	<p>PU2: Curry's Point to Trinity Road car park (including St Mary's Island) (SMP 25.1)</p> <p>Do Nothing</p>	<p>This option allows existing defences to be maintained to the end of their serviceable life, after which no new defences would be constructed. Significant effects include:</p> <ul style="list-style-type: none"> loss of rocky shore habitat through 'coastal squeeze' and long term sea level rise will have a negative effect on European protected species.
	<p>PU3 Trinity Road car park to Briardene Burn (SMP 25.2)</p> <p>Managed Realignment</p>	<p>The undefended clay cliffs would be allowed to erode naturally. At either end of the PU, natural processes would be managed to prevent erosion from occurring behind the existing defences. Effects include:</p> <ul style="list-style-type: none"> eventual loss of part of the golf course and a section of PRoW. Loss of the boat house on the beach; and, Potential loss of undesigned archaeology through erosion.

Policy Unit		Preferred Option	Environmental Effects
	<p>PU4: Briardene Burn to Table Rocks (SMP 25.3)</p>	<p>Maintain</p>	<p>This option would allow existing defences to be maintained and then replaced once they reach the end of their serviceable life. Significant effects include:</p> <ul style="list-style-type: none"> • loss of rocky shore habitat through 'coastal squeeze' and long term sea level rise will have a negative effect on European protected species.
	<p>PU5: Table Rocks to Brown's Point (SMP 25.4)</p>	<p>Do Minimum</p>	<p>Existing defences within the policy unit would be maintained until the end of their serviceable life, after which time no new defences would be constructed. Significant effects include:</p> <ul style="list-style-type: none"> • loss of rocky shore habitat through 'coastal squeeze' and long term sea level rise will have a negative effect on European protected species.
	<p>PU6: Brown's Point (SMP 26.1)</p>	<p>Do Nothing</p>	<p>This section of the coast is currently undefended. Under this option no maintenance would be undertaken and no new defences would be constructed. Significant effects include:</p> <ul style="list-style-type: none"> • erosion of important geological features associated with the Tynemouth to Seaton Sluice SSSI.

Policy Unit	Preferred Option	Environmental Effects
	<p>PU7: Cullercoats Bay (SMP 26.2)</p>	<p>Maintain</p> <p>Under this option existing defences would be maintained and then replaced once they have reached the end of their serviceable life. Significant effects include:</p> <ul style="list-style-type: none"> • loss of rocky shore habitat through 'coastal squeeze' and long term sea level rise will have a negative effect on European protected species.
	<p>PU8: Tynemouth North Point (SMP 26.3)</p>	<p>Do Nothing</p> <p>This unit is currently entirely undefended. Under this option no maintenance would be undertaken and no new defences would be constructed. Significant effects include:</p> <ul style="list-style-type: none"> • erosion of important geological features associated with the Tynemouth to Seaton Sluice SSSI.
	<p>PU9: Tynemouth Longsands (SMP 26.4)</p>	<p>Do Minimum</p> <p>This option would allow maintenance of the existing defences, no new defences would be constructed. The dune system would be managed to protect it from erosion. Significant effects include:</p> <ul style="list-style-type: none"> • loss of rocky shore habitat through 'coastal squeeze' and long term sea level rise will have a negative effect on European protected species; • eventual loss of Coastal Sand Dune BAP habitat due to rising sea levels ; and, • Possible loss of ,or damage to, the Tynemouth Open Pool and Lion's Head Fountain.

Policy Unit		Preferred Option	Environmental Effects
	<p>PU10: Sharpness Point (SMP 26.5)</p>	<p>Do Nothing</p>	<p>This PU consists of hard cliffs that are currently undefended. A set of steps provide access to the beach. Under this option no maintenance would be undertaken on the steps and no new defences would be constructed. Significant effects include:</p> <ul style="list-style-type: none"> • loss of access to the beach at this point due to loss of the steps; • sewerage infrastructure would be at risk of erosion; and, • the creation of new rocky shore habitat through natural retreat of the coastline inland, benefitting European protected species.
	<p>PU11: Tynemouth Shortsands (King Edward's Bay) (SMP 26.6)</p>	<p>Maintain</p>	<p>Under this option existing defences would be maintained and then replaced once they reach the end of their serviceable life. Significant effects include:</p> <ul style="list-style-type: none"> • loss of rocky shore habitat through 'coastal squeeze' and long term sea level rise will have a negative effect on European protected species; • partial loss of grounds within the Tynemouth Priory and Castle Scheduled Ancient Monument through erosion and as a result, a permanent alteration to the historic landscape.
	<p>PU12: Tynemouth Headland (SMP 26.7)</p>	<p>Do Nothing</p>	<p>Some cliff stabilisation works have been undertaken by Historic England on Tynemouth Head however, the headland is currently undefended. This option proposes that no maintenance would be undertaken by the Council and no new defences would be constructed. Significant effects include:</p> <ul style="list-style-type: none"> • Potential for some archaeology within the Tynemouth Priory and Castle SAM grounds to be lost through erosion; and, • the creation of new rocky shore habitat through natural retreat of the coastline inland, benefitting European protected species.

Policy Unit	Preferred Option	Environmental Effects
	<p>PU13: Tynemouth North Pier (SMP)</p>	<p>Do Minimum</p> <p>Tynemouth North Pier provides shelter to the mouth of the Tyne affording ships accessing the port protection. The structure is maintained by the Port of Tyne. Other defences in the PU include a small revetment within Prior's Haven. Under this option this defence structure would be maintained by the Council.</p> <p>No significant environmental effects have been identified for this option.</p>
	<p>PU14: Prior's Haven (SMP 27.1)</p>	<p>Do Nothing</p> <p>Prior's Haven contains a small sandy beach and is backed by undefended coastal slopes. Under this option no new defences would be constructed. Significant effects include:</p> <ul style="list-style-type: none"> • The Tynemouth Sailing Club hut would be at risk. Several PROW leading onto the beach could be lost; • partial loss of the car park on the headland through erosion • the creation of new rocky shore habitat through natural retreat of the coastline inland, benefitting European protected species.
	<p>PU15: Tynemouth (The Flatts) (SMP 27.2)</p>	<p>Maintain</p> <p>This option will allow existing defences to be maintained and new defences to be constructed to replace them as necessary. Significant effects include:</p> <ul style="list-style-type: none"> • Properties around the Fish Quay area would be at a higher risk of flooding over the long term due to the effects of climate change; and, • loss of rocky shore habitat through 'coastal squeeze' and long term sea level rise will have a negative effect on European protected species.

07| Mitigation

Developing Mitigation Measures

Mitigation measures aim to **avoid**, **minimise** or **compensate** for predicted adverse effects resulting from a plans policies.

The purpose of any mitigation measure is to **eliminate** the impact, or where this is not possible, **reduce** its significance. If impacts still remain then the next option should be to **remedy** the damage or **compensate** for it.

The identification of appropriate mitigation takes place throughout each stage of development, beginning with high level plans and continuing through to project level designs. The different levels of mitigation include:

- **Strategic mitigation** – a consideration of alternative sites/policies;
- **Mitigation through design** – changes to the scheme layout or changes to the methods and materials used in construction;
- **Mitigation through management** - measures controlling working practice e.g. dust control, working hours.



Strategic mitigation is an **inherent** component of SEA. During the assessment a number of policies for coastal management have been considered and an assessment of their environmental effects (alongside other technical, economic and social factors) has been used to select those options that are **most appropriate**.

Due to the strategic nature of the Coastal Strategy individual defence schemes have not yet been defined. Whilst some general design and management mitigation has been recommended at this stage, further measures will be identified following any detailed project level environmental assessments.

Key Mitigation Measures

- Produce a '**Coastal Public Access Strategy**' to manage and consolidate public access points onto the foreshore, avoiding access on areas where wintering and wading birds may be disturbed. The strategy should ensure that any loss of access is compensated for in other appropriate areas.
- **Relocate** or **divert** Public Rights of Way (PRoW) and cycleways inland on undefended sections of the coast.
- Improve **surfacing** and **furniture** on nearby recreation routes to compensate for any lost sections.
- Time construction works so they take place outside of the **main tourist season**.
- Support local businesses in preparing applications for grants and funding for localised flood defences or warning systems.
- Construction works should be **timed** or **located** to avoid closure to the **key transport routes** or during peak periods.
- Undertake **foreshore surveys** to gain a better understanding of the number of protected species and their favoured location along the coast. Use this information to inform design of the defences and access points on the coast.
- Implement a '**Regional Habitat Creation Programme**' to compensate for loss of rocky shore habitat in the study area. Work with neighbouring authorities to allow managed retreat of the coastline on appropriate substrates within range of the species populations.
- Where possible incorporate habitats into the **design** of coastal defence structures e.g. ledges to act as secure high tide roosts.
- Liaise with **utilities companies** to identify any possible infrastructure at risk and work with them to ensure this apparatus is relocated, protected or upgraded.
- Design new defences so they are sensitive to the local townscape, seascape and landscape character. This can be achieved through the production of a '**design guide for the coast**' which should be followed for all schemes to ensure a consistent use of appropriate materials, furniture and signage.
- Conduct a **measured survey** or **photographic record** of locally designated assets at risk and deposit the information in the Historic Environment Record.



08| Implementation and Monitoring

Implementing and Monitoring the Coastal Strategy

Any potentially significant environmental effects arising from the implementation of the Coastal Strategy need to be **monitored**. This helps to identify the scale and magnitude of effects at an early stage and also allows appropriate **remedial action** to be undertaken where appropriate.

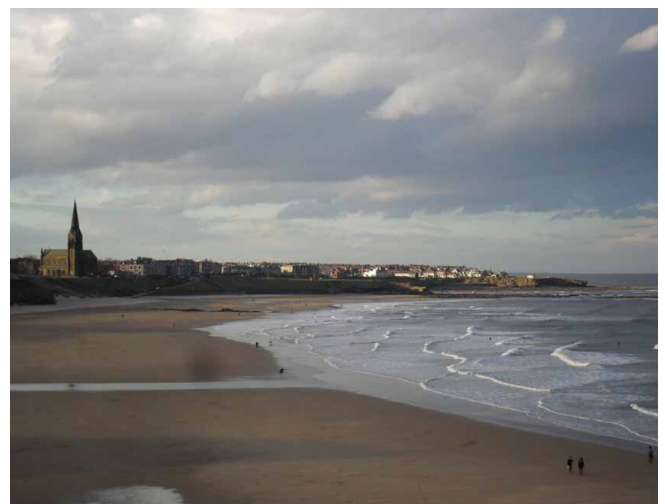
The key principles of implementation and

- Ensure proposed mitigation measures are fully implemented and are **effective**;
- Monitor all the significant environment effects identified during the assessments and documented in the Environmental Report. This includes all significant positive, negative, foreseen and unforeseen environmental effects; and,
- Avoid the **duplication** of monitoring by utilising any existing monitoring programmes.

A total of 40 **indicators** have been identified to determine if the Coastal Strategy is meeting its environmental objectives (see example box). In the majority of cases the data required to monitor these indicators is already being collected by North Tyneside Council or other statutory agencies (i.e. Historic England, Natural England).

Indicators for monitoring the Coastal Strategy

- The number of properties at risk from flooding or coastal erosion.
- The length of PRow and cycleways within the Strategy area.
- The number of defences in 'good' condition.
- The number of beaches awarded Blue Flag and Quality Award Status.
- The number of pedestrian/cyclist trips on coastal routes.
- The number of SSSI units in 'favourable' condition.
- The number of designated historic assets in a good condition.



09| Consultation

Invitation to Comment on the Draft Coastal Strategy

This document forms the Non Technical Summary to the Strategic Environmental Assessment (SEA) of the Hartley Cove to the River Tyne Coastal Strategy.

The purpose of the SEA Environmental Report is to present information on the likely environmental effects of the draft Strategy as identified through: a review of other relevant plans and policies; a review of the environmental, economic and social baseline; and feedback following a series of consultation exercises with key stakeholders and the public.

The draft SEA along with the draft Coastal Strategy is open to consultation for **5 weeks**, from 14th November 2016 to 16th December 2016.

Please send responses or comments on this consultation to:

The Environment Team
Capita Property & Infrastructure
Kingmoor Business Park
Carlisle
Cumbria
CA6 4SJ

Or email: ntccoastalstrategy@capita.co.uk



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