Ayrshire Shoreline Management Plan

Strategic Environmental Assessment Statement

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Strategic Environmental Assessment

Statement

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ABBREVIATIONS

AA	Appropriate Assessment
BGS	British Geological Survey
EIA	Environmental Impact Assessment
ESA	Environmentally Sensitive Area
EU	European Union
GHG	Greenhouse Gas
IED	Industrial Emissions Directive
HRA	Habitats Regulations Appraisal
LA	Local Authority
LAP	Local Area Plan
LNR	Local Nature Reserve
MoD	Ministry of Defence
P/P	Plan / Programme
PPC	Pollution Prevention and Control
SAC	Special Areas of Conservation
SEA	Strategic Environmental Assessment
SEO	Strategic Environmental Objective
SEPA	Scottish Environment Protection Agency
SMP	Shoreline Management Plan
SNH	Scottish Natural Heritage
SPA	Special Protection Areas
SSSI	Sites of Special Scientific Interest
UNESCO	United Nations Educational, Scientific and Cultural Organisation
WFD	Water Framework Directive
WHS	World Heritage Site
WTW	Water Treatment Works
WWTW	Waste Water Treatment Works

1 INTRODUCTION

1.1 PURPOSE OF THIS REPORT

This Strategic Environmental Assessment (SEA) Statement has been prepared as part of the SEA for the Ayrshire Shoreline Management Plan (SMP). This document provides information on the Ayrshire SMP decision-making process and documents how environmental considerations, the views of consultees, the recommendations of the Environmental Report and the assessment carried out under Article 6 of the Habitats Directive have been taken into account by the Ayrshire SMP.

The requirement for an SMP covering the Ayrshire coastline was identified by SEPA through the development of the Ayrshire Local Flood Risk Management Strategy. It is a large-scale assessment of the risks associated with coastal processes and helps to inform the management of these risks to people and the developed, historic and natural environment. The purpose of the SMP is to provide guidance to operating authorities and regulatory bodies as to future sustainable flood and coastal erosion risk management; essentially providing an agreed high level approach, intent and framework for management. In addition, the SMP aims to provide guidance to planners, individuals and organisations with interests along the shoreline, setting out an understanding of coastal behaviour, the pressures, constraints and opportunities for the sustainable use of the coastal zone to guide others in their own planning.

The administrative boundaries of the Ayrshire SMP are defined by the coastal extents of the North Ayrshire Council and South Ayrshire Council operational areas. The northern extent of the Ayrshire SMP is the town of Skelmorlie on the Ayrshire coast whilst the southern extent of the Ayrshire SMP is the Galloway Burn on the northern shore of Loch Ryan. The inland and offshore extents of the Ayrshire SMP are within approximately 1km of the coastline. The SMP also includes the shorelines of Great Cumbrae and the Isle of Arran. There is a high level of coastal flood risk within the SMP area, with significant coastal flood events having occurred in the past.

This SEA Statement has been prepared in accordance with the Environmental Assessment (Scotland) Act 2005, implementing the European Union Directive 2001/42/EC on the Assessment of the Effects of Certain Plans and Programmes on the Environment. The Final Ayrshire SMP and this SEA Statement are available to download on the North Ayrshire Council and South Ayrshire Council websites.

2 SUMMARY OF SEA PROCESS

The SEA Directive requires that certain Plans and Programmes, prepared by statutory bodies, which are likely to have a significant impact on the environment, are subject to the SEA process. The SEA process is broadly comprised of the stages shown in **Figure 2.1.** A summary description of each stage is provided in **Table 2.1**.

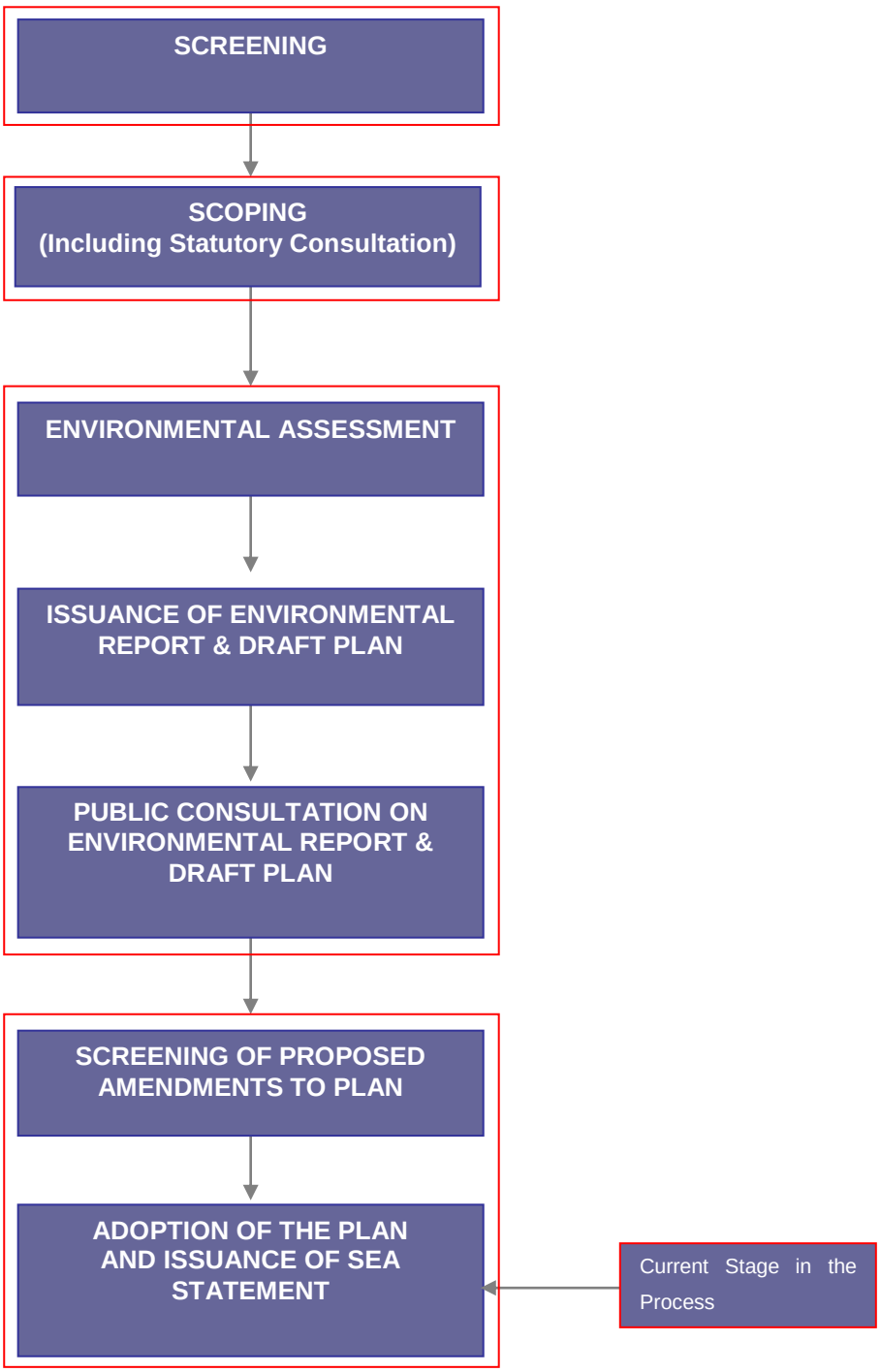

Figure 2.1 Overview of SEA Process

Table 2.1 Summary Description of Main Stages in the SEA Process

Stages	Description	Status
Screening	Determines whether SEA is required for a Plan / Programme, in consultation with the designated statutory consultees.	Completed January 2017
Scoping	Determines the scope and level of detail of the assessment for the SEA, in consultation with the designated statutory consultees.	Completed April 2017
Environmental Assessment	Formal and transparent assessment of the likely significant impacts on the environment arising from the Plan / Programme, including all reasonable alternatives. The output from this was an Environmental Report, which went on public display along with the draft Plan.	Completed November 2017
SEA Statement	Summarises the process undertaken and identifies how environmental considerations and consultations have been integrated into the final Plan / Programme.	Current Stage

2.1 SEA SCREENING

An SEA Screening for the Ayrshire SMP was carried out in September 2016 to demonstrate how:

- North Ayrshire Council and South Ayrshire Council are together the Responsible Authority for the development and implementation of the Ayrshire Shoreline Management Plan.

- The Responsible Authority determined that the Ayrshire Shoreline Management Plan required a Strategic Environmental Assessment (SEA), as the likelihood existed for significant environmental effects to arise as a result of the Plan. The Plan falls within Section 5(3) of the Environmental Assessment (Scotland) Act 2005.

- The Responsible Authority had identified that as the Ayrshire Shoreline Management Plan sets the framework for future shoreline works along the Ayrshire coast, there is the potential for significant impacts as a result of the scale and duration of effects and that sensitive receptors along the Ayrshire coast include SAC, SPA, SSSIs and LNRs.

Responses to the SEA Screening from the Scottish Environment Protection Agency (SEPA), Scottish Government, Scottish Natural Heritage and Historic Environment Scotland can be found in Appendix A of the SEA Environmental Report. The SEA Screening Determination was advertised in local papers and on the North Ayrshire Council and South Ayrshire Council websites, and was also provided to the environmental consultees in January 2017.

2.2 SEA SCOPING

The SEA Scoping for the SMP took place in April 2017. A Scoping Report was produced as part of the scoping phase of the SEA. The purpose of the Scoping Report was to provide sufficient information on the SMP to enable the consultees to form an opinion on the appropriateness of the scope, format, level of detail, methodology for assessment and the consultation period proposed for the Environmental Report.

Under Article 6 of the SEA Directive, the competent authority preparing the Plan or Programme (in this case North Ayrshire Council and South Ayrshire Council jointly) is required to consult with specific environmental authorities (statutory consultees) on the scope and level of detail of the information to be included in the Environmental Report. The statutory consultees established within Scottish SEA legislation are:

- Scottish Environment Protection Agency (SEPA)
- Scottish Natural Heritage (SNH)
- Historic Environment Scotland (HES)

The responses received in relation to the Scoping for this SEA can be found in Appendix C of the SEA Environmental Report. Where possible these responses were integrated into the SMP, the assessment process and the environmental report.

2.3 ENVIRONMENTAL ASSESSMENT AND ENVIRONMENTAL REPORT

An SEA Environmental Report was completed that detailed the environmental assessments undertaken on the draft SMP. The preparation of an Environmental Report on the likely significant effect on the environment of the SMP included consideration of:

- Baseline data relating to the current state of the environment;

- Links between the SMP and other relevant Strategies, Policies, Plans, Programmes and Environmental Protection Objectives;

- Key environmental issues in the area of the SMP;

- Alternatives available;

- The likely significant positive and negative effects of a number of reasonable alternatives on the environment;

- Measures envisaged for the prevention, reduction and mitigation of any significant adverse effects; and

- Monitoring measures to ensure that positive and negative environmental effects will be identified, allowing for appropriate remedial action to be taken if necessary.

2.4 CONSULTATIONS

Environmental factors were taken into account at every stage of the development of the SMP and its supporting environmental assessments. This was achieved through a range of consultation activities including Public Consultation Days and web-based consultation and communication.

The SEA Screening Report was produced in January 2017 and was sent to the three statutory authorities listed in **Section 2.2**. The responses received are included in Appendix A of the SEA Environmental Report.

An SEA Scoping Report for the SMP was circulated to the statutory consultees listed in **Section 2.2** in April 2017. The responses received are included in Appendix C of the SEA Environmental Report. Where possible these responses were integrated into the SMP, the assessment process and the environmental report.

Non-statutory stakeholders that were present or active within the study area were provided with a Stakeholder Consultation Report in May 2017 to introduce them to the study and to ask for any information they held that could influence the development of the SMP. The non-statutory stakeholders included in this consultation were as follows:

- EDF Energy (Hunterston)
- Largs Golf Club
- Routenburn Golf Club
- West Kilbride Golf Club
- Auchenharvie Golf Course
- Studio Golf Ayrshire

- Irvine Bogside Golf Club
- Gailes Link
- Western Gailes Golf Club
- Dundonald Links
- Kilmarnock (Barassie) Golf Club
- Troon Yacht Havens
- Darley Golf Course
- Fullarton Golf Course
- Lochgreen Golf Course
- Royal Troon Golf Club
- Prestwick Golf Club
- Prestwick St Nicholas Golf Club
- Prestwick St Cuthbert
- Dalmilling Golf Club
- Seafield Golf Course
- Belleisle Golf Club
- Trump Turnberry Ailsa
- Girvan Golf Course
- Brodick Golf Club
- Futurescape
- Ayrshire River Trust
- National Farmers Union
- Community of Arran Seabed Trust
- Whiting Bay and Districts Improvements Association

Where possible the responses from these stakeholders were integrated into the SMP, the assessment process and the environmental report.

Public Consultation Days (PCDs) provided for the consideration of environmental issues as part of the SMP development process. These events took place during the 12 week public consultation period on the draft SMP, between 29th January 2018 and 20th April 2018, and provided local groups, including the non-statutory stakeholders and members of the public with the opportunity to meet and discuss the development of the SMP and its associated environmental assessments. Such consultation activities also provided a means to elicit views and information from interested parties in relation to issues of local value and environmental concern relevant to the ongoing environmental assessments.

The opportunity was taken throughout the consultation process to increase public and stakeholder understanding in relation to the proposed policies for each sub-cell and policy unit and to further advise them with respect to the consultation process; and in particular to the consultation period, the means by which to make submissions and the process and likely timescale for finalising the SMP. North Ayrshire and South Ayrshire Councils and their project partners also developed online questionnaires for any members of the public that wanted to make digital submissions throughout the public consultation period.

The PCDs that were held for the draft SMP were as follows:

- Irvine Library – Monday 19th February 2018
- Millport Library – Tuesday 20th February 2018
- Ardrossan Civic Centre – Wednesday 21st February 2018
- Arran Library – Thursday 22nd February 2018
- Largs Library – Friday 23rd February 2018

- Prestwick Library – Monday 5th March 2018
- Carnegie Library – Tuesday 6th February 2018
- Girvan Library – Wednesday 7th March 2018
- Troon Library – Thursday 8th March 2018

Staff members from North Ayrshire Council, South Ayrshire Council and RPS were on hand to meet and discuss the draft SMP and environmental assessments with the public and local stakeholders at each event. Rolling presentations, maps of the sub-cells and policy units, and banners describing the draft SMP were all provided at each PCD. All comments received were recorded by the consultation team to provide feedback to and influence the SMP. Photographs from a number of the PCDs are shown in **Figure 2.2** to **Figure 2.6**. A summary of the public and statutory submissions received during this 12-week consultation period, how the responses were actioned or how they will be taken into consideration in the future, is provided in **Appendix A**.

Figure 2.2 Irvine Library PCD – Photo 1

Figure 2.3 Irvine Library PCD – Photo 2

Figure 2.4 Arran Library PCD – Photo 1

Figure 2.5 Arran Library PCD – Photo 2

Figure 2.6 Largs Library PCD – Photo 1

2.5 APPROPRIATE ASSESSMENT AND HABITATS REGULATIONS APPRAISAL

In addition to the SEA process, and in accordance with the EU Habitats Directive (92/43/EEC), the potential for the SMP to impact negatively on Natura 2000 sites, including Special Protection Areas (SPAs) for birds and Special Areas of Conservation (SACs) for habitats and species, was assessed. Article 6(3) of the Habitats Directive requires that;

"Any plan or project not directly connected with or necessary to the conservation of a site but likely to have a significant effect thereon, either individually or in combination with other plans or projects, shall be subject to appropriate assessment of its implications for the site in view of the site's conservation objectives."

An Appropriate Assessment (AA) Screening (Stage 1 of the AA process) was undertaken for the SMP in order to identify the potential European sites that may be negatively impacted by development arising from the SMP. A Habitats Regulations Appraisal (HRA) (AA Stage 2) was undertaken in parallel with the SEA process, with the output forming an HRA Record. The HRA investigated the potential direct and indirect impacts of the proposals on the integrity and interest features of European sites, alone and in-combination with other plans and projects, taking into account the sites' structure, function and conservation objectives. The findings of the HRA were used to guide the development of the options to be considered as part of the SMP and SEA.

2.6 SEA STATEMENT

The main purpose of this SEA Statement is to provide information on the decision-making process for the SMP in order to illustrate how decisions were taken and used to make the development process more transparent. In doing so, the SEA Statement documents how the recommendations of both the SEA Environmental Report and the HRA, as well as the views of the statutory consultees and other submissions received during consultation, have influenced the preparation of the SMP. It further provides information on the arrangements put in place for monitoring the implementation of the SMP following its finalisation. The SEA Statement is available to the public, along with the adopted SMP.

The SEA Statement includes the following information:

- Summary of how environmental considerations have been integrated into the SMP;
- Summary of how submissions received during consultation have been taken into account in the SMP;

- Reasons for choosing the recommended policies, in light of alternative policies considered; and

- Measures that are to be undertaken to monitor and mitigate any significant environmental effects of implementing the SMP.

2.7 ADOPTION OF THE SMP

The Ayrshire SMP was finalised and then adopted by North Ayrshire Council and South Ayrshire Council in September 2018. The SMP, along with the SEA Environmental Report and HRA Record will be used to provide guidance to operating authorities and regulatory bodies as to future sustainable coastal flood and erosion risk management along the Ayrshire shoreline. It will further be used to provide guidance to planners, individuals and organisations with interests in this area of coastline, setting out an understanding of coastal behaviour, the pressures, constraints and opportunities for the sustainable use of the coastal zone to guide others in their own planning.

3 INFLUENCE OF THE SEA ON THE SMP

The Plan and SEA teams for the Ayrshire SMP worked together throughout the SMP development process. The SEA Environmental Report for the Ayrshire SMP was produced to assess the environmental impacts of the policy options proposed by the SMP and to provide environmental guidance to help create a more sustainable SMP. The policies proposed in the SMP were all potential alternatives and were based upon an assessment of the coastal processes which take place within each individual sub-cell and policy unit. The policies proposed under the draft SMP were not fixed and as a consequence the outcomes of the environmental assessment served to influence the outcomes of the SMP to mitigate, and where possible avoid, potential negative impacts on the wider environment, while maximising the potential benefits.

3.1 ENVIRONMENTAL ASSESSMENT OF PREFERRED POLICIES

The long list of alternative policies for the SMP were assessed amongst the working group which consisted of Plan, SEA and HRA team members, from North Ayrshire Council, South Ayrshire Council, SEPA and RPS. Working through the various alternatives and taking into account technical, environmental, social and economic justifications, at a high level, preferred sustainable policies were put forward for inclusion in the draft SMP. Within the SEA Environmental Report these preferred policies were then fully assessed in terms of their potential positive and negative impacts, and the significance of these impacts upon the environment in comparison to SEA objectives. The purpose of this was to predict and evaluate, as far as possible, the environmental effects of the SMP, highlighting any significant environmental problems and / or benefits that were likely to arise from its implementation. Where possible, the assessment was quantitative, with a graphical output to aid public appreciation and understanding of the implications of each proposed policy.

The SMP was assessed via a Baseline Led Assessment. This method involved the assessment of each option available in the enactment of the SMP against each of the following headings/subjects:

- Biodiversity, Flora and Fauna (BFF)
- Population and Human Health (PHH)
- Geology, Soils and Landuse (S)
- Water (W)
- Climatic Factors (C)
- Material Assets and Infrastructure (MA)
- Cultural, Architectural and Archaeological Heritage (H)
- Landscape and Visual Amenity (L)

Each alternative available in the SMP was assessed in the short, medium and long term for likely effects, the significance of effects, and whether they were positive or negative effects. Other impacts that have been assessed for significance are secondary effects, cumulative effects, synergistic effects, temporary and permanent effects, and the inter-relationship of effects. The scenario of "The Evolution of the Environment without the Plan" was also been assessed in the same format. This was considered the Do-Nothing Scenario.

All potential positive and negative impacts were presented individually, with a text description, and then a summary graphic. In addition, a summary of the overall balanced potential effect was presented for each environmental heading / subject.

The scores assigned to impacts ranged from +3 to -3 as demonstrated in **Table 3.1**. If an alternative was thought to have the potential for unacceptable impacts a score of -999 could have been assigned, however none were anticipated. The purpose of adding numerical scores was to assist in the ranking of options and for potential incorporation of the environmental and social criteria into future decision making by the Plan team, as a numerical score could easily be tied into a multi-criteria analysis of alternatives if desired.

Table 3.1 Description of SEA Environmental Impact Scores

Score	Description
+3	Significant positive environmental impacts
+2	Moderate positive environmental impacts
+1	Slight positive environmental impacts
0	No environmental impacts
-1	Slight negative environmental impacts
-2	Moderate negative environmental impacts
-3	Significant negative environmental impacts
-999	Unacceptable impacts

3.2 SEA OBJECTIVES

The proposed strategic policy options for consideration were assessed against the SEA Objectives to examine the likely significant environmental impacts of the SMP. These were referred to as the Strategic Environmental Objectives (SEOs). The SEOs, Sub-Objectives, Indicators and Targets used

are given in **Table 3.3** while **Table 3.2** demonstrates the compatibility of the SMP Objectives with the SEOs.

Table 3.2 Compatibility of Objectives

SMP Objective	Compatible SEOs
Setting out the risks from flooding and erosion to people and the developed, historic and natural environment within the SMP area	• Population & Human Health • Geology, Soils and Landuse • Material Assets & Infrastructure • Cultural, Architectural & Archaeological Heritage
Identifying opportunities to maintain and improve the environment by managing the risks from floods and coastal erosion	• Biodiversity, Flora & Fauna • Geology, Soils and Landuse • Water • Landscape & Visual Amenity
Identifying the preferred policies for managing risks from floods and erosion over the next century	• Population & Human Health • Geology, Soils and Landuse • Material Assets & Infrastructure • Cultural, Architectural & Archaeological Heritage
Identifying the consequences of putting the preferred policies into practice	• Population & Human Health • Geology, Soils and Landuse • Material Assets & Infrastructure
Setting out procedures for monitoring how effective these policies are	• All
Informing others so that future land use, planning and development of the shoreline takes account of the risks and the preferred policies	• Population & Human Health • Geology, Soils and Landuse • Material Assets & Infrastructure
Discouraging inappropriate development in areas where the flood and erosion risks are high	• Population & Human Health • Geology, Soils and Landuse • Material Assets & Infrastructure
Ensuring compliance with international and national nature conservation legislation and aiming to achieve the biodiversity objectives	• Biodiversity, Flora & Fauna • Geology, Soils and Landuse • Water • Landscape & Visual Amenity

Table 3.3 Strategic Environmental Objectives

Criteria	Objective		Sub-Objective		Indicators	Minimum Requirement	Aspirational Target
Biodiversity, Flora & Fauna	**1**	Avoid damage to, and where possible enhance, the biodiversity, flora and fauna in the vicinity of the shoreline.	**A**	Avoid detrimental effects to, and where possible enhance, International and European designations for protected species and their key habitats.	Areas of SAC, SPA, WHS and Ramsar designation. Numbers of protected species.	No loss of area of or negative impacts on International and European sites and protected species.	Potential enhancement of and increased protection for International and European sites and protected species.
			B	Avoid damage to or loss of, and where possible enhance, national and local nature conservation sites and protected species, or other know species of conservation concern.	Areas of SSSI, LNRs, MCAs and local conservation designations. Numbers of protected species.	No loss of area of or negative impacts on national and local conservation sites and species.	Potential enhancement of and increased protection for national and local conservation sites and species.
Population & Human Health	**2**	Protect the public from risk of flooding and coastal erosion.	**A**	Protect the public from risk of flooding and coastal erosion.	Population at risk of flooding and erosion.	No increase in population at risk of flooding and erosion.	No population at risk of flooding and erosion.
Geology, Soils and Landuse	**3**	Maintain or improve areas of existing functional soil and land resource.	**A**	Maintain or improve areas of existing functional soil and land resource.	Areas of functional soil and land resource at risk of flooding and erosion.	Minimise the loss of functional soil and land resource, where not in conflict with natural processes.	Improvement of functional soil and land resource, where not in conflict with natural processes.
Water	**4**	Protect and enhance the state of the water environment.	**A**	Protect and enhance the state of the water environment.	Coastal morphology and waterbody status.	No deterioration of status of coastal and transitional waterbodies.	Contribute to the improvement of status of coastal and transitional waterbodies.
Climatic Factors	**5**	Adaptation to potential climatic change.	**A**	Adaptation of shoreline management to potential climatic change.	Interaction with potential climate change influenced flood extents / wave overtopping and severe weather events.	SMP actions to demonstrate adaptability to climatic change.	SMP actions to be planned for climatic change.

Criteria	Objective		Sub-Objective		Indicators	Minimum Requirement	Aspirational Target
Material Assets & Infrastructure	**6**	Protect material assets and infrastructure from risk of flooding and coastal erosion.	**A**	Protect material assets and infrastructure from risk of flooding and coastal erosion.	Material assets and infrastructure at risk from flooding and erosion.	No increase in material assets and infrastructure at risk of flooding and erosion.	No material assets and infrastructure at risk of flooding and erosion.
Cultural, Architectural & Archaeological Heritage	**7**	Protect or enhance historic environment features and their settings.	**A**	Avoid loss of, or damage to, heritage features.	International, National and local designated heritage structures, sites and monuments.	No loss or damage to heritage features, or their setting, from construction and operation of proposed measures.	Increased protection / preservation for heritage features and improvement of setting.
			B	Minimise effects on the setting of heritage features.			
Landscape & Visual Amenity	**8**	Protect, and where possible enhance the landscape character and visual amenity of the Ayrshire shoreline.	**A**	Protect, and where possible enhance the landscape character and visual amenity of the Ayrshire shoreline.	Landscape character assessments. Designated landscapes and views.	No significant negative impacts on landscape quality and amenity of the Ayrshire shoreline.	Enhancement of the landscape and visual amenity of the Ayrshire shoreline.

4 PREFERRED POLICY AND REASON FOR CHOOSING THE FINAL PLAN

4.1 ALTERNATIVES CONSIDERED

The four high level SMP policies available to shoreline managers as defined by national guidance are listed below:

- **Advance the existing defence line:** allow new defences to be built on the seaward side of the original defences. Use of this policy is generally limited to those policy units where significant land reclamation is considered likely / desirable. It should be noted that setting this policy for a section of shoreline does not represent a requirement that actions must be taken to advance the defence line, rather it indicates that these actions are considered acceptable, however it is important to note that lesser actions which will hold the existing defence line are also acceptable.
- **Hold the existing defence line:** allow maintenance or improvement of the standard of protection presently afforded. In addition to covering situations where the existing defence structures need to be maintained, this policy also covers those situations where work or operations are carried out in front of the existing defences (such as beach recharge, rebuilding the toe of a structure, building offshore breakwaters and so on) to improve or maintain the standard of protection provided by the existing defence line. This policy also includes other policies that involve operations to the rear of existing defences (such as building secondary floodwalls) where they form an essential part of maintaining the current coastal defence system.
- **Managed Realignment:** this represents a policy of allowing the shoreline to move backwards or forwards, with management to control or limit movement (such as reducing erosion or building new defences on the landward side of the original defences).
- **No Active Intervention:** whereby there is no investment in coastal defences or operations and the shoreline is either allowed to remain in a natural state or to revert to a natural state.

These policies presented an alternative to the present approach which is being undertaken to manage each sub-cell and policy unit along the Ayrshire shoreline. The alternative polices which were adopted in the Final SMP are summarised in the following section.

A summary of the policy defined for each policy unit in the short, medium and long-term is given in **Table 4.1** where:

- HTL – Hold the Line
- ATL – Advance the line
- NAI – No active intervention
- MR – Managed Realignment

Table 4.1 Policy Unit Summary table

Sub-cell	Policy unit		Short-term policy	Medium-term policy	Long-term policy
6b1	6b1.1	Skelmorlie to Largs	HTL	HTL	HTL
	6b1.2	Largs to Hunterston Ore Terminal	HTL	HTL	HTL
6b2	6b2.1	Hunterston	ATL	ATL	ATL
	6b2.2	Hunterston to Farland Head	NAI	NAI	NAI
6c1	6c1.1	Farland Head to Ardrossan	HTL	HTL	HTL
6c2	6c2.1	Ardrossan to Stevenston	HTL	HTL	HTL
	6c2.2	Stevenston to Irvine Bay	HTL	HTL	HTL
	6c2.3	Irvine Bay to Gailes Burn	HTL	HTL	HTL
	6c2.4	Gailes Burn to Troon	HTL	HTL	HTL
6c3	6c3.1	Troon to Ayr	HTL	HTL	HTL
6c4	6c4.1	Ayr to Grenan Castle	HTL	HTL	HTL
	6c4.2	Grenan Castle to Dunure	NAI	NAI	NAI
6c5	6c5.1	Dunure to Turnberry	NAI	NAI	NAI
6c6	6c6.1	Turnberry to North Girvan	NAI	NAI	NAI
	6c6.2	Girvan	HTL	HTL	HTL
	6c6.3	South Girvan to Bennane Head	HTL	HTL / MR	HTL / MR
6d1	6d1.1	Bennane Head to Ballantrae	HTL	HTL / MR	HTL / MR
	6d1.2	Ballantrae to Currarie Port	NAI	NAI	NAI
6d2	6d2.1	Currarie Port to Galloway Burn	NAI	NAI	NAI
A1	A1.1	Lochranza	HTL	HTL	HTL
	A1.2	Lochranza to Sannox	NAI	NAI	NAI
	A1.3	Sannox to Brodick	HTL	HTL / MR	HTL / MR
	A1.4	Brodick	HTL	HTL	HTL
	A1.5	Brodick to Clauchlands Point	NAI	NAI	NAI
A2	A2.1	Clauchlands Point to Lamlash	NAI	NAI	NAI
	A2.2	Lamlash	HTL	HTL	HTL
	A2.3	Lamlash to Kingscross Point	NAI	NAI	NAI
A3	A3.1	Whiting Bay	HTL	HTL	HTL
	A3.2	Largymore to Drumadoon Point	NAI	NAI	NAI
A4	A4.1	Drumadoon Point to Tormore	NAI	NAI	NAI
	A4.2	Machrie Bay to Lochranza	HTL	HTL / MR	HTL / MR
Great Cumbrae	Great Cumbrae	Great Cumbrae	HTL	HTL / MR	HTL / MR

It is important to note the whilst there is reasonable confidence in the sustainability of the recommended short term policies, the present incomplete understanding of effects of climate change,

particularly the rate of sea level rise, means there is progressively less confidence in the sustainability of the medium and long term policies. Consequently the Ayrshire SMP needs to be seen as a live document subject to regular review as climate change predictions are updated and the actual rate of future sea level rise becomes better understood. This is particularly true for those policy units along the Ayrshire coast where the long-term strategy is hold the line, as while this has been considered sustainable based on the current recommendations for sea level rise there are alternative models that predict much greater rates of sea level change and if these prove to be correct this policy may not be sustainable.

In developing the recommended policies for each policy unit it was recognised that the highly developed nature of the Ayrshire coastline could result in significant social impact if a policy that does not hold the line for the longer term was adopted for such areas. Consequently both North or South Ayrshire Council representatives were opposed to the promotion of policies such as managed realignment or no active intervention in such areas if a hold the line option was considered technically feasible until a central policy for the management of relocation of at risk properties in Scotland is established.

A summary of the key environmental designations and potential impacts of implementing the policies within each sub-cell is provided in Section 5 of the SMP.

4.1.1 Sub-cell 6B1

4.1.1.1 6B1.1 Skelmorlie to Largs (Hold the Line)

The preferred policy for this Policy Unit is Hold the Line in order to provide protection for the road. This policy provides for the maintenance or improvement of the standard of protection presently afforded. . Implementation of the SMP will therefore require maintenance of the current defences and potential extension and improvement of the defences in the medium to long-term. This is anticipated to have minimal impact on the sediment regime within sub-cell 6b1.

The construction and rehabilitation of hard defences within this Policy Unit has the potential for short, medium and long-term, negative impacts upon the conservation objectives of the Inner Clyde SPA and Ramsar site. There is the potential also for short, medium and long term negative impacts upon Southannan Sands SSSI. It should be possible to mitigate for disturbance with appropriate timing of works, and for coastal squeeze impacts with careful planning and design of shoreline protection measures. Mitigation measures are proposed within Section 8.1 of the SEA Environmental Report and have been adopted into Section 7.1 of the Final SMP.

4.1.1.2 6B1.2 Largs to Fairlie (Hold the Line)

The preferred policy for this Policy Unit is Hold the Line to protect properties and roads from coastal flooding and erosion. This policy provides for the maintenance or improvement of the standard of protection presently afforded. . Significant coastal defences are already present along this section of shoreline so the long-term implementation of the SMP in this Policy Unit will likely consist of extending and improving the existing defences. This is therefore anticipated to have minimal impact on the sediment regime within sub-cell 6B1.

The construction and rehabilitation of hard defences within this Policy Unit has the potential for short, medium and long-term, negative impacts upon the conservation objectives of the Inner Clyde SPA and Ramsar site. There is the potential also for short, medium and long term negative impacts upon Southannan Sands SSSI. It should be possible to mitigate for disturbance with appropriate timing of works, and for coastal squeeze impacts with careful planning and design of shoreline protection measures. Mitigation measures are proposed within Section 8.1 of the SEA Environmental Report and have been adopted into Section 7.1 of the Final SMP.

4.1.1.3 Opportunities for Integrated Shoreline Management

The policy identified for each policy unit within sub-cell 6B1 is Hold the Line. In each policy unit, this is likely to consist of maintaining and extending existing defences in the short-term, and constructing new defences in the medium to long-term as required. Transport Scotland will primarily be responsible for implementing this policy within Policy Unity 6B1.1, whereas North Ayrshire Council will be responsible for Policy Unit 6B1.2. Significant advantages are likely to be achieved by North Ayrshire Council and Transport Scotland adopting an integrated approach to implementing shoreline management policy within this sub-cell.

It will be beneficial for feasibility studies to be carried out at sub-cell level to ensure a holistic view of this section of shoreline is obtained.

Timing of the implementation of shoreline management within this sub-cell will be important in order to reduce potential cumulative environmental impacts associated with the construction phase of works.

4.1.2 Sub-cell 6B2

4.1.2.1 6B2.1 Hunterston (Advance the Line)

The preferred policy for this Policy Unit is Advance the Line. This policy provides for new defences to be built on the seaward side of original defences. This will require hard shoreline management to hold

the existing line, and may require additional land reclamation measures if the existing line is to be advanced. Significant coastal defences are already present along this section of shoreline and land reclamation has previously been undertaken so the long-term implementation of the SMP in this Policy Unit will likely consist of extending and improving existing defences The effect of this on the sediment regime within sub-cell 6b2 will require careful study prior to implementing any works, however this area has already been shown to be accreting thus a policy of advance the line is equitable with its present status.

There is the potential for short, medium and long term significant negative impacts upon Southannan Sands SSSI due to the construction or rehabilitation of hard defences and the potential reclamation of land. Mitigation measures should be incorporated into any further study of advancing the line by land reclamation to minimise the significance of potential impacts. Ideally the shoreline protection measures would not encroach upon the designated site boundary. Mitigation measures are proposed within Section 8.1 of the SEA Environmental Report and have been adopted into Section 7.1 of the Final SMP.

4.1.2.1 6B2.2 Hunterston to Farland Head (No Active Intervention)

The preferred policy for this Policy Unit is No Active Intervention. This policy provides for no investment in coastal defences or operations and allows the shoreline to remain in a natural state or to revert back to a natural state. No assets were found to be at risk due to coastal flooding or erosion in this Policy Unit.

4.1.2.2 Opportunities for Integrated Shoreline Management

Two different policies have been identified for the Policy Units within sub-cell 6B2; Advance the Line and No Active Intervention. Sub-cell wide implications such as impacts on sediment transport should be considered when planning shoreline management actions. Feasibility studies should be carried out at sub-cell scale and implementation of shoreline management within the sub-cell should be well planned and timed to minimise cumulative or in-combination environmental impacts.

4.1.3 Sub-cell 6C1

4.1.3.1 6C1.1 Farland Head to Ardrossan (Hold the Line)

The preferred policy for this Policy Unit is Hold the Line. This policy provides for the maintenance or improvement of the standard of protection presently afforded. The SEPA coastal flood maps indicate a risk of medium to high likelihood flooding within this Policy Unit with a number of properties shown to

be at risk of coastal flooding during a 1 in 200 year coastal flood event in the vicinity of Portencross Castle, along Eglington Road and at Ardrossan Marina. West Kilbride Golf Club is located along the shore within the policy unit. Significant coastal defences are already present along this section of shoreline so the short-term implementation of the SMP in this Policy Unit will likely consist of maintaining the existing defences. This will therefore have minimal impact on the sediment regime within sub-cell 6C1. In the medium to long-term, additional shoreline defence measures may be required. Mitigation measures to minimise the potential for impacts on the environment from implementation of the policy are proposed within Section 8.1 of the SEA Environmental Report and have been adopted into Section 7.1 of the Final SMP.

4.1.3.2 Opportunities for Integrated Shoreline Management

There is a single Policy Unit within sub-cell 6C1, which has the policy Hold the Line. Scottish Water assets are at risk along this section of shoreline so there is scope for integrated working between North Ayrshire Council and Scottish Water. Feasibility studies should be carried out at sub-cell scale and implementation of shoreline management within the sub-cell should be well planned and timed to minimise cumulative or in-combination environmental impacts.

4.1.4 Sub-cell 6C2

4.1.4.1 6C2.1 Ardrossan to Stevenston (Hold the Line)

The preferred policy for this Policy Unit is Hold the Line. This policy provides for the maintenance or improvement of the standard of protection presently afforded. The SEPA coastal flood maps show a risk of medium likelihood coastal flooding to properties at Canal Crescent. Available photographic evidence also shows the railway line at Sandylands Promenade to be potentially at risk due to wave over-topping, however recent works to the seawall at this location may have addressed this issue. Coastal erosion is predicted at Stevenston beach, affecting one non-residential property. Auchenharvie Golf Club is located along the shore within this Policy Unit. Significant coastal defences are already present along this section of shoreline so the long-term implementation of the SMP in this Policy Unit will likely consist of extending and improving the existing defences. The plan in this Policy Unit is also to manage erosion at Stevenston beach, which will likely require soft engineering methods to be implemented in this area. Mitigation measures to minimise the potential for impacts on the environment from implementation of the policy are proposed within Section 8.1 of the SEA Environmental Report and have been adopted into Section 7.1 of the Final SMP.

4.1.4.2 6C2.2 Stevenston to Irvine Bay (Hold the Line)

The preferred policy for this Policy Unit is Hold the Line. This policy provides for the maintenance or improvement of the standard of protection presently afforded. A number of assets are predicted to be at risk due to coastal flooding adjacent to the River Irvine and unknown materials are understood to be present along the shoreline in this policy unit with potential for contamination if erosion was to occur. The existing defences are sufficient to prevent erosion at this section of shoreline in the short-term, however it is important that this is monitored and additional erosion protection is implemented in the medium to long-term if required. Mitigation measures to minimise the potential for impacts on the environment from implementation of the policy are proposed within Section 8.1 of the SEA Environmental Report and have been adopted into Section 7.1 of the Final SMP.

4.1.4.3 6C2.3 Irvine Bay to Gailes Burn (Hold the Line)

The preferred policy for this Policy Unit is Hold the Line. This policy provides for the maintenance or improvement of the standard of protection presently afforded. A number of assets including residential and non-residential properties adjacent to the River Irvine are shown to have a risk of medium likelihood coastal flooding by the SEPA flood maps. Local Authority comments indicate there has been a significant loss of sand dune between the confluence of the River Garnock (Irvine Beach) and Barassie. Western Gailes Golf Club is situated behind the dune line in this Policy Unit. The plan in this Policy Unity will therefore consist of erosion management of the dune system at Irvine Beach and Barassie and flood management to protect assets adjacent to the River Irvine. Mitigation measures to minimise the potential for impacts on the environment from implementation of the policy are proposed within Section 8.1 of the SEA Environmental Report and have been adopted into Section 7.1 of the Final SMP.

4.1.4.4 6C2.4 Gailes Burn to Troon (Hold the Line)

The preferred policy for this Policy Unit is Hold the Line. This policy provides for the maintenance or improvement of the standard of protection presently afforded. A significant number of assets are at risk due to coastal flooding in this Policy Unit, especially in the vicinity of Portland Street. No significant erosion risk was identified, however South Ayrshire Council currently undertake dune restoration work in this area so the erosion assessment may not be accurate due to the active management currently undertaken. The plan for this Policy Unit is to provide flood protection to the assets at risk and maintain this protection in the long-term. Mitigation measures to minimise the potential for impacts on the environment from implementation of the policy are proposed within Section 8.1 of the SEA Environmental Report and have been adopted into Section 7.1 of the Final SMP.

4.1.4.5 Opportunities for Integrated Shoreline Management

The policy identified for each Policy Unit within sub-cell 6C2 is Hold the Line. There are a range of asset owners within this sub-cell including North Ayrshire Council, South Ayrshire Council, Network Rail and private landowners. Significant advantages are likely to be achieved by adopting an integrated approach to implementing shoreline management policy within this sub-cell. Feasibility studies should be carried out at sub-cell scale in order to obtain a holistic view and ensure any impacts on the sediment budget are identified and mitigated where possible. Implementation of shoreline management within the sub-cell should be well planned and timed to minimise cumulative or in-combination environmental impacts.

4.1.5 Sub-cell 6C3

4.1.5.1 6C3.1 Troon to Ayr (Hold the Line)

The preferred policy for this Policy Unit is Hold the Line. This policy provides for the maintenance or improvement of the standard of protection presently afforded. A significant number of residential and non-residential properties are predicted to be at risk due to coastal flooding. Local Authorities have indicated that the Titchfield Road area is at risk due to wave over-topping, with the road and gardens having flooded in recent history. Royal Troon, Prestwick and Prestwick St Nicholas Golf Clubs are located along the shoreline in this policy unit and both Royal Troon and Prestwick Golf Clubs are predicted to be at risk of coastal flooding. An area of historic fill material along a section of shoreline at Newton Shore is at risk due to coastal erosion. A Scottish Water rising main at Newton Shore is also exposed and at risk due to coastal erosion. The plan for this Policy Unit is to implement defences which will protect these assets from coastal flooding and prevent coastal erosion at Newton Shore. Mitigation measures to minimise the potential for impacts on the environment from implementation of the policy are proposed within Section 8.1 of the SEA Environmental Report and have been adopted into Section 7.1 of the Final SMP.

4.1.5.2 Opportunities for Integrated Shoreline Management

There is a single policy unit within sub-cell 6C3 which has the policy Hold the Line. Scottish Water assets are at risk along this section of shoreline so there is scope for integrated working between South Ayrshire Council and Scottish Water. Feasibility studies should be carried out at sub-cell scale and implementation of shoreline management within the sub-cell should be well planned and timed to minimise cumulative or in-combination environmental impacts.

4.1.6 Sub-cell 6C4

4.1.6.1 6C4.1 Ayr to Greenan Castle (Hold the Line)

The preferred policy for this Policy Unit is Hold the Line. This policy provides for the maintenance or improvement of the standard of protection presently afforded. A significant number of residential and non-residential properties are predicted to be at risk due to coastal flooding at Ayr, Seafield and Doonfoot. The promenade to the south of Ayr is known to be at risk due to wave over-topping. The South Pier at Ayr is important for maintaining an operational port at Ayr. The plan for this Policy Unit is to defend assets from coastal flooding, manage the wave over-topping risk and maintain the South Pier. Mitigation measures to minimise the potential for impacts on the environment from implementation of the policy are proposed within Section 8.1 of the SEA Environmental Report and have been adopted into Section 7.1 of the Final SMP.

4.1.6.2 6C4.2 Greenan Castle to Dunure (No Active Intervention)

The preferred policy for this Policy Unit is No Active Intervention. This policy provides for no investment in coastal defences or operations and allows the shoreline to remain in a natural state or to revert back to a natural state. Two non-residential properties are predicted to be at risk due to coastal flooding at Dunure.

4.1.6.3 Opportunities for Integrated Shoreline Management

Two different policies have been identified for the Policy Units within sub-cell 6C4; Hold the Line and No Active Intervention. No significant opportunities for integrated shoreline management within this sub-cell have been identified.

4.1.7 Sub-cell 6C5

4.1.7.1 6C5.1 Dunure to Turnberry (No Active Intervention)

The preferred policy for this Policy Unit is No Active Intervention. This policy provides for no investment in coastal defences or operations and allows the shoreline to remain in a natural state or to revert back to a natural state. One residential and two non-residential properties are predicted to be at risk due to coastal flooding at Maidenhead Bay and Turnberry Lighthouse. Turnberry Golf Course is located along an undefended section of shoreline in this Policy Unit. A number of beaches with limited rock armour reinforcement adjacent to holiday parks are present in this Policy Unit.

4.1.7.2 Opportunities for Integrated Shoreline Management

There is a single Policy Unit within sub-cell 6C5 which has the policy No Active Intervention. No significant opportunities for integrated shoreline management within this sub-cell have been identified.

4.1.8 Sub-cell 6C6

4.1.8.1 6C6.1 Turnberry to Girvan (No Active Intervention)

The preferred policy for this Policy Unit is No Active Intervention. This policy provides for no investment in coastal defences or operations and allows the shoreline to remain in a natural state or to revert back to a natural state. One residential property is predicted to be at risk due to coastal flooding at Dipple. A section of Turnberry Golf Course is located within this Policy Unit. This section of Turnberry Golf Course is defenced by natural dunes.

4.1.8.2 6C6.2 Girvan (Hold the Line)

The preferred policy for this Policy Unit is Hold the Line. This policy provides for the maintenance or improvement of the standard of protection presently afforded. A number of residential and non-residential properties are predicted to be at risk due to coastal flooding adjacent to the Water of Girvan and the A77. Girvan Golf Course is located within this Policy Unit and may be at risk due to coastal erosion and flooding from the Water of Girvan. Rock armour reinforcement is present along the shore at Girvan Golf Course. Local Authorities report the harbour at Girvan regularly requires dredging due to sedimentation. The long-term implementation of the SMP in this Policy Unit will provide flood protection to the properties at risk and defend Girvan Golf Course from coastal erosion. The construction and rehabilitation of hard defences within this Policy Unit has the potential for short, medium and long-term, negative impacts upon the conservation objectives of the Ailsa Craig SPA and the qualifying interests of the Lendalfoot Hills Complex SAC. Mitigation measures to minimise the potential for impacts on the environment from implementation of the policy are proposed within Section 8.1 of the SEA Environmental Report and have been adopted into Section 7.1 of the Final SMP.

4.1.8.3 6C6.3 South Girvan to Bennane Head (Hold the Line / Managed Realignment)

There are two preferred policies for this Policy Unit, these are Hold the Line and Managed Realignment. The former of these policies provides for the maintenance or improvement of the standard of protection presently afforded. The latter policy provides for the movement of the shoreline backwards or forwards, with management to control or limit this movement. The A77 is a significant

transport link and is predicted to be at risk due to both coastal flooding and erosion within this Policy Unit. The plan in this Policy Unit is to maintain this transport link.

The construction and rehabilitation of hard defences within this Policy Unit has the potential for short, medium and long-term, negative impacts upon the conservation objectives of the Ailsa Craig SPA and the qualifying interests of the Lendalfoot Hills Complex SAC. Mitigation measures to minimise the potential for impacts on the environment from implementation of the policy are proposed within Section 8.1 of the SEA Environmental Report and have been adopted into Section 7.1 of the Final SMP.

4.1.8.4 Opportunities for Integrated Shoreline Management

Two different policies have been identified for the Policy Units within sub-cell 6C6; Hold the Line and No Active Intervention. There is a range of asset owners within this sub-cell including South Ayrshire Council, Transport Scotland and Girvan Golf Course. Significant advantages are likely to be achieved by adopting an integrated approach to implementing shoreline management policy within this sub-cell. Feasibility studies should be carried out at sub-cell scale in order to obtain a holistic view and ensure any impacts on the sediment budget are identified and mitigated where possible. Implementation of shoreline management within the sub-cell should be well planned and timed to minimise cumulative or in-combination environmental impacts.

4.1.9 Sub-cell 6D1

4.1.9.1 6D1.1 Bennane Head to Ballantrae (Hold the Line / Managed Realignment)

There are two preferred policies for this Policy Unit, these are Hold the Line and Managed Realignment. The former of these policies provides for the maintenance or improvement of the standard of protection presently afforded. The latter policy provides for the movement of the shoreline backwards or forwards, with management to control or limit movement. One non-residential property is predicted to be at risk due to coastal flooding to the southern extent of Ballantrae. The A77 is a significant transport link and is predicted to be at risk due to coastal flooding and erosion in this Policy Unit. The plan in this Policy Unit is to maintain this transport link.

The construction and rehabilitation of hard defences within this Policy Unit has the potential for short, medium and long-term, negative impacts upon the conservation objectives of the Ailsa Craig SPA. Mitigation measures to minimise the potential for impacts on the environment from implementation of the policy are proposed within Section 8.1 of the SEA Environmental Report and have been adopted into Section 7.1 of the Final SMP.

4.1.9.2 6D1.2 South Ballantrae to Currarie Port (No Active Intervention)

The preferred policy for this Policy Unit is No Active Intervention. This policy provides for no investment in coastal defences or operations and allows the shoreline to remain in a natural state or to revert back to a natural state. No assets have been identified to be at risk of coastal flooding or erosion in this Policy Unit.

4.1.9.3 Opportunities for Integrated Shoreline Management

Two different policies have been identified for the Policy Units within sub-cell 6D1; Hold the Line and No Active Intervention. No significant opportunities for integrated shoreline management within this sub-cell have been identified.

4.1.10 Sub-cell 6D2

4.1.10.1 6D2.1 Currarie Port to Milleur Point (No Active Intervention)

The preferred policy for this Policy Unit is No Active Intervention. This policy provides for no investment in coastal defences or operations and allows the shoreline to remain in a natural state or to revert back to a natural state. One abandoned non-residential property is predicted to be at risk due to coastal flooding at Finnarts Bay.

4.1.10.2 Opportunities for Integrated Shoreline Management

There is a single Policy Unit within sub-cell 6D2, which has the policy No Active Intervention. No significant opportunities for integrated shoreline management within this sub-cell have been identified.

4.1.11 Sub-cell A1

4.1.11.1 A1.1 Lochranza (Hold the Line)

The preferred policy for this Policy Unit is Hold the Line. This policy provides for the maintenance or improvement of the standard of protection presently afforded. A number of residential and non-residential properties adjacent to the Newton Road are shown to have a risk of medium likelihood coastal flooding by the SEPA flood maps. The A841 and Lochranza Golf Club are also predicted to be at risk due to coastal flooding. Local Authorities indicate there is also fluvial and pluvial flood risk within this Policy Unit. The plan in this Policy Unit is to provide flood protection to the assets at risk and this will likely consist of constructing new flood defences. Mitigation measures to minimise the potential for

impacts on the environment from implementation of the policy are proposed within Section 8.1 of the SEA Environmental Report and have been adopted into Section 7.1 of the Final SMP.

4.1.11.2 A1.2 Lochranza to Sannox (No Active Intervention)

The preferred policy for this Policy Unit is No Active Intervention. This policy provides for no investment in coastal defences or operations and allows the shoreline to remain in a natural state or to revert back to a natural state. No assets have been identified to be at risk of coastal flooding or erosion in the Policy Unit.

4.1.11.3 A1.3 Sannox to Brodick (Hold the Line / Managed Realignment)

There are two preferred policies for this Policy Unit, these are Hold the Line and Managed Realignment. The former of these policies provides for the maintenance or improvement of the standard of protection presently afforded. The latter policy provides for the movement of the shoreline backwards or forwards, with management to control or limit movement. Two residential properties at Sannox Bay along with isolated sections of the A841 are shown to have a risk of medium likelihood coastal flooding by the SEPA flood maps. The plan in this Policy Unit will be to protect the road against flooding and erosion in the long-term. Mitigation measures to minimise the potential for impacts on the environment from implementation of the policy are proposed within Section 8.1 of the SEA Environmental Report and have been adopted into Section 7.1 of the Final SMP.

4.1.11.4 A1.4 Brodick (Hold the Line)

The preferred policy for this Policy Unit is Hold the Line. This policy provides for the maintenance or improvement of the standard of protection presently afforded. A number of residential and non-residential properties are shown to have a risk of medium likelihood coastal flooding by the SEPA flood maps, while there is ongoing coastal erosion in the vicinity of the bowling green. The A841 road is also predicted to be at risk due to coastal flooding during a 1 in 200 year coastal flood event. A historic landfill site to the south of the Policy Unit is predicted to be at risk of coastal erosion. Brodick Golf Club is predicted to be at risk of both coastal flooding and erosion. The plan in this Policy Unit is to provide flood and erosion protection to the assets at risk. Mitigation measures to minimise the potential for impacts on the environment from implementation of the policy are proposed within Section 8.1 of the SEA Environmental Report and have been adopted into Section 7.1 of the Final SMP.

4.1.11.5 A1.5 Brodick to Clauchlands Point (No Active Intervention)

The preferred policy for this Policy Unit is No Active Intervention. This policy provides for no investment in coastal defences or operations and allows the shoreline to remain in a natural state or to

revert back to a natural state. No assets have been identified to be at risk of coastal flooding or erosion in this Policy Unit.

4.1.11.6 Opportunities for Integrated Shoreline Management

Two different policies have been identified for the Policy Units within sub-cell A1; Hold the Line and No Active Intervention. Feasibility studies should be carried out at sub-cell scale in order to obtain a holistic view and ensure any impacts on the sediment budget are identified and mitigated where possible. Implementation of shoreline management within the sub-cell should be well planned and timed to minimise cumulative or in-combination environmental impacts.

4.1.12 Sub-cell A2

4.1.12.1 A2.1 Clauchlands Point to Lamlash (No Active Intervention)

The preferred policy for this Policy Unit is No Active Intervention. This policy provides for no investment in coastal defences or operations and allows the shoreline to remain in a natural state or to revert back to a natural state. A localised section of minor road was found to be at risk due to coastal flooding close to the Outdoor Centre.

4.1.12.2 A2.2 Lamlash (Hold the Line)

The preferred policy for this Policy Unit is Hold the Line. This policy provides for the maintenance or improvement of the standard of protection presently afforded. The SEPA coastal flood maps indicate a risk of medium likelihood flooding for a number of residential and non-residential properties, sections of the A841 and a minor road at Cuddy Dook and adjacent to the tennis courts. Properties and the minor road at Cuddy Dook are also predicted to be at risk due from coastal erosion. Scottish Water assets run along the beach and are at risk of erosion. The plan in this Policy Unit includes providing flood and erosion protection to the assets at risk. Scottish Water will be responsible for managing the risk to their assets. Mitigation measures to minimise the potential for impacts on the environment from implementation of the policy are proposed within Section 8.1 of the SEA Environmental Report and have been adopted into Section 7.1 of the Final SMP.

4.1.12.3 A2.3 Lamlash to Kingscross Point (No Active Intervention)

The preferred policy for this Policy Unit is No Active Intervention. This policy provides for no investment in coastal defences or operations and allows the shoreline to remain in a natural state or to

revert back to a natural state. No assets have been identified to be at risk of coastal flooding or erosion in the Policy Unit.

4.1.12.4 Opportunities for Integrated Shoreline Management

Two different policies have been identified for the Policy Units within sub-cell A2; Hold the Line and No Active Intervention. Scottish Water assets are at risk along this section of shoreline so there is scope for integrated working between North Ayrshire Council and Scottish Water. Feasibility studies should be carried out at sub-cell scale and implementation of shoreline management within the sub-cell should be well planned and timed to minimise cumulative or in-combination environmental impacts.

4.1.13 Sub-cell A3

4.1.13.1 A3.1 Whiting Bay (Hold the Line)

The preferred policy for this Policy Unit is Hold the Line. This policy provides for the maintenance or improvement of the standard of protection presently afforded. SEPA flood maps indicate a risk of medium likelihood coastal flooding for a number of residential and non-residential properties in the vicinity of Montrose Terrace. The A841 road is also at risk of coastal flooding during a 1 in 200 year coastal flood event and local authorities have reported concern about a potential risk of wave over-topping, however this is presently unquantified as the SEPA coastal flood hazard modelling is based on still water levels and does not include wave over-topping. Drainage issues from fluvial and pluvial flooding have also been reported in this Policy Unit. The plan for this Policy Unit will consist of defending assets from coastal flooding and carrying out a detailed investigation of the wave over-topping risk. Mitigation measures to minimise the potential for impacts on the environment from implementation of the policy are proposed within Section 8.1 of the SEA Environmental Report and have been adopted into Section 7.1 of the Final SMP.

4.1.13.2 A3.2 Largymore to Drumadoon Point (No Active Intervention)

The preferred policy for this Policy Unit is No Active Intervention. This policy provides for no investment in coastal defences or operations and allows the shoreline to remain in a natural state or to revert back to a natural state. One residential property at Kildonan, localised sections of the A841 at Largymore and minor roads at Kildonan and Blackwaterfoot were found to be at risk due to coastal flooding. Part of Shiskine Golf Club is situated along the shoreline in this Policy Unit; however it is not predicted to be at risk.

4.1.13.3 Opportunities for Integrated Shoreline Management

Two different policies have been identified for the Policy Units within sub-cell A3; Hold the Line and No Active Intervention. No significant opportunities for integrated shoreline management within this sub-cell have been identified.

4.1.13.4 A4.1 Drumadoon Point to Tormore (No Active Intervention)

The preferred policy for this Policy Unit is No Active Intervention. This policy provides for no investment in coastal defences or operations and allows the shoreline to remain in a natural state or to revert back to a natural state. No assets have been identified at be at risk of coastal flooding or erosion in this Policy Unit. Part of the Shiskine Golf Club is situated along the shoreline in this Policy Unit; however it is not predicted to be at risk.

4.1.13.5 A4.2 Machrie Bay to Lochranza (Hold the Line / Managed Realignment)

There are two preferred policies for this Policy Unit, these are Hold the Line and Managed Realignment. The former of these policies provides for the maintenance or improvement of the standard of protection presently afforded. The latter policy provides for the movement of the shoreline backwards or forwards, with management to control or limit movement. The SEPA flood maps indicate a risk of medium likelihood coastal flooding to one residential property at Dougarie, along with significant sections of the A841 at Machrie Bay, Dougarie, Pirnmill, Thundergay and Catacol Bay. One non-residential property and a section of the A841 were also found to be at risk due to coastal erosion at Machrie Bay. Machrie Bay Golf Club is predicted to be at risk due to both coastal flooding and coastal erosion. The plan for this Policy Unit will consist of protecting the assets at risk from flooding and erosion. Mitigation measures to minimise the potential for impacts on the environment from implementation of the policy are proposed within Section 8.1 of the SEA Environmental Report and have been adopted into Section 7.1 of the Final SMP.

4.1.13.6 Opportunities for Integrated Shoreline Management

Two different policies have been identified for the Policy Units within sub-cell A4; Hold the Line and No Active Intervention. No significant opportunities for integrated shoreline management within this sub-cell have been identified.

4.1.14 Sub-cell Great Cumbrae

4.1.14.1 Great Cumbrae (Hold the Line / Managed Realignment)

There are two preferred policies for this Policy Unit, these are Hold the Line and Managed Realignment. The former of these policies provides for the maintenance or improvement of the standard of protection presently afforded. The latter policy provides for the movement of the shoreline backwards or forwards, with management to control or limit movement. Properties at Millport and the Water Sports Centre are predicted to be at risk of coastal flooding, as identified by both the SEPA flood maps and a detailed Flood Risk Assessment undertaken for Millport in 2015. The Millport flood study recommended a flood alleviation scheme for Millport including a harbour breakwater, flood walls and shore connected rock breakwaters. At the time of drafting this Scheme was at the outline design optimisation stage. Roads to the north of the island are also shown to be at risk due to coastal flooding by the SEPA flood maps. Mitigation measures to minimise the potential for impacts on the environment from implementation of the policy are proposed within Section 8.1 of the SEA Environmental Report and have been adopted into Section 7.1 of the Final SMP.

4.1.14.2 Opportunities for Integrated Shoreline Management

There is a single Policy Unit within sub-cell Great Cumbrae which has the policy; Hold the Line. No significant opportunities for integrated shoreline management within this sub-cell have been identified.

4.2 RECOMMENDED MITIGATION MEASURES

Section 8.1 of the SEA Environmental Report demonstrates the proposed mitigation measures which have been incorporated within Section 7.1 of the draft and Final SMP. These measures were recommended where potential negative impacts resulting from the proposed policy were identified. These mitigation measures aim to prevent, reduce and as fully as possible offset any significant adverse effects on the environment due to the implementation of the SMP. Mitigation was further enhanced following consultation on the draft SMP as reflected in the following section.

4.2.1 Generation Mitigation

General mitigation measures that have been mentioned throughout Section 8 of the SEA Environmental Report and from the HRA Record can be summarised as follows:

- Predicted negative effects should be considered further during the next stage of policy development when details of the physical shoreline management measures can be optimised

through detailed feasibility studies and design in order to limit identified impacts on sensitive receptors.

- Where feasible, natural flood management and soft/green engineering methods should be incorporated into detailed proposals to reduce the negative environmental impacts of a scheme.

- Further environmental studies based on the detailed design and construction methodology should be undertaken as appropriate.

- Further Appropriate Assessment, to meet the requirements of the Habitats Directive, of the detailed design and construction methodology proposed to implement the preferred policy will be required at the project level, where potential impacts have been identified in the SEA Environmental Report and accompanying HRA Record for the SMP.

- Before any works are carried out, detailed method statements and management plans (construction and environmental) should be prepared. Construction Environmental Management Plans (CEMPs) prepared by contractors should include related plans to be prepared, as appropriate, for project implementation, such as Erosion and Sediment Control, Invasive Species Management, Emergency Response, Traffic and Safety Management, Dust and Noise Minimisation and Stakeholder Communication Plans.

- The timing of construction and maintenance works should be planned to avoid any potential for negative cumulative impacts or inter-relationships with other schemes, plans or projects, yet look to optimise any potential for positive cumulative impacts or inter-relationships.

- Works should only be carried out once the method statements have been agreed with competent authorities such as the SNH, Historic Environment Scotland and SEPA.

- Where there may be unavoidable impacts on protected habitats and/or species the necessary derogation licences should be applied for prior to seeking planning permission or approval for a scheme.

- Marine construction and in stream works, such as sea wall refurbishment, groynes or dredging have the greatest potential for negative impacts during spawning / breeding and early nursery periods for aquatic and marine protected species. No marine or instream works should occur during restricted periods for relevant species and consultation should be undertaken with the appropriate authorities in this regard.

- Monitoring of project level mitigation measures should be undertaken during and after works, to ensure effectiveness.

- All works and planning of works should be undertaken with regard to all relevant legislation, licensing and consent requirements, and recommended best practice guidelines. An ecological clerk of works should be appointed for environmental management of each scheme, and where specific sensitive species may be impacted, an appropriate expert should also be appointed.

4.2.2 Mitigation by Environmental Impact

Table 4.2 demonstrates the environmental impact specific mitigation measures that are incorporated within the SMP to minimise the potential for any negative effects on the wider environment of implementing the preferred policies. These mitigation measures will be implemented and further developed at the next detailed design stage and project level study stage.

Table 4.2 Proposed Mitigation Measures

Impact	Proposed Mitigation
Temporary disturbance and destruction of existing habitats and flora, and the displacement of fauna, along the shoreline and river corridors.	Good planning and appropriate timing of works to minimise impacts. Where applicable, prior to any vegetation clearance an appropriately qualified ecologist should be contracted to undertake a 'pre-vegetation clearance' survey for signs of nesting birds and protected and important species e.g. otters, kingfisher etc. Should important species be found during surveys the sequential approach of avoid, reduce or mitigate should be adopted to prevent significant impacts with advice from appropriately qualified professionals. Vegetation and tree clearance should be minimised and only occur outside the main bird nesting season from February to August. Where there are over-wintering birds, to avoid disturbance, works should be avoided between September and March. Following construction, replanting and landscaping, or natural revegetating, should be undertaken in line with appropriate guidelines that aim to improve local biodiversity. This will provide medium and long term benefits to the biodiversity, flora and fauna of the working areas. Where possible, original sediment/soil should be reinstated to original levels to facilitate natural restoration and recolonisation of habitat. Consider integration of design as part of blue/green infrastructure plans and habitat enhancement where possible
Temporary displacement of otters, birds, fish and other fauna during the construction period	Good planning, appropriate timing of works and sensitive construction methods are essential. Adherence to best practice construction guidelines.

Impact on European sites, habitats and species from construction or operation of shoreline management scheme.	Good planning and appropriate timing of works, and good construction and management practices will keep impacts to a minimum. Site and species specific mitigation provided in HRA for the SMP including site specific surveys, timing of works etc. Provide local, connected, compensatory habitat if loss of area of Natura site is unavoidable.
Spread of invasive species during construction.	Pre-construction survey for invasive species. Effective cleaning of equipment and machinery along with strict management protocols to combat the spread of invasive species. Preparation of invasive species management plan for construction and maintenance-related activities, if invasive species are recorded during the pre-construction surveys. Any imported materials will need to be free from alien invasive species. Post-construction survey for invasive species.
Dredging impacts on biodiversity, flora and fauna.	Minimise requirement for in-water works through good planning. Good dredging practices should be implemented, along with consultation with environmental bodies on methodology and appropriate timing to cause the least amount of damage, habitat loss, and sedimentation. Scoping or relevant specialist ecological surveys during the planning stage and prior to any construction works.
Construction disturbance to the local population.	Disturbances can be kept to a minimum with good working practices, planning and timing. Adoption of Construction Best Practice and measures outlined in the CEMP and implementation of traffic and pedestrian management during construction.
Health and Safety risk to the local population during construction works.	Good construction management practices and planning of works. Adoption of Construction Best Practice and measures outlined in the CEMP.
Loss of access to agricultural soil resource.	Consultation and agreement with local landowners on detailed designs and residual impacts of flooding. Potential for requirement for compensation.
Removal of soil and rock material via dredging and excavation works during construction.	Re-use material where possible on site for either embankments or landscaping.
Temporary disturbances of water quality during the construction phase	Good management and planning to keep water quality disturbance to a minimum. Any potential water quality issues from construction should be contained and treated to ensure no damage to natural waterbodies. Dredging and construction will have to be planned appropriately, using Best Available Techniques / Technology (BAT) at all times, to ensure water quality issues are kept to a minimum, with no significant adverse effects. Adherence with guidelines such as CIRIA Document C532 - Control of Water Pollution from Construction Sites. Development and consenting of environmental management plan prior to commencement of works.
Potential for pollution incidents during the construction phase.	Minimise requirement for in-water works through good planning. Strict management and regulation of construction activities. Provision of appropriate facilities in construction areas to help prevent pollution incidents. Preparation of emergency response plans. Good work practices including; channelling of discharges

	to settlement ponds, construction of silt traps, construction of cut-off ditches to prevent run-off from entering waterbodies, hydrocarbon interceptors installed at sensitive areas, appropriate storage of fuel, oils and chemicals, refuelling of plant and vehicles on impermeable surfaces away from drains / waterbodies, provision of spill kits, installation of wheel wash and plant washing facilities, implementation of measures to minimise waste and ensure correct handling, storage and disposal of waste and regular monitoring of surface water quality.
Potential requirement for maintenance dredging.	Design should aim to ensure WFD objectives are not compromised. All options to be subject to a WFD Assessment. Any negative impact on the status of a water body will only be permitted under the WFD if the strict conditions set out in WFD Article 4 are met. Adhering to good work practices including; diversion of discharges to settlement ponds, construction of silt traps, construction of cut-off ditches to prevent run-off from entering excavations, granular materials placed over bare soils. If a channel is maintained on an as-required basis, using good planning, timing and BAT, there should be only minimal temporary disturbance to the local water quality.
Alterations to coastal processes	Detailed surveys and hydrodynamic modelling to inform detailed design of coastal works to ensure no negative impacts on coastal processes.
Disturbances to local infrastructure during the construction phase, e.g. traffic, water and electricity.	Good site management practices, traffic and construction management plans and consultation with the competent and statutory authorities prior to any works should enable all impacts to be kept to a minimum over a short timescale. Adoption of Construction Best Practice.
In the short term construction period there is the potential for damage to heritage features.	Where necessary a heritage impact assessment should be prepared in respect of any works to architectural or archaeological features to feed into detailed design. Consultation and agreement with Historic Environment Scotland in advance of any works taking place in respect of protected archaeological or architectural features. Construction supervision by qualified project archaeologists, combined with sensitive construction methods and restoration would mean this damage could be kept to a minimum. Heritage features damaged could be restored / preserved. Statutory consents and notices may be required prior to works taking place.
Medium and long term impacts on the setting of heritage features	Impacts could be kept to a minimum through sensitive design and planning. Planning and design advice from qualified archaeologists. Statutory consents may be required prior to works.
Potential for undiscovered heritage to be impacted upon by construction and dredging operations.	Interpretation of side-scan sonar and bathymetry information, along with supervision of construction and dredging operations by qualified archaeologists will minimise any impacts or the possibility of destruction of underwater and undiscovered heritage features in areas of heritage potential.
Extent and severity of short term negative impacts on landscape from construction.	Impacts could be kept to a minimum through good site practice and planning (e.g. screened laydown areas and traffic management). Adoption of Construction Best Practice.

Extent and severity of medium to long term negative impacts on landscape from preferred policies.	Impacts could be kept to a minimum through sensitive design and planning (e.g. vegetative screening and landscape management planning). Landscape and visual assessment and advice during detailed design. Public consultation on draft designs.
Restricted access to waterbodies for recreational activities due to preferred policies.	Sensitive design of the shoreline management measures. Potential to improve recreational access, safety of access and improve local recreational and ecological linkages considered in the detailed design. Public and stakeholder consultation on draft designs.
Disturbances to local amenity, community and social infrastructure during the construction phase, e.g. shops and amenity areas.	Good site management practices, traffic and construction management plans and consultation with the competent and statutory authorities prior to any works should enable all impacts to be kept to a minimum over a short timescale. Adoption of Construction Best Practice.

4.2.3 HRA Mitigation

Table 4.3 demonstrates the HRA mitigation measures that were incorporated within the SMP to minimise the potential for any negative impacts on the European sites as a result of the management of the Ayrshire shoreline.

Table 4.3 Proposed HRA Mitigation Measures

Sub-cell	European Site	Mitigation
6B1	**Inner Clyde SPA and Ramsar site**	Bird surveys should be undertaken to assess the use of the intertidal zone in this sub-cell by the designated Redshank population of the Inner Clyde SPA. These surveys will provide information as to whether designated Redshank are using these areas for feeding, and to what degree. Should Redshank from the Inner Clyde SPA be using these areas, and the potential for likely significant effects on site integrity exist, any proposed hard coastal defences should be designed in such a way as to limit any potential for coastal squeeze. This could involve setting hard defences further back from the coastline. A more detailed, project level HRA should be undertaken in consultation with SNH once details of the nature and scale of shoreline management measures are known, to more precisely describe the potential impacts of the project and outline any project-level mitigation required. The project-level HRA must conclude 'no adverse effects' upon the Redshank population of the Inner Clyde SPA for the planned works to proceed.
6C6	**Ailsa Craig SPA**	Bird surveys should be undertaken to assess the use of the intertidal zone in this sub-cell by the designated seabirds of the Ailsa Craig SPA. These surveys will provide information as to whether the designated seabirds are using these areas for feeding, and to what degree.

		Should any of the designated species be using these areas, and the potential for likely significant effects on site integrity exist, any proposed hard coastal defences should be designed in such a way as to limit any potential for coastal squeeze. This could involve setting hard defences further back from the coastline. A more detailed, project level HRA should be undertaken in consultation with SNH once details of the nature and scale of shoreline management measures are known, to more precisely describe the potential impacts of the project and outline any project-level mitigation required. The project-level HRA must conclude 'no adverse effects' upon the designated seabird populations of the Ailsa Craig SPA for the planned works to proceed.
	Lendalfoot Hills Complex SAC	Careful planning of any future A77 road relocation scheme by Transport Scotland should ensure no significant impacts on this site.
6D1	**Ailsa Craig SPA**	Bird surveys should be undertaken to assess the use of the intertidal zone in this sub-cell by the designated seabirds of the Ailsa Craig SPA. These surveys will provide information as to determine whether the designated seabirds are using these areas for feeding, and to what degree. Should any of the designated species be using these areas, and the potential for likely significant effects on site integrity exist, any proposed hard coastal defences should be designed in such a way as to limit any potential for coastal squeeze. This could involve setting hard defences further back from the coastline. A more detailed, project level HRA should be undertaken in consultation with SNH once details of the nature and scale of shoreline management measures are known, to more precisely describe the potential impacts of the project and outline any project-level mitigation required. The project-level HRA must conclude 'no adverse effects' upon the designated seabird populations of the Ailsa Craig SPA for the works to be progressed.

4.3 HOW CONSULTATION FEEDBACK HAS INFLUENCED THE FINAL SMP

The draft Ayrshire SMP issued for public consultation was accompanied by the SEA Environmental Report and HRA Record. Many submissions were received on these documents through the consultation feedback process and via the PCDs. All SMP and environmental submissions received have been addressed as comprehensively as possible in producing the Final SMP. Details of submissions received on both the SMP and environmental assessments, how they were actioned or how they will be taken into consideration in the future, are provided in **Appendix A** of this SEA Statement. The main themes of the SMP and environmental comments received can be summarised as follows:

- The SMP provides clear guidance to operating authorities and regulatory bodies within Ayrshire so as to provide future sustainable flood and coastal erosion risk management.

- Additional Plans and Programmes were recommended to be taken into consideration in addition to those which had already been featured within the draft SMP.

- It was recommended that the limitations of the data used to produce the Ayrshire SMP should be detailed within the Final SMP so as to provide for a greater understanding of the SMP and its own limitations.

- Clarification was requested with regard to the nature of the maximum wave heights quoted within the SMP.

- Further detail was requested with regard to the general and elective nature of proposed policies.

- It was noted that there were some localised coastal erosion issues which have not been included within the draft SMP and SEA ER which have the potential to affect a small number of heritage features.

- The intended mitigation and monitoring programmes were welcomed.

- Further local environmental and social issues were highlighted that need taken into account in future more detailed studies.

No significant amendments were made to the Final SMP following public and statutory consultation on the draft SMP, SEA Environmental Report and HRA Record that required screening in this SEA Statement. Based on consultation feedback there were minor amendments made to the Final SMP and SEA Environmental Report to provide greater clarity in the documents and to ensure they were as complete as possible. Some minor amendments were made to the significance of impacts within sub-cell 6B2, and a minor amendment was made in the SMP to reflect this also. However, given that Hunterston is a Strategic Site under the National Planning Framework, the policy itself remains unchanged. The potential impacts and mitigation proposed however have been amended to provide more recommendations for future studies and works in the area.

5 MEASURES TO MONITOR SIGNIFICANT ENVIRONMENTAL EFFECTS OF IMPLEMENTING THE SMP

The SEA Directive requires that the significant environmental effects of the implementation of the SMP are monitored in order to identify, at an early stage, unforeseen adverse effects and in order to undertake appropriate remedial action. For the environmental monitoring of the SMP the proposed indicators, data and responsible authorities are recommended in Section 8.2 of the SEA Environmental Report and are given in **Table 5.1**. These are based on the Targets and Indicators established in the SEA Objectives. This proposed monitoring has been incorporated in Section 7.2 of the Final SMP and will be undertaken during the feasibility, design and construction phases of any resulting works. This monitoring will report the positive and negative impacts on the environment of implementing the SMP, enabling early mitigation for any unwanted impacts and improving future iterations of the SMP.

Detailed monitoring for specific policies proposed should be re-scoped in consultation with the appropriate authorities at the detailed feasibility and design stages. This agreed detailed monitoring should then be undertaken before, during and after construction, where and when appropriate.

Table 5.1 Environmental Monitoring of the SMP

Criteria	Objective		Sub-Objective		Indicators	Possible Data and Responsible Authority
Biodiversity, Flora & Fauna	**1**	Avoid damage to, and where possible enhance, the biodiversity, flora and fauna in the vicinity of the shoreline.	**A**	Avoid detrimental effects to, and where possible enhance, International and European designations for protected species and their key habitats.	Areas of SAC, SPA, WHS and Ramsar designation. Numbers of protected species.	SNH, UNESCO & Marine Scotland reporting and action plans.
			B	Avoid damage to or loss of, and where possible enhance, national and local nature conservation sites and protected species, or other know species of conservation concern.	Areas of SSSI, LNRs, MCAs and local conservation designations. Numbers of protected species.	SNH, UNESCO & Marine Scotland reporting and action plans. North Ayrshire Council and South Ayrshire Council – Local Development Plans.
Population & Human Health	**2**	Protect the public from risk of flooding and coastal erosion.	**A**	Protect the public from risk of flooding and coastal erosion.	Population at risk of flooding and erosion.	SEPA reporting. North Ayrshire Council and South Ayrshire Council – Flood Risk Management Plans. Scotland Census Data
Geology, Soils and Landuse	**3**	Maintain or improve areas of existing functional soil and land resource.	**A**	Maintain or improve areas of existing functional soil and land resource.	Areas of functional soil and land resource at risk of flooding and erosion.	SNH erosion reporting. SNH landcover mapping North Ayrshire Council and South Ayrshire Council –land use zoning in Local Development Plans.
Water	**4**	Protect and enhance the state of the water environment.	**A**	Protect and enhance the state of the water environment.	Coastal morphology and waterbody status.	SEPA – River Basin Management Plans / WFD reporting.
Climatic Factors	**5**	Adaptation to potential climatic change.	**A**	Adaptation of shoreline management to potential climatic change.	Interaction with potential climate change influenced flood extents / wave overtopping and severe weather events.	SEPA reporting. North Ayrshire Council and South Ayrshire Council – Flood Risk Management Plans.
Material	**6**	Protect material	**A**	Protect material assets and		SEPA reporting.

Criteria	Objective		Sub-Objective		Indicators	Possible Data and Responsible Authority
Assets & Infrastructure		assets and infrastructure from risk of flooding and coastal erosion.		infrastructure from risk of flooding and coastal erosion.	Material assets and infrastructure at risk from flooding and erosion.	Transport Scotland Scottish Water North Ayrshire Council and South Ayrshire Council reporting.
Cultural, Architectural & Archaeological Heritage	**7**	Protect or enhance historic environment features and their settings.	**A**	Avoid loss of, or damage to, heritage features.	International, National and local designated heritage structures, sites and monuments.	North Ayrshire Council and South Ayrshire Council reporting. Historic Environment Scotland Reporting Canmore Database
			B	Minimise effects on the setting of heritage features.		
Landscape & Visual Amenity	**8**	Protect, and where possible enhance the landscape character and visual amenity of the Ayrshire shoreline.	**A**	Protect, and where possible enhance the landscape character and visual amenity of the Ayrshire shoreline.	Landscape character assessments. Designated landscapes and views.	North Ayrshire Council and South Ayrshire Council – Local Development Plans. SNH landcover mapping

6 CONCLUSIONS AND NEXT STEPS

The SEA and AA processes carried out during the preparation of the Ayrshire SMP have ensured that the potential significant environmental impacts associated with implementation of the SMP have been identified and that they have been given appropriate consideration. Consultation on the draft SMP and environmental reports has further contributed to the development and finalisation of the Final SMP. North and South Ayrshire Councils will move forward in implementing the proposals of the SMP in a sustainable manner. However the risk management policies set out in the Ayrshire SMP cannot be implemented through engineering or coastal defence management alone. It is important that the policies of the Ayrshire SMP are appropriately considered and reflected in regional and local spatial planning. This will ensure that long term coastal flooding and erosion risks are considered in the planning process. Where a policy of no active intervention or managed realignment has been proposed, it is important that development zones are updated accordingly to ensure no inappropriate future development is carried out in areas which have been identified to be at risk due to coastal flooding or erosion. Even in areas where a policy of hold the line is recommended it may be necessary to limit the types of development permitted in order to manage future flood risk or indeed limit the development of presently undeveloped areas.

It is envisaged that the SMP will be reviewed every six years in order to assess if the policies and actions proposed are still appropriate and sustainable.

APPENDIX A

PUBLIC CONSULTATION SUBMISSIONS

Table A-1 Consultation Comments Received in Relation to the draft SMP

Respondent	Pg.	Para.	Comment	Response / Action
Low Green and Ayr Seafront Trust	One	3 - 9	Any policies based on such a flawed understanding must themselves be flawed… (said in relation to 1 in 200 year approach)	This is the standard approach for developing SMPs as set out in associated guidance, therefore no modification of SMP required
Low Green and Ayr Seafront Trust	One	10 - 13	There is no mention of the difference between Chart Datum (CD) and Ordnance Datum (OD). Understanding this is crucial to determining the finished flood level of development on the Ayrshire Coast… Twice a day high tide exceeds OD by about 1.6 to 1.7 metres.	Finished floor levels are not quoted in the SMP. No modification of SMP required.
Low Green and Ayr Seafront Trust	One	16 - 17	We have been unable to find any mention of the Coast Protection Act 1949. This, amongst other things gives the Coast Protection Authority the power the levy compulsory 30 year mortgages of 'benefited properties' to pay for 'coast protection works'. We feel that a draft shoreline management plan should have mentioned this instead of fudging the costs of such protection works 'to be determined in the future'.	There are numerous funding mechanisms available to implement individual measures, to single out one for mention in the SMP would be incorrect therefore no modification of SMP required.
Low Green and Ayr Seafront Trust	Two	4	Given that the rivers Ayr and Doon flow into Ayr Bay along with the Slaphouse Burn we feel mention should have been made of the obvious that river mouths provide entry points for the sea as well as existing points for excess fresh water.	The entry of tidal flood waters via river mouths is addressed in the SEPA flood maps that inform the risk assessment for the SMP. No modification of SMP required.
Low Green and Ayr Seafront Trust	Two	5	We point out that a draft shoreline management plan must go a bit inland beyond the high tide limit of the major drains of the area to provide a comprehensive plan for the protection of the Ayrshire coast.	The SMP study area includes all lands up to 1km inland from the coast and associated estuaries, No modification of SMP required.
Low Green and Ayr Seafront Trust	Two	6 - 7	In the 1950s the sand on the beach had a level gradient to the sea at the old coastguard look out at the battery. Today it does not. What has caused this accretion of sand over time? …	The net northward movement of sediment along the coastline at Ayr is interrupted by the presence of the harbour walls trapping sediment on the southern side. How this has changed since the 1950's is not known but the observations are in line with the information on

				which the SMP policy is based. No modification of SMP required.
Low Green and Ayr Seafront Trust	Two	8	We note that in Appendix D page D-21 the table heading states ' The maximum wave height during a force 8 storm was found to be less than 1.0m' but no wind direction is given or fetch distance…Given everything we have stated above we feel that the authors of the report have no idea what a one metre wave looks like.	A range of wind directions were considered and the maximum near shore wave height observed during a force 8 gale is quoted. No modification of SMP required.
Low Green and Ayr Seafront Trust	Two	11	We feel that the draft plan is more or less correct as far as it goes, but does not go nearly far enough to help the coast protection authorities formulate cogent policies with respect to coastal flooding and associated risk.	Statement, no action required as the SMP has been developed in accordance with standard guidance.
McKelvie	One	2	I would like more information to understand why the 'minor roads at Kildonan' which are already affected by wave overtopping and erosion are ignored. Is it considered uneconomic to protect the coastal road given it only provides access to the properties located on it?	This is a local issue, the SEPA flood maps do not include over-topping and the NCCA methodology will only show erosion where there has been an observable change in the position of the high water mark, hence some local issues may not be depicted. These comments are useful and should be kept in mind should a more detailed local study be progressed.
McKelvie	One	3	Are you able to identify which single residential property is considered to be at risk of coastal flooding? Given that the dot on the map makes it appear to be either Little Mill or the nearby cottage, I am surprised that the nearby cottages of Brooklet and Streamlet have not also been identified as such.	The SEPA mapping is not intended to identify individual properties, a more detailed local study would be required to confirm flood risk to individual properties, therefore no modification of SMP required.
McKelvie	One	3	Are you able to clarify if this is because the survey did not extent along the track past Little Mill to the other properties?	The mapping was produced by SEPA and is based on modelling not survey. No modification of SMP required.
Clyde Marine Planning Partnership	One	1	The SMP should include reference to the development of the Clyde RMP, either within Section 8.1 'Application of the SMP in Spatial Planning' or Section 8.2 'Further Actions to facilitate medium/long term policies' from page	SMP text modified to include a reference to coordination with the Clyde RMP.

			257 pf the SMP.	
Clyde Marine Planning Partnership	One	3	In section 7.1.1 General Mitigation, we support the concept that 'where feasible, natural flood management and soft/green engineering methods should be incorporated into the detailed planning to reduce the negative environmental impacts of any scheme'. We would draw your attention to a NERC funded study, entitled ' Greening the Grey', which has recently been completed and includes a section on coastal and estuarine Integrated Green Grey Infrastructure.	Noted for the next stages of detailed study.
Questionnaire 5	3	Q1	Clauchlands Road, between Brodick Road and Oakbank occasionally submerged by HWST with strong southerly winds.	Noted for the next stages of detailed study.
Questionnaire 5	4	Q4	I feel existing sites, generally, should be maintained by any new build and approach roads should be constructed well back from and above the shore.	Noted
Questionnaire 4	4	Q4	Lots of plastic debris washes up on the beach from the mainland (Tesco milk cartons). More effective beach cleaning and maintenance from NAC. Sewage outfall on the Fisherman's Walk (just past the concrete bridges) should be dealt with. Very smelly in the summer months.	Recommendation noted by NAC.
Questionnaire 3	3	Q1	Machrie is continuously losing ground to the sea, particularly in the winter. The road is at risk.	Noted for the next stages of detailed study.
Questionnaire 2	3	Q1	Portencross Castle is built on discontinuous sandstone – evidence of recent rock discontinuity collapses, possibly arising from inter-tidal wave action – risk of losing this historically important ancient scheduled monument unless some protection is undertaken.	Recommended policy is hold the line, therefore no change required.
Questionnaire 2	3	Q2	I would like to see clear standards applied to coastal defences e.g. rock armouring, to ensure that rock does not become gravel over time and to ensure that builder's rubble cannot be used for this purpose.	Recommendation noted by NAC and SAC for future working, however beyond the scope of this SMP.

Questionnaire 9	4	Q10	High spring tides and strong southerly winds increase the average tide height in the Firth of Clyde.	Noted and already accounted for in the underlying datasets on which the SEPA flood maps are based.
Questionnaire 9	4	Q12	Chapter 6 of the draft SMP is fundamentally okay but any works proposed need to be blended with the environment and less heavy handed on the 'urbanisation' of the coast.	Noted for the next stages of detailed study.
Questionnaire 13	3	Q11	Does not agree with the proposed policies presented in Chapter 5 of the draft SMP – Would like to see a building wall chestnut fence around sand dunes to protect reeds from being swept away and loss of sand by gale force wind and wire mesh layer to hold reeds in place.	Noted for the next stages of detailed study, however is too detailed for SMP level of assessment which does not propose measures.
Questionnaire 13	3	Q12	Does not agree with the action plan presented in Chapter 6 of the draft SMP – Would like to see seaweed recycled and other trash should be removed and the shoreline protected from fires in summer beach bins should be provided. A path should be laid to allow access along the beach.	Recommendation noted by NAC and SAC for future working, however beyond the scope of this SMP. The comment relates more to environmental management issues than management of the coast to protect against flooding and erosion. Please note that Mechanical Seaweed removal can actually be a contributory factor in coastal erosion.
Questionnaire 13	3	Q13	Sewerage problems have not been addressed from raw sewerage pipe outlet at beach.	The SMP is intended to set policy for dealing with erosion and flooding not water quality and waste water treatment.
Questionnaire 14	3	Q13	Regarding the hold the line conclusion for Cumbrae a lay person could have identified that areas most at risk i.e. Balloch Bay and the north end of the island. Money should be spent on schemes rather than consultants and consultations.	Requirements for an SMP come from the Local FRMP. Process to be undertaken to ensure management of the shoreline into the long term is well planned to be effective and sustainable.
Questionnaire 22	44	Q10	According to the Flood Defence Consultation my road is at risk	No information as to what road is at risk so unable to review within SMP. Flood and erosion risk to transport infrastructure included within SMP and appropriate policies proposed to protect such assets wherever feasible.

Questionnaire 23	46	Q10	Road access to my home from the A78 is liable to coastal flooding. The A78 is often closed between Skelmorlie and Largs. Rail line from Kilwinning to Saltcoats is often closed due to sea conditions. Ardrossan harbour is frequently closed to shipping due to wind and sea conditions as is Largs slipway and Wemyss Bay Pier.	Noted for the next stages of detailed study. No modification of SMP required
Questionnaire 23	45	Q11	Whilst I agree with the principles of the policies the timescale needs to be advanced as conditions on the coast are already causing many difficulties and need attending to now.	Statement Noted.
Questionnaire 23	45	Q12	Too little immediate action. The A78 needs rerouting, rail line Kilwinning-Saltcoats needs re-routing, new all-weather port for Ardrossan ferries needed, new terminals for Cumbrae and Rothesay ferries needed. Arran circular road realignment needed in places. A77 needs to be rebuilt away from shoreline.	Statement noted for the next stages of detailed study.
Questionnaire 24	3	Q10	The local council recognised the risk of erosion in sub-cell 2 as in the 1980's and installed gabions to protect this shoreline. There is now evidence of marked erosion which has been assessed as 'high priority' in the draft SMP study, a part of which has recently been repaired leaving the area towards the Cuddy Dook vulnerable.	Statement noted for the next stages of detailed study. Policy is to hold the line in this area.
Questionnaire 24	3	Q13	Lamlash bay is both a Marine Protection Zone and a popular holiday village with many water based activities. Part of the sub-cell A2.1 was previously a land fill site and the increasing erosion will inevitably contaminate the bay with hazardous waste.	Statement noted and SMP text updated to reflect this better.
Questionnaire 25	3	Q10	2010 – After some years of deterioration, the gabion sea defence north of the Benlister Burn, Lamlash (locally known as Tennis Court Road) finally collapsed leaving the hinterland, an old Council landfill site, open to exposure and leakage into the sea there being no other form of	Statement noted for the next stages of detailed study. Policy is to hold the line in this area.

			containment. This area of Lamlash Bay is now a Marine Protected Area.	
Questionnaire 25	3	Q11	While I agree with the intervention categories and pleased to see in Table 6.12 that Policy Unit A2.A has been given 'High Priority' I would like to see a further category within the short term period 0-20 years possibly headed 'Urgent', 'Immediate' or 'Top Priority' where an area (as in Q10 above) can be especially highlighted to receive funding should that become available. A possible 20 year wait is just too long to contain the detritus of yesteryears.	Prioritisation within the short-term period will be undertaken by the responsible agencies, some areas may see works in a very short timescale if they can be justified whereas others may take longer to resolve.
Questionnaire 26	3	Q10	Erosion of the landward part of the intertidal area has resulted in a significant reduction in the amenity value of the foreshore at Fairlie.	Comment noted for the next stages of detailed study. This is something that could be relevant if measures are being progressed for this area
Questionnaire 26	3	Q11	For cell 6b1.2 the policy should be to advance the line. If undertaken by beach nourishment/replenishment utilising the sand accumulating to the south of the causeway the amenity value of the beach can be greatly improved. Raising the bed level of the foreshore will reduce water depths and reduce storm wave flooding by causing north-west and west waves to break further from the property line.	Beach nourishment is an acceptable measure under a hold the line policy as applied to this policy unit.
Questionnaire 26	3	Q12	The action plan is deficient in failing to identify and give consideration to the southern part of cell 6b1.2 in Table 6.1. The policy in this length should be to advance the line with study being undertaken of beach nourishment/replenishment using existing marine sand sources.	Beach nourishment is an acceptable measure under a hold the line policy as applied to this policy unit.
Questionnaire 26	3	Q13	My responses to Q1, 2, 3 and 4 relate to that part of cell 6b1.2 extending north from the mouth of the Glen Burn to Allanton Park Terrace, Fairlie. In 1974 a causeway was constructed as the landward part of the approach to the Hunterston Deepwater Jetty. The causeway extends across the intertidal area to approximately the line of MLWS. The causeway	Southannan Sands is acknowledged as a sediment sink in the SMP. The recommended policy for 6b1.2 is to hold the line for which beach nourishment is an acceptable option provided it can be justified financially and is environmentally acceptable.

			interrupted the south to north movement of sand along the Southannan and Fairlie Sands. Over the last 30 years this reduction in northward sand has resulted in a significant (up to 1m) reduction in the level of landward part of the intertidal area between the Glen Burn mouth and Allanton Park Terrace. The reduction in wave action resulting from the shore being relatively sheltered from the prevailing south-west winds in conjunction with the much reduced sand supply has also caused a steepening of the upper part of the beach. The changes arising from the causeway construction have resulted in a reduction of storm wave flooding, but importantly for Fairlie have greatly changed the nature of the foreshore. Where formerly medium to course sand formed the beach it now comprises of gravel, cobbles and broken rock. The beach is therefore must less attractive as a recreational amenity for villagers and visitors than was the case up to the causeway construction. Visual observation, confirmed by Peel Ports bathymetry, shows an extensive accumulation of marine sand on the south side of the causeway. Together with the reduction in beach levels to the north this is clear evidence of the causeway's impact on the littoral drift. The ES fails to identify the historic lowering of the intertidal sands in cell 6b1.2, the steepening of the foreshore, the increase in sediment size and the loss of shoreline amenity. All of the foregoing could have been identified if RPS had consulted with local communities and gained the benefit of experience of those who have lived in the area for many years and observed the changes.	
SEPA	1	3	It would be useful to have a headline summary of risk (and how risk changes in the future) upfront in the document so as to set the risks in each policy unit into context and provide an	Summary included in SMP

			overall context for the level of risk identified in this SMP in comparison to national coastal risks.	
SEPA	1	4	Note properties are quoted in precise numbers - consider rounding to reflect uncertainty as in the SEPA Flood Risk Management Strategies.	Property numbers in SMP rounded to multiples of 5
SEPA	1	5	Not seen computational modelling - no objection to it being used to define management units.	Statement, no action required
SEPA	1	6	The SMP uses the NCCA outputs to assess erosion risk. There are limitations of the NCCA including that it assumes no increase in erosion rates as a result of relative erosion risk where this has been managed in the past with defences. In a number of locations, local knowledge appears to have identified significant erosion where the NCCA did not identify any. It may be prudent to make reference to SNH project also - it was done, I believe by Glasgow University on behalf of the Scottish Government (the SG project officer was seconded from SNH).	SMP text updated to include more reference to uncertainties in underlying data.
SEPA	1	7	Similarly, the limitation of SEPA coastal flood maps should be noted (i.e. no consideration of wave overtopping). In some locations wave overtopping will be an important contributor to flood risk which is not reflected in the flood maps.	SMP text updated to include more reference to uncertainties in underlying data.
SEPA	1	8	Where hold the line policy is set, it is not clear whether this is for the whole policy unit or whether it may be only able to be applied in part of the policy unit- e.g. urban areas.	SMP text modified to try to make it clearer that policies do not necessarily apply universally throughout a policy unit.
SEPA	1/2	9	Notes in several places that Scottish Water assets are at risk. Have they been consulted and are they aware of risk. In areas where the Scottish Water asset is a significant proportion of the risk, do they agree that hold the line is the correct policy or would they prefer relocation?	Yes, see Scottish Water responses below.

SEPA	2	10	Page 65 - states that hard protection (structures) have short life spans. This is not correct as these are usually designed/constructed to last 50 to 100 years which is more long lasting than soft interventions (e.g. beach recharge) in most scenarios.	SMP text modified to reflect this better.
SEPA	2	11	We would query if there is sufficient consideration of potential climate impacts on designated habitats at the coastline. In most other SMPs we are familiar with, coastal squeeze is a prominent climate change impact where holding the line results in a narrowing of the intertidal area and hence loss of designated habitat... Coastal squeeze is one of the main drivers of managed realignment proposals in other SMPs. Statement in policy unit 6B1.1 and many others identifies no significant impact to amenity etc. by holding the line suggesting that coastal squeeze is not considered to be an issue.	SMP and SEA reviewed in this context
SEPA	2	12	In 6b2.2 the policy is advance the line. Whilst this seems like the correct policy, I don't understand why (especially in combination with sea level rise) that this does not result in impacts on the Southanan Sands SSSI. Might have expected a loss of beach area especially in longer term.	SEA / SMP text reviewed to reflect these potential impacts better.
SEPA	2	13	Surprised that there is not more reference in the plan to adaptation especially in those area where there are few assets at risk (and yet hold the line has been set as preferred policy)/	SEA / SMP text reviewed. Note text amended within SMP to clarify the definition of the hold the line, which will only be done in specific areas where risk is identified. Otherwise the management is no active intervention.

SEPA	2	1	The SMP should identify the best policy to manage flood and erosion risks in the long term (based on coastal processes and not necessarily constrained by economics). There is however significant benefit in understanding the likely economic situation in which the policies will be implemented which helps to sense check our ability to deliver what is in the plan. For example in policy unit 6c2.2, no assets are identified to be at risk but, despite this, a hold the line policy is set which has a possible need for defences in 2nd epoch identified. In reality it is difficult to see how the hold the line could be implemented in this case which brings into question whether the preferred policy is appropriate / deliverable.	Comment noted. There is insufficient detail is available to undertake a cost/benefit analysis for each policy unit. SMP text modified to try to make it clearer that any measures will be subject to CBA before implementation.
SEPA	2	2	Maintenance activities (of existing defences) are noted as existing expenditure and therefore not subject to scrutiny as to whether viable in the future or not. Many of the defences will be reaching the end of their life within the first and second epochs and will need to be replaced in order to continue to provide current levels of protection. It would also be expected that in many cases, maintenance costs will increase with sea level rise and associated reduction in protective beach / intertidal area. Appreciate there will be economic benefits likely provided by the defences which are not accounted for, but should the SMP not challenge maintaining existing defences especially when they will likely need major replacement / repair works with the plan timeline?	See comments above about economic justification for any measures.
SEPA	3	3	If you take the first cell, 6b1, there are AADs of £146k. That's how much could be spent on the whole coastline of 35km. Total damages are £4.4 million over 100 years. If the defences are only required in short sections where the main benefits are then it looks feasible that maintenance plus limited extension to existing	See note above about policy not necessarily extending to measures over full extent of policy unit.

			defences and raising defences to accommodate climate change may be economically feasible. But if its saying that the policy for the whole unit is hold the line and if significant parts of that need defending, then the available money does not go far. I can see that there may be justification to protect the road where it is at risk as it's a key route (and unless relocation is viable) regardless of high level economics and also its viable to protect built up areas where the benefits are generated. But is it really viable to have hold the line for the whole 35 km of shoreline? It may be viable to hold some parts and do nothing in others but the current policy expectation is that the whole shoreline will be protected if required. "The policy identified for each policy unit within sub-cell 6b1 is hold the line. In each policy unit this is likely to consist of maintaining and extending existing defences in the short-term, and constructing new defences in the medium to long-term as required". Would it be more realistic to state that hold the line applies to the A78 as a key transport route plus Largs as the location generating the benefits (if that's correct assumption) with do nothing for the remaining 35km. Just concerned that the present statement seems to commit the council to hold the line along the whole coast in this unit which may not be practical.	
SEPA	3	4	Policy Units Sub-cell 6b2 has been divided into two policy units: • 6b2.1 Hunterston • 6b2.2 Hunterston to Farland Head Policy unit 6b2.1 contains multiple assets at risk of flooding and erosion while Policy unit 6b2.2 contains no assets at risk. Maybe no issue with economic case for 6b2.1 given it's a strategic site under national planning framework (despite assessment that potential	SMP text for 6b2.2 reviewed, boundary of 6b2.2 moved slightly southwards to clear power station site and policy changed to no active intervention.

			benefits are £31k whilst the study alone cost £100k). But would question why its hold the line for 6b2.2. There are no assets at risk so why suggest it may be required to construct coastal defence assets? In the impacts table do nothing would appear to also achieve no loss of property (some land may be lost?) and would have no adverse impacts on the other criteria and would be free of cost. So why not do nothing?	
SEPA	3	5	Purely on economics, there appears to be little justification for intervention in some of the other areas and indeed if cost of maintaining defences were taken into account, there would be a saving. E.g. 6c6.2 seems to have little economic justification given it has an AAD of £19k for the whole of 6c6. Likewise 6c1 only has potential benefits of £8.7k AAD yet has a hold the line policy requiring maintenance of existing defences possibly new / extended defences in the future.	Economics are not necessarily the only drivers for measures to be implemented, but point is noted and will be considered further at the next detailed stage of study. Please note previous comments that policy will only refer to the area of risk and not the entire stretch of shoreline.
SEPA	4	6	So I guess my main point of the economics is that it is not always apparent from the appendix and document what the justification is to hold the line where the economic arguments do not stack up. A default do nothing in these cases with words to note that locally small scale defences may be justified feels more sensible and will not leave the Council open to getting hit over the head with an SMP which has hold the line policies where the Council or other cannot justify or afford to do so.	The decision was taken by NAC and SAC that it is preferable to present a policy of hold the line in some places, which allows for either active management or no active intervention.
Scottish Water		Q1	There are some significant Scottish Water Assets that may be at risk as a result of coastal erosion and these include: • Ardrossan WwPS – NS226419 • Saltcoats WwPS – NS252412 • Stevenston Point WwPS &WwTW – NS275404	Noted, major SW assets are believed to already be included in the underlying SEPA and NCCA risk evaluations. This information will also be considered further at the next detailed stage of investigation.

			• Irvine Beach Park WwPS – NS312374 • Barassie WwPS – NS326338 • St Andrews WwPS – NS344279 • Prestwick Esplanade WwPS – NS345268 • Girvan WwTW – NX190999 This list is by no means conclusive, but names the main significant assets that SW are aware of at this stage and further point with regards to use of GIS data should be given consideration.	
Scottish Water		Q2	No significant objections in principal to the proposals as they are currently presented in chapter 5. Where it is proposed to have "managed realignment" or "advance the line", Scottish Water should be consulted in advance of any works to confirm that there is not water or sewerage apparatus which could be affected in accordance with the provisions of Sewers for Scotland and Water for Scotland 3. Local Authorities should have access to Scottish Water GIS data but this can be obtained from Scottish Water on request and in accordance with current public utilities guidance and practice.	Comment noted for future working.
Scottish Water		Q3	No significant objections in principal to the proposals as they are currently presented within the chapter 6. As with the proposals detailed in chapter 5, Scottish Water should be consulted on any alterations within the proximity to existing water and sewerage apparatus in accordance with current public utilities guidance and practice.	Comment noted for future working.
SNH	1		We would encourage the promotion and adoption of soft protection measures in areas where the natural heritage interests are dependent on active coastal processes. This is particularly important where the features of conservation importance are directly linked to the mobile habitats of a dune frontage.	Recommendation noted for future working.

SNH	2		Policy Unity 6B1.1 Skelmorlie to LargsThe hold the line policy would involve coastal defences being upgraded and extended. The might permanently obscure or damage notified rock outcrops of Largs Coast Section SSSI, much of which directly adjoins the existing defences for the A78 road. Therefore the SEA (p52) should conclude Significant impacts on Biodiversity, rather than 'no significant impacts'. Suitable mitigation for existing defences could involve restricting works to the existing footprint. Mitigation for defence extensions might be to only allow obscuring or damage to parts of the rock sequence that are adequately represented elsewhere in the SSSI. A site specific approach is recommended.	In the assessment it was concluded that no encroachment on the SSSI was anticipated and therefore no significant impacts anticipated. Text amended in Environmental Report to reflect this. Agreed that a site specific approach is recommended.
SNH	2		Policy Unit 6B2.1 Hunterston - It's important to note that although the policy is titled Advance the Line, the actual wording is allow the existing line to be advanced. This highlights the fact that such land-claim would be for industrial expansion (NPF site), rather than being necessary for managing flooding or erosion. It should be noted that while the NPF2 promoted industrial development, it also requires that the interests of the protected site were taken into account and that impacts should be mitigated.	Comment noted
SNH	2		Policy Unit 6B2.1 Hunterston - As no details of the proposals are given, the land claims and developments of the last 50 years are a dominant control on the tidal flats, the statement 'extending….existing defences… will have minimal impact on the sediment regime' seems unjustified (SMP p81). It is also contradicted by the SEA (p58 Geology Soils Etc.) identifying 'potential impact on the natural processes and...sediment transport within.... Southannan Sands SSSI". New land-claim could indeed convert some notified sandflat to mudflat, and	SMP and SEA text checked and revised for consistency. Potential impacts biodiversity, flora, fauna and natural heritage amended to significant as recommended.

			permanently remove some. Therefore, in the SEA (p57), a Significant impact on Biodiversity is more appropriate than the Moderate given, and would be in line with our SMS. The proposed 'detailed process modelling' is not in itself mitigation; to devise on-site mitigation may be very difficult.	
SNH	3		Policy Unit 6C2.4 Gailes Burn to Troon. The reference to South Ayrshire Council undertaking dune restoration work in this area (p107) should also be discussed in section 3.5 as it is a relevant part of the baseline condition.	SMP text updated to reflect this.
SNH	3		Policy Unit 6C4.1 Ayr to Greenan Castle. The blanket Hold the Line policy is ambiguous. The proposal is to improve/extend existing defences North of the River Doon, but it is unclear whether this rules out new defences for the currently dynamic coastal habitats which could be adversely affects by defences measures, both within and outwith Maidens to Doonfoot SSSI. No Active Intervention may be appropriate here, either through a composite policy for the unit, or by moving this area into unit 6c4.2. Alternatively, if there are reasons of flood and erosion management to Hold the Line between Greenan Castle and the River Doon, these should be explained.	This is clarified by the modification included to address the SEPA comment about a policy not necessarily applying across the whole policy unit.
SNH	3		Policy unit 6d1 South Ballantrae to Currarie Port. The complex gravel barrier that lies mostly within Ballantrae Shingle Beach SSSI plays a major role in flood- and erosion-risk management. The No Active Intervention policy is welcome, but as the policy unit boundary is halfway along the barrier, the northern part of the beach is technically subject to Hold the Line per 6C6.3. Moving the boundary north to the harbour headland would acknowledge the importance of	Comment noted and policy unit boundary revised.

			unconstrained coastal processes to the SSSIs notified shingle habitat, recognising the headland as a significant barrier to longshore transport.	
SNH	3		Policy Unity 6d1 South Ballantrae to Currarie Port - The statement 'the effect of rising sea-level on this policy unit is expected to be relatively minor due to steep topography' is not justified (SMP p148). In fact, the village and farmland occupy a coastal terrace only 1m-2m higher than the gravel barrier, which therefore protects them. It is possible that sea-level rise will eventually roll the barrier inland, punctuated by unpredictable shifts in the River Stinchar mouth, altering the risks. Avoiding intervention with the barrier is likely to be the best way of maintaining its protective function. However, this might in the long-term require difficult choices about certain assets, and this issue must be raised in the SMP.	SMP text reviewed.
SNH	4		Policy Unit A1.3 Sannox to Brodick - The Hold the Line Policy (short term) would involve coastal defences being upgraded and extended. That might permanently obscure or damage notified rock outcrops of Corries Foreshore SSSI, within which there are various defences for the A841 road. Our advice at 6b1.1 also applies here.	Comment noted for future working and this will be assessed at the next detailed stage of study. It should be noted however that no significant impacts were anticipated for the rock outcrops of Corries Foreshore SSSI as there are no assets to be protected in the area of the designation, with the main risk at Sannox Bay.
SNH	4		Section 6 - Action Plan (Table 6.2) - I suggest a new Action for Unit 6b2.1 (Hunterston): undertake initial investigation of hydro-geomorphic effects of the proposed land-claim, especially on Southannan Sands SSSI. As the Advance the Line policy is driven by national infrastructure requirements, this should arguably be done pre-emptively rather than deferred to the EIA stage.	Recommendation noted for NAC and SAC to implement at the detailed feasibility stage.

Campbell	6	1	There are set timescales for assessing risks but no criteria that would form the basis for that risk assessment. It is assumed that these criteria exist and have been adopted by the study team but there is no mention in the reporting.	The timescales for assessing risks are defined in various guidance documents and the project brief.
Campbell	6	4	Appendix B page B3 includes a list of stakeholders asked to comment on the outcome which in the case of Arran is in no way comprehensive and it is hard to understand how it was constructed. In any event, not much response was elicited from those who were consulted, a notable absentee from the list being the Lamlash Improvements Group.	A desktop search was carried out to determine key stakeholders within the area, this was reviewed and augmented by NAC and SAC to develop the list of stakeholders detailed in Appendix B. The Lamlash Improvements Group was not identified during this search but will be noted for future working in the next detailed stage of study.
Campbell	6	5	A notable omission related to Arran is that there is absolutely no reference to the island's dependence on its lifeline service ferry connection to the mainland and how vulnerable this might be in future to continued operation in the face of sea level rise and increasingly severe weather conditions.	The presence of the ferry terminal in Brodick is acknowledged within the SMP. The recommended policy for Policy Unit A1.4 that contains this asset is to hold the line and hence a presumption in favour of consenting works to maintain this asset.
Campbell	8		A coup on Tennis Court Road existed in two places: 1. Between the tennis courts and the Benlister Burn; and 2. Along the old 'back road' to the Benlister Burn.	This is noted, and the presence of a former landfill site has been acknowledged in the SMP. Recommended policy in this area is to Hold the Line.
Campbell	8		Who will be responsible for implementing and monitoring events and changes/implementation of the Plan?	Implementation of actions recommended in the SMP rests with a number of organisations, including asset owners and the Councils. Responsibility for monitoring and review of the SMP rests with the two Local Authorities.

Table A-2 Consultation Comments Received in Relation to the SEA Environmental Report

Respondent	Pg.	Para.	Comment	Response / Action
HES	3	1	In noting the comments in Section 1.5 relating to the lack of a formal requirement to issue a Scoping Report we would simply clarify that under the Environmental Impact Assessment (Scotland) Act 2005) the issuing of a Scoping Report to each consultation authority is a formal requirement.	Environmental Report amended to reflect this better.
HES	4	1	Given the location of Greenan Castle you may wish to add a monitoring requirement to the SMP Action Plan for the cliffs supporting the castle to ensure that any issues are identified.	Recommendation passed to NAC and SAC. Reporting on erosion and land use is included within the Monitoring proposed in the SEA and adopted in the SMP, however this is at the Plan level with no specific features mentioned as indicators.
HES	4	2	While it is noted that no significant erosion issues are identified in the sub-cell 6C4 as a whole there may be localised issues for the scheduled monuments of Heads of Ayr, fort 1050m NNW of Genoch Fam (SM5594) and Dunure Castle and dovecot (SM6105).	Environmental report updated to reflect this comment. Councils to note in future detailed planning.
HES	4	3	As is noted that there are a number of localised coastal erosion on sections of Turnberry Castle (SM6183) nearest the sea, particularly the inlet to the east of the lighthouse. There is also evidence of erosion taking away some of the cliff at the most westerly point below the wall and railings enclosing the lighthouse. In view of the policy approach of NAI it will be important that these issues are monitored for further erosion.	Recommendation passed to NAC and SAC. Reporting on erosion and land use is included within the Monitoring proposed in the SEA and adopted in the SMP, however this is at the Plan level with no specific features mentioned as indicators.
HES	4	4	While no specific mention of the scheduled monument Girvan Mains, Roman camps, linear cropmark and enclosure (SM5596) in the assessment here it is worth noting that the scheduled area extends close to the existing coastline. (Cell 6c61)	Environmental report updated to reflect this comment. Councils to note in future detailed planning.
HES	4	5	It should also be noted that further down the coast the category B listed Memorial Stone at Lendalfoot (LB1059) lies on the coastal side of the A77. (Cell 6c63)	Environmental report updated to reflect this comment. Councils to note in future detailed planning. Note that works are unlikely in this specific area as no assets are at risk.
HES	5	1 - 3	With regard to the area around Lochranza Castle we would welcome early engagement as part of the feasibility study to ensure that the relevant Construction and Environment Management Plan appropriately addressed and mitigates the	Recommendation noted for future collaborative working with NAC and SAC. These consultations are recommended within the mitigation of the SEA Env Report and the

			predicted impacts.	SMP.
SEPA	2	1	It would have been useful if the ER had included a table to describe how the comments made by the consultation authorities at scoping stage had been taken into account through the SEA.	All responses received were acknowledged and logged within Appendix C of Env Report. Where relevant and feasible these comments were incorporated into the development of the SMP and SEA Env Report.
SEPA	2	4	Generally, we consider that relevant environmental issues have been identified in the ER. However, you may wish to make specific reference to the SEPA Indicative Flood Risk Maps with regard to the flood risk context along the shoreline.	Text updated within the environmental baseline to reflect this.
SEPA	2	6	It may have been beneficial if the SEA considered the implications of each policy alternative (i.e. no active intervention, hold the line, advance the line or managed realignment) for each Coastal Sub-Cell Policy Unit. This would have helped to inform the choice of option in each location.	Following an iterative screening and assessment process that included environmental indicators, only technically viable policies were assessed, i.e. only those being considered by the SMP. Policies considered to be inappropriate were not considered further in the Plan process and therefore there would be no need to assess them solely for environmental purposes.
SEPA	2	7	Table 3.4 indicates that the SMP's Action Plan, which sets out the methods by which the policy for each of the Coastal Sub-Cells may be implemented, would be assessed. It is not clear how these proposals have been captured within the assessment.	The Action Plan was the information assessed in the SEA Env Report.
SEPA	2	8	… One of the most important ways to mitigate significant environmental effects identified through the assessment is to make changes to the plan itself so that significant effects are avoided. It may have been beneficial to consider what specific changes or mitigation measures are needed to address the negative environmental impacts or enhance positive environmental impacts predicted for the proposed Coastal Sub-Cell Policy Unit within the assessment.	An iterative screening and assessment process that included environmental indicators took place amongst the working group to establish the proposed policies to be taken forward within the SMP. Any environmental impacts identified within the SEA were then taken into account within the assessment of the options and summarised within Section 5 of the SMP. Further to this where impacts have been anticipated at this strategic level, measures have been proposed to help avoid, reduce or mitigate for negative impacts at the next detailed stage of study.
SEPA	2	9	We also welcome the intended monitoring programme details in Section 8.3 of the ER. It may have been useful to link this with the specific effects identified within the assessment.	Monitoring proposals within Section 8.2 of the environmental report are based on the strategic environmental objectives. Impact

				specific mitigation could be implemented at the next detailed stage of study / feasibility.
Questionnaire 13	26	Q13	Sewerage problems have not been addressed from raw sewerage pipe outlet at beach.	As the driver of the SMP is the Local Flood Risk Management Plan, the SMP is focused on flood risk and erosion, however not directly addressing water quality issues.
Scottish Water		Q4	I would not consider the conclusions of the environmental assessment take into consideration fully the pressures on the water environment as Scottish Water have not been asked to comment on the impact of continuous and intermittent discharges to the natural environment. Further consultation should be undertaken with Scottish Water and the relevant authorities with regard to environmental impact to fully understand flood risk from sewers and sewerage systems at coastal locations and the impact of discharges on the watercourses. The impact of continuous discharges to the water environment should be considered in the assessment of water quality.	As the driver of the SMP is the Local Flood Risk Management Plan, the SMP is focused on flood risk and erosion, however not directly addressing water quality issues.
SNH	2		The 'hold the line' approach for the whole front of Ayr and Irvine Bay over the next 100 period is ambitious and requires more detailed consideration. In respect of this approach and the linkages with the National Coastal Change Assessment, SNH will take a wide view throughout input into the Scottish Governments Dynamic Coast Project.	Additional text provided in the SMP to further explain the definition of 'hold the line', for example - "Hold the Line" does not mean that measures have to be applied unilaterally along the entire frontage to hold the line, rather that subsequent consenting processes that build on the SMP should not presume against an application for measures to hold the line in this area. Thus in essence "No active intervention" is always an option, whereas the more intrusive policies that provide greater protection to vulnerable assets near the coast are only applicable where such measures are permitted by the SMP policy and are demonstrated to be justified and acceptable in terms of all other applicable criteria.
SNH	2		Policy Unity 6B1.1 Skelmorlie to Largs - The hold the line policy would involve coastal defences being upgraded and extended. The might permanently obscure or damage notified rock outcrops of Largs Coast Section SSSI, much of which directly adjoins the existing defences for the A78 road. Therefore the SEA (p52) should conclude Significant impacts on Biodiversity, rather than	In the assessment it was concluded that no encroachment on the SSSI was anticipated and therefore no significant impacts anticipated. Text amended in Environmental Report to reflect this. Agreed that a site specific approach is recommended.

			'no significant impacts'. Suitable mitigation for existing defences could involve restricting works to the existing footprint. Mitigation for defence extensions might be to only allow obscuring or damage to parts of the rock sequence that are adequately represented elsewhere in the SSSI. A site specific approach is recommended.	
SNH	2		Policy Unit 6B2.1 Hunterston - As no details of the proposals are given, the land claims and developments of the last 50 years are a dominant control on the tidal flats, the statement 'extending….existing defences… will have minimal impact on the sediment regime' seems unjustified (SMP p81). It is also contradicted by the SEA (p58 Geology Soils Etc.) identifying 'potential impact on the natural processes and...sediment transport within.... Southannan Sands SSSI''. New land-claim could indeed convert some notified sandflat to mudflat, and permanently remove some. Therefore, in the SEA (p57), a Significant impact on Biodiversity is more appropriate than the Moderate given, and would be in line with our SMS. The proposed 'detailed process modelling' is not in itself mitigation; to devise on-site mitigation may be very difficult.	SMP and SEA text checked and revised for consistency. Potential impacts biodiversity, flora, fauna and natural heritage amended to significant as recommended.
SNH	2		Policy Unit 6C2.1 Ardrossan to Stevenston. The Hold the Line Policy would involve coastal defences being upgraded and extended, which could permanently obscure or damage rock outcrops within Ardrossan to Saltcoats Coast SSSI. The policy also proposes soft engineering at Stevenston beach, which could mean some outcrops being temporarily obscured e.g. if beach nourishment was chosen. Therefore the SEA finding of 'a lack of any identifiable impact pathways' on this SSSI isn't justified. The SEA (p69-70) gives a Moderate impact on Biodiversity (for SSSIs further south), but Significant seems more appropriate. Suitable mitigation for hard defences could be as set out above for 6b1.1. Mitigation for the soft engineering would be to select methods unlikely to increase sedimentation on rock outcrops.	In the assessment it was concluded that no impacts on the SSSI were anticipated as the area of risk / management is at Stevenston Beach and not near to the SSSI. Text amended in Environmental Report to further reflect this.
SNH	2		Policy unit 6c2.3 Irvine Bay mouth of Garnock estuary to Gailes Burn. The medium-term Hold the Line policy here is that 'soft engineering including dune stabilisation…. Will be updated and extended' (SMP p103). The features of Western Gailes SSSI are supported by coastal dynamism, including erosion and sand-blow as well as backshore vegetation growth. The proposed measures	Issues that are being experienced in the areas of the Western Gailes SSSI would seem to be from storm events and not long term erosion. The policy looks to maintain the dunes and therefore the habitat for the invertebrate assemblages. The potential for moderate

			could semi-permanently disrupt the SSSI functioning if they were within the SSSI, and could affect it even if they were merely adjacent. Therefore, a significant impact on biodiversity may be more appropriate than the moderate given in the SEA (p69-70). The proposed mitigation 'ensure protection measures do not encroach upon the designated site boundaries' is very welcome, though surely a clearer way to achieve this would be to specify No Active Intervention within the SSSI. It is recommended as further mitigation that even if soft engineering is installed adjacent to the SSSI, it is sensitively designed so that the SSSIs sediment budget and wave regime is not adversely affected.	negative impacts and not significant is proposed as the management policy is looking to maintain the system. A policy of no active intervention in the area may still be implemented, however with the assets behind the dune system active management may be required in the future to maintain this dune system in its current form. Additional mitigation text added to the SEA and SMP as recommended.
SNH	3		Policy Unit 6D1 South Ballantrae to Currarie Port - This SSSI needs to be added to the list of SSSIs in SEA at p97-98. Sgavoch SSSI, immediately to the South of Ballantrae Shingle Beach has also been omitted.	Text updated within the SEA to include these SSSIs. No additional impacts are anticipated as there are no active interventions south of the pier at Ballantrae. Any designations (and their conservation criteria) within the vicinity of proposed active management measures will need taken into consideration at the next stage of detailed planning.
Campbell	6		There was no open community involvement in the scoping phase of the SEA in early 2017 at the start of the study. It seems only statutory consultees were involved.	An SEA Scoping Report for the SMP was circulated on the 6th September 2016 to the following statutory consultees: Scottish Environment Protection Agency Scottish Natural Heritage Historic Environment Scotland The Scoping Report was also made publically available via the North Ayrshire Council and South Ayrshire Council websites.
Campbell	7		The Clauchlands Point to Corrygills Site of Special Scientific Interest is likely to be threatened due to the implementation of the No Active Intervention Policy Proposed here. This probably means that an important tourist walking route will go. This may be the correct decision but perhaps Arran should have been more widely consulted since tourism is important and the geology of the island especially so – Arran is starting to look at being a geo-park and that walk is important.	The potential impact on the walking trail at the SSSI is noted for consideration by the Council in any further study or assessment of this area. If the trail is at risk of erosion or flooding it may need amended or re-routed, however this is not one of the key indicators of the SMP. In allowing natural processes to continue there is unlikely to be any impacts on the SSSI itself.