

# PILOT PENTLAND FIRTH AND ORKNEY WATERS MARINE SPATIAL PLAN

## CONSULTATION DRAFT

### Sustainability Appraisal

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### Sustainability Appraisal

Report prepared by:



The Scottish  
Government  
Riaghaltas na h-Alba

On behalf of the Pilot Pentland Firth and Orkney Waters working group:

**marinescotland**



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## Abbreviations

AEOI	Adverse Effects on Integrity
BAP	Biodiversity Action Plan
CAR	Controlled Activities Regulations
CCRA	UK Climate Change Risk Assessment
CO <sub>2</sub>	Carbon dioxide
DECC	Department of Energy and Climate Change
Defra	Department for Environment, Food and Rural Affairs
Draft Pilot Plan	Draft Pilot Pentland Firth and Orkney Waters Marine Spatial Plan
dSPA	Draft Special Protection Area
EC	European Commission
ECC	European Economic Community
EIA	Environmental Impact Assessment
EMEC	European Marine Energy Centre
EMF	Electromagnetic forces
EPS	European Protected Species
EU	European Union
EUNIS	European University Information Systems
FAA	Fleet Air Arm
FISA	Fisheries Industry Science Alliance
FSA	Food Standards Authority
GCR	Geological Conservation Review
GES	Good Environmental Status
GHG	Greenhouse Gas
HMPA	Historic Marine Protected Areas
HRA	Habitats Regulations Appraisal
IBA	International Bird Area
IMO	International Maritime Organization
IUCN	International Union for the Conservation of Nature
JNCC	Joint Nature Conservation Committee
kV	Kilovolt
LDP	Local Development Plan

LLA	Local Landscape Areas
LSE	Likely Significant Effects
MAIB	Marine Accident Investigation Branch
MEHRA	Marine Environmental High Risk Area
MoD	Ministry of Defence
MPA	Marine Protected Area
MPS	Marine Policy Statement
MRIP	Marine Renewables Infrastructure Plan
MSFD	Marine Strategy Framework Directive
MS LOT	Marine Scotland Licensing and Operations Team
MSS	Marine Scotland Science
NERC	Natural Environment Research Council
NGO	Non-Government Organisation
NMP	National Marine Plan
NMPi	National Marine Plan Interactive
NORM	Naturally Occurring Radioactive Material
NPF3	National Planning Framework 3
NRIP	National Renewables Infrastructure Plan
NSA	National Scenic Area
ORJIP	Offshore Renewables Joint Industry Programme
OSPAR	Oslo and Paris Convention
PFOW	Pentland Firth and Orkney Waters
PMF	Priority Marine Features
PPC	Pollution Prevention Control
PPS	Plans, Programmes and Strategies
RAF	Royal Air Force
RBD	River Basin District
RBMP	River Basin Management Plan
RCAHMS	Royal Commission on the Ancient and Historical Monuments of Scotland
RLG	Regional Locational Guidance
RORO	Roll-on roll-off
RPP	Report of Policies and Proposals
RPP2	Report of Policies and Proposals 2

RSPB	Royal Society for the Protection of Birds
RYAS	Royal Yachting Association Scotland
SA	Sustainability Appraisal
SAC	Special Area(s) of Conservation
SCI	Sites of Community Interest
SCOS	NERC Special Committee on Seals
SEA	Strategic Environmental Assessment
SEPA	Scottish Environment Protection Agency
SHEP	Scottish Historic Environment Policy
SLA	Special Landscape Area
SIMD	Scottish Index of Multiple Deprivation
SMRU	Sea Mammal Research Unit
SNH	Scottish Natural Heritage
SPA	Special Protection Area
SpORRAn	Scottish Offshore Renewables Research Framework
SPP	Scottish Planning Policy
SSEPD	Scottish and Southern Energy Power Distribution
SSMEI	Scottish Sustainable Marine Environment Initiative
SSSI	Site(s) of Special Scientific Interest
TCE	The Crown Estate
The 2005 Act	The Environmental Assessment (Scotland) Act 2005
The 2010 Act	The Marine (Scotland) Act 2010
UNCLOS	United Nations Convention of the Law of the Sea
UNESCO	United Nations Educational, Scientific and Cultural Organization
UK	United Kingdom
UK BAP	UK Biodiversity Action Plan
UKCP09	UK Climate Projections 2009 model
WFD	Water Framework Directive
WHS	World Heritage Site

# 1 Non-Technical Summary

## 1.1 What is the Draft Pilot Pentland Firth and Orkney Waters (PfOW) Marine Spatial Plan?

1.1.1 The Draft Pilot Pentland Firth and Orkney Waters (PfOW) Marine Spatial Plan (the draft Pilot Plan) is a non-statutory document that sets out an integrated planning policy framework to guide marine development, activities and management decisions in the PfOW area, whilst ensuring the quality of the marine environment is protected. The draft Pilot Plan aims to set out a coherent strategic vision, objectives and policies to further the achievement of sustainable development; including the protection and, where appropriate, enhancement of the marine environment out to 12 nautical miles. It aims to balance the competing demands of economic sectors and local communities for the use of the coastal and marine waters in the PfOW, whilst promoting sustainability, early engagement amongst stakeholders and the protection of the coastal and marine environments on which these sectors and communities depend.

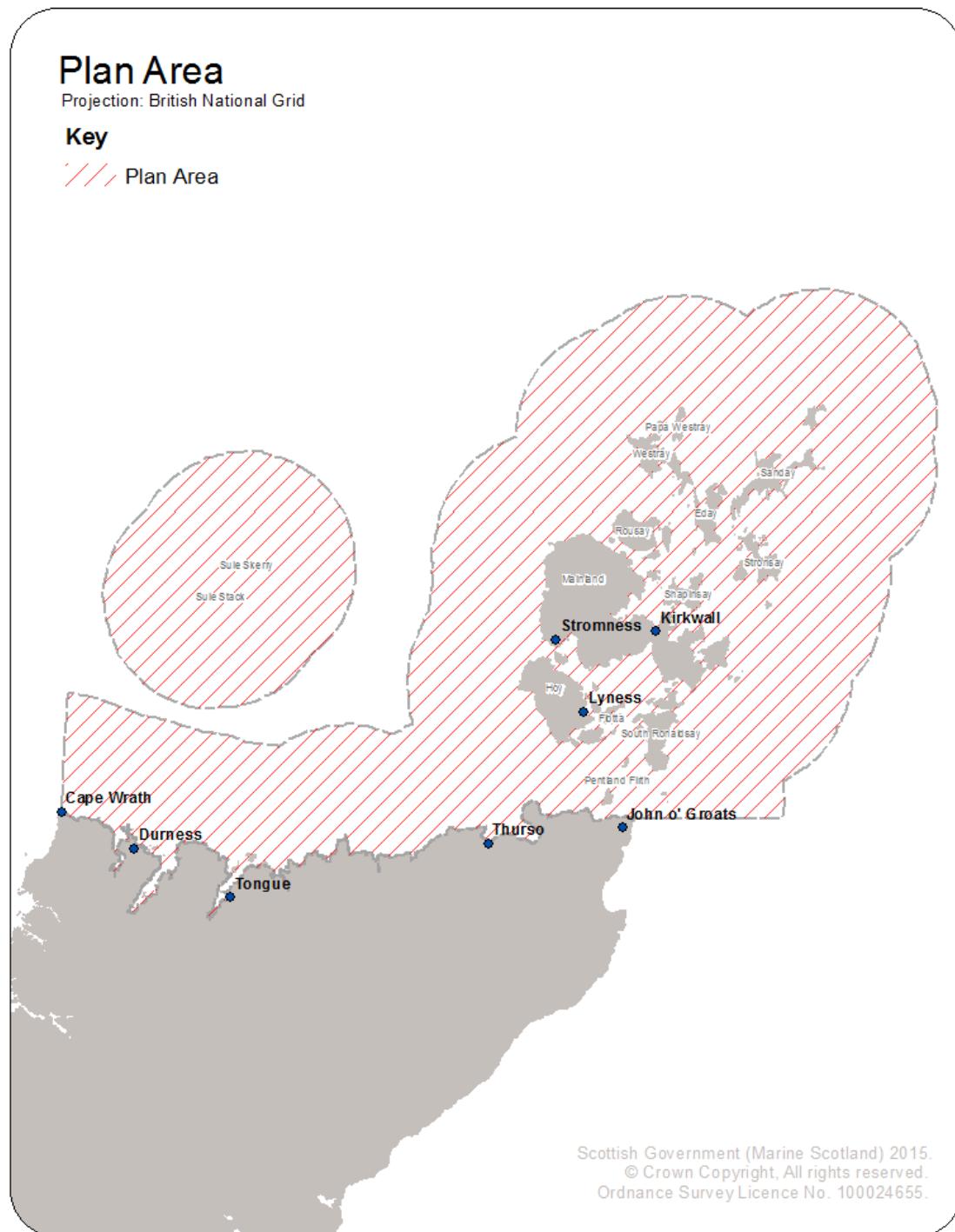
1.1.2 As a non-statutory Plan, it is likely to complement and support existing ambitions and responsibilities rather than replace them. It is anticipated that the finalised Pilot Plan will establish a useful basis for the preparation of the two separate Regional Marine Plans for the Orkney and North Coast Scottish Marine Regions to be prepared under the Marine (Scotland) Act 2010 (the 2010 Act). The lessons learned should help to inform the preparation of these plans and the governance arrangements that could underpin Marine Planning Partnerships.

1.1.3 Figure 1.1 presents the geographic coverage of the Pilot Plan which combines the Scottish Marine Regions of Orkney and North Coast (the Pilot Plan area).

## 1.2 What is a Sustainability Appraisal (SA)?

1.2.1 A Sustainability Appraisal (SA) is a process undertaken to promote sustainable development through the integration of social, environmental, and economic considerations in plan-making. This report presents the findings of the SA undertaken on the draft Pilot Plan, incorporating a Strategic Environmental Assessment (SEA) required under Directive 2001/42/EC and the Environmental Assessment (Scotland) Act 2005 (the 2005 Act), a Socio-economic Assessment and work undertaken to meet obligations under the European Commission (EC) Habitats Regulations (HRA).

**Figure 1.1 The Pilot Plan Area**



## 1.3 How was the Sustainability Appraisal undertaken?

1.3.1 The SA was undertaken alongside the development of the draft Pilot Plan in an iterative and integrated process. This process enabled decision-making to be informed by relevant environmental and socio-economic information, and also enabled the Pilot Plan and its policies and reasonable alternatives, to be tested against relevant environmental and socio-economic objectives.

1.3.2 This integrated SA Report presents the findings of the SEA, HRA and Socio-economic assessments on the draft Pilot Plan and its policies. The integration of these separate components into one report has enabled the potential for cumulative impacts on the environment, communities and other coastal and marine users to be considered in a cohesive way, and for recommendations of a holistic nature to be drawn. It has also allowed for the consideration of cumulative effects associated with the group of policies and the overall ambitions of the draft Pilot Plan. This was identified as a particular advantage in undertaking an integrated assessment given the close interactions of environment and socio-economic aspects within the PFOW, and the role that the marine environment plays in supporting the many local communities in the Pilot Plan area.

## 1.4 What are the reasonable alternatives to the draft Pilot Plan?

1.4.1 Four broad alternatives identified in the development of the draft Pilot Plan:

- Do not develop a Pilot Plan – this alternative considered not preparing a Pilot Plan but rather to proceed directly with the development of the Orkney and North Coast Regional Marine Plans under the 2010 Act. It also included an option involving the potential development of separate Pilot Plans for the Orkney and North Coast regions to inform the development of these regional plans.
- Consider adopting a ‘zoned approach’ in the development of a Pilot Plan – this alternative involved looking at the zoning of marine areas in the Plan area for different types of marine uses and/or development.
- Limiting the scope of the Pilot Plan to outlining existing requirements for developers and marine users – this alternative involved limiting the scope of the Plan to setting out the current requirements for developers and marine users in the PFOW area, and raising awareness of existing obligations.
- Adopting a ‘staged approach’ seeking to usefully inform the development of the upcoming statutory Regional Marine Plans for the Orkney and North Coast regions under the 2010 Act area – this was identified as the preferred alternative for the draft Pilot Plan and

involved building upon the intent of the previous alternatives.

1.4.2 In addition to the four broad alternatives discussed above, a wide range of other options were received via comments or suggestions from stakeholders during previous engagement events, and these comments helped to inform the development of the draft Pilot Plan. As a consequence, many of these views have been incorporated into the preferred option, either through inclusion as provisions in specific policy areas or in the overall approach of the Pilot Plan.

## 1.5 What is the current state of the environment?

1.5.1 The PFOW is rich in biodiversity, supporting a wide range of important habitats and species; many of which are considered rare and/or vulnerable. In addition to forming key elements of the quality of biodiversity in the PFOW and Scotland's seas, these species and habitats also provide environmental, social and economic benefits, and help to support local communities and a wide range of industries operating in and near the PFOW area.

1.5.2 Coastal and marine biodiversity is protected by a range of European, UK and Scottish-level designations. The value of many marine and coastal habitats in the PFOW, such as submerged reefs, maerl beds, sandbanks, salt marshes and dune systems, including machair, is demonstrated through these designations. The Caithness, North Sutherland and Orkney coastlines are also recognised for their importance in supporting extensive colonies of migratory and breeding seabirds, and coastal and marine waters support important fauna including grey and harbour seals, cetaceans (e.g. whales, dolphins, porpoises) and other species (e.g. Atlantic salmon, common skate, basking sharks, commercial fish species).

1.5.3 Climate change is predicted to have a range of effects on the marine and coastal environment, including an expected increase in water temperature and acidity, rise in sea levels, changes in wave heights and subsequent changes to our coastlines. There is clear indication that the effects of climate change are already creating changes in the PFOW area, and that this is having effects on other aspects of the environment. For example, impacts on weather patterns such as changes in temperature, changes in levels and timing of rainfall, and subsequent changes on marine biodiversity (e.g. extension of northern limit of seabed fauna, increased vulnerability of some species and habitats).

1.5.4 The rich marine heritage of the PFOW waters is demonstrated through the establishment of a voluntary underwater conservation zone in place around the remains of seven scheduled wrecks of ships from the German High Seas Fleet located within Scapa Flow. Alongside a raft of designated wreck sites such as the HMS Bullen and the wreck of HMS Duke of Albany either in and near the Pentland Firth, these provides a glimpse of the many

wreck sites identified in the waters around Orkney. In addition to off-shore heritage, historic and cultural features such as listed buildings, gardens and designated landscapes, and historic monuments are also in abundance across both the Orkney Isles and the north Caithness and Sutherland coast. Of particular note is the Heart of Neolithic Orkney World Heritage Site (WHS) which occupies much of the west coast of the Orkney Mainland and the Isle of Hoy. While many sites lie wholly within the marine environment, it is believed that there are many more unprotected sites of interest on and around Scotland's coastline.

1.5.5 The value and variety of landscapes and seascapes in the PFOW area is demonstrated through the range of national and regional designations amongst other forms of recognition. Important landscapes such as the Hoy and West Mainland, and Kyle of Tongue National Scenic Areas (NSAs) receive protection at the national level. However, other levels of recognition within the PFOW area include the designation of five Special Landscape Areas (SLAs) by the Highland Council on the north coast of the Scottish mainland, the creation of wild land areas and areas of "high wildness" by Scottish Natural Heritage (SNH) on Hoy. Several additional areas along or near to the north Caithness and Sutherland coast were also identified as being of national importance in Scottish Planning Policy (SPP).

1.5.6 The Orkney seabed area is generally composed of circalittoral coarse sediments, deep circalittoral coarse sediments and sands all around the Isles, with the exception of deep moderate and high energy circalittoral rock within the narrows of the Pentland Firth. Shallow and deep circalittoral coarse sediments have been predicted to the east and west of the Pentland Firth, interspersed with circalittoral fine or muddy sand pockets offshore of the North Sutherland Coast.

1.5.7 Orkney is regarded as having one of the most active coastlines in the British Isles and coastal erosion and deposition is evident on many sections of the coast, with parts of Sanday and Westray in particular thought to be susceptible to coastal erosion. While the north Caithness and Sutherland coast is generally rocky and resistant to erosion, sections of the coastline at locations including Thurso-Scrabster Bay, Portskerra and near John O'Groats, have also been affected by or are considered vulnerable to erosion/accretion. A degree of protection is afforded to marine geology features in the PFOW area through the designation of Special Areas of Conservation (SAC) and coastal Sites of Special Scientific Interest (SSSI). The designation of proposed Marine Protected Areas (MPAs) at North-west Orkney, Wyre and Rousay Sounds, and Papa Westray also recognises both the biodiversity and geodiversity importance of these areas.

1.5.8 The PFOW play an integral role in providing the means for economic support and also in supporting quality of life for coastal communities within Orkney and along the north Caithness and Sutherland coast. The marine environment offers opportunities in a range of sectors, and attracts a wide

range of marine users in supporting industries such as offshore oil and gas, aquaculture, and fishing sectors; and the recreational and tourism sectors ranging from activities such as swimming, surfing, recreational boating and yachting, diving, sea angling, coastal recreation, and wildlife and cultural heritage tourism, amongst others. These activities not only provide opportunities in economic terms, but together with local services such as the provision of ferry services, are also an important aspect in maintaining the connectivity, economy and quality of life in local communities in the region.

- 1.5.9 While the PFOW is largely classified as being of 'good' status under the Water Framework Directive (WFD) (out to 3 nautical miles) the eastern portion of the Pentland Firth from Duncansby head southwards is classified as being of 'high' status. The key risks to the quality of the water environment are from contamination as a result of marine activities, such as pollution from oil and/or chemical spills, and pollution of coastal waters from activities on land, in particular from agricultural activities or as marine litter.
- 1.5.10 The coastal and marine environment of the PFOW is a key resource for the region and for Scotland, demonstrated by the many varied sectors operating in it. For example, the aquaculture, commercial fisheries, defence, renewable energy generation, leisure, tourism and recreation, shipping and marine transport, and oil and gas sectors all use these waters and the surrounding coastlines. Many of these sectors provide direct economic benefits, including employment opportunities, and indirect benefits for other industries and businesses that provide services and support for these sectors.

## 1.6 What are the likely significant socio-economic and environmental effects of the draft Pilot Plan?

- 1.6.1 The SA identified the potential for largely positive environmental and socio-economic effects from the development of the Pilot Plan. Its fundamental focus towards supporting sustainable development has the potential to make a significant contribution to the protection of the coastal and marine resources in the Plan area, with benefits identified for coastal and marine environments in particular. The SA also identified a range of opportunities to deliver benefits to many of the sectors operating in the PFOW and also the communities that they help to support. In particular, working towards ensuring the sustainable future of the PFOW area, promoting co-existence between marine users, promoting early engagement with other stakeholders, and potentially improving efficiency in existing consenting processes, were all noted in the assessment.
- 1.6.2 The inclusion of general and sectoral policies in the draft Pilot Plan were found to largely complement the positions of existing policy and planning, and add weight to their consideration in the management of future use of

the PFOW area. The general policies are aimed at promoting the safeguarding of important environmental and social features (e.g. biodiversity, landscape/seascape, cultural heritage and historic archaeology), and have the potential to contribute to reducing the risk of adverse effects that could be generated through increased use of these coastal and marine environments. With the 'buy in' of stakeholders, many may also act as built-in mitigation against the potential for adverse effects associated with inappropriate development or coastal/marine use in the PFOW. The positive messages promoted by the group of policies for the efficient use of the marine area, such as co-existence and shared use of space and facilities, were also identified as key potential outcomes.

- 1.6.3 Opportunities to improve engagement between future developers, marine users and other stakeholders were identified in the appraisal, alongside the likely benefits of early and improved management of interactions and potential conflicts. In some instances, this could also help to identify opportunities for synergistic benefits amongst stakeholders, including exploring opportunities for community benefits. The sectoral policies in the draft Pilot Plan will likely provide further support for these ambitions at the sectoral level. The SA found that they set out expectations for these sectors and should provide further guidance for developers, marine users, consenting authorities and other stakeholders for future growth centred on appropriate and sustainable development and use of the PFOW area.
- 1.6.4 However, having the support and 'buy in' of stakeholders such as future developers, coastal and marine users, local communities and consenting authorities was identified as an essential factor in the realisation of any potential benefits. Further, this was also seen as being crucial to fostering engagement with stakeholders ahead of the development of the upcoming Orkney and North Coast Regional Marine Plans.
- 1.6.5 A review of the general and sectoral policies contained in the draft Pilot Plan in the context of the EC Habitats Regulations found that the policies in the draft Pilot Plan will have no likely significant effects (LSE) on the integrity of any European sites.

## 1.7 Has the assessment identified any likely challenges or opportunities for mitigation/enhancement?

- 1.7.1 While the drive for sustainable development and growth within the PFOW area was seen as a key ambition of the Pilot Plan, the growth of marine industry in the region is also likely to present a number of challenges in the future. Without the support of developers, coastal and marine users, consenting authorities and local communities, the SA considered that many of the potential positive effects of the Pilot Plan would be unlikely to materialise. As a consequence, the formal public consultation process and by ongoing engagement with stakeholders is likely to play an important role

in obtaining feedback on the draft Pilot Plan from stakeholders, and also in identifying its limitations and opportunities for possible improvement. The reporting and dissemination of lessons learned through the Plan's development is also likely to usefully inform the development of Regional Marine Plans, both in the PFOW area and in other parts of Scotland.

1.7.2 Resolving data gaps and uncertainty was also seen as a key challenge. Building upon the current knowledge-base from the information gathered for the National Marine Plan (NMP) and the draft Pilot Plan (e.g. the Regional Locational Guidance (RLG), Socio-economic and Environmental Baselines) is likely to be a critical aspect in progressing regional marine planning in the PFOW area, and particularly in working towards including more spatial information into the development of the upcoming statutory Orkney and North Coast Regional Marine Plans.

1.7.3 Other challenges in ensuring that environmental, social or economic risks associated with sectoral growth are minimized while growth is optimized, and managing the potential for conflicts between some coastal and marine users were identified as being important challenges. However, it was also noted that growth is likely to be driven by market forces.

## 1.8 Are there any recommendations for monitoring?

1.8.1 The appraisal noted a range of existing monitoring programmes at the sectoral level, and that monitoring of wider socio-economic and environmental parameters previously established is expected to continue. This ongoing work, complemented by targeted research and monitoring aimed at filling data gaps (i.e. through project work, test and demonstration development, commercial development, academia, amongst others), should aid in building upon the existing knowledge-base for the region, and could help to inform the development of the upcoming Regional Marine Plans.

1.8.2 The assessment identified monitoring to be an important means of observing the potential impacts of sectoral growth in the area, and in identifying the actual effects of the Pilot Plan and the upcoming statutory Regional Marine Plans. Opportunities in working towards a more detailed picture of sectoral growth, identifying where sectors are developing at a faster pace than others, social and economic impacts and trends, consequences for particular environmental receptors including cumulative effects, and in helping to identify opportunities for future growth were all noted in the SA.

1.8.3 The assessment also considered that greater information in these areas could be a key aspect in informing the development of the upcoming Regional Marine Plans; particularly if the development of these plans moves towards the inclusion of greater spatial information. In a similar way, this data could also inform the requirements for further environmental

assessment at the strategic or project levels, and potentially the revision of the RLG in the future.

## 1.9 What happens next?

- 1.9.1 Following the conclusion of the public consultation, the responses received on both the draft Pilot Plan and its supporting documents, including this Sustainability Appraisal, the RLG and Socio-economic Baseline Report, will be analysed and reported. Key messages from respondents in the consultation will be highlighted and the findings of the analysis taken into account in the preparation of the final Pilot Plan anticipated for publication in early 2016.
- 1.9.2 Upon adoption of the Pilot Plan, a Post-adoption SEA Statement will be prepared, and this will reflect on the findings of the SEA assessment and the views expressed in the consultation. The Statement will also outline how the issues raised have been considered in the finalisation of the Pilot Plan.

## 2 Introduction

### 2.1 What is the draft Pilot Plan?

- 2.1.1 Marine Scotland, the Highland Council and the Orkney Islands Council have jointly published the Consultation Paper for the Draft Pilot Pentland Firth and Orkney Waters (PfOW) Marine Spatial Plan (the draft Pilot Plan). The Consultation Paper for the draft Pilot Plan sets out an integrated planning policy framework to guide marine development, activities and management decisions in the PfOW area, whilst ensuring the quality of the marine environment is protected.
- 2.1.2 The marine environment is used for a wide variety of different purposes. The draft Pilot Plan aims to set out a coherent strategic vision, objectives and policies to further the achievement of sustainable development; including the protection and, where appropriate, enhancement of the marine environment within the Plan area. It aims to balance the competing demands of economic sectors and local communities for the use of the coastal and marine waters in the PfOW, whilst promoting sustainability, early engagement and protection of the coastal and marine environments on which these sectors and communities depend. As a non-statutory Plan, it is likely to complement and support existing ambitions and responsibilities rather than replace them.
- 2.1.3 The draft Pilot Plan builds upon the Planning Issues and Consultation Paper prepared and issued for consultation in May 2013. It takes forward the views of respondents from the consultation and from discussions with relevant stakeholders in its development, and is the first stage in the development of statutory Regional Marine Plans for the PfOW area.
- 2.1.4 Consultation on the draft Pilot Plan is now underway alongside its accompanying Sustainability Appraisal (SA) comprising a Strategic Environmental Assessment (SEA) and Draft Habitats Regulation Appraisal (HRA) Record, a Socio-economic Report and Regional Locational Guidance (RLG) for the draft Pilot Plan.

### 2.2 What is a Sustainability Appraisal?

- 2.2.1 This report summarises the findings of the SA undertaken on the draft Pilot Plan. The SA has considered the potential for social, economic and environmental effects from the draft Pilot Plan and the reasonable alternatives to it. It has incorporated a SEA required under Directive 2001/42/EC and the Environmental Assessment (Scotland) Act 2005 (the 2005 Act), a Socio-economic Assessment and work undertaken to meet obligations under the European Commission (EC) Habitats Regulations.
- 2.2.2 Having been undertaken alongside the Plan development from an early

stage in the process, this has enabled decision-making to be informed by relevant environmental and socio-economic information set out in the SA. The SA process has also provided an opportunity for the public to consider this information and use it to inform their views on the Plan itself, and its constituent policies, via the consultation process.

## 2.3 Structure of this report

### 2.3.1 This report is structured as follows:

- Section 1: Presents the Non-Technical Summary.
- Section 2: Contains background to the draft Pilot Plan and its development, including an introduction to the SA process.
- Section 3: Presents an overview of the Consultation Paper for the draft Pilot Plan, setting out key facts on the Plan, a summary of its general and sectoral policies, an outline of the development process, and the vision, principles, aims and objectives upon which it has been prepared.
- Section 4: Provides a broad summary of the SA and the underlying SEA, HRA and Socio-economic Assessment.
- Section 5: Sets out the environmental context of the draft Pilot Plan, providing an overview of the relationship with other plans, programmes and strategies (PPS), and discussion on relevant environmental objectives.
- Section 6: Discusses the assessment methodology, an overview of alternatives to the draft Pilot Plan, and a summary of the environmental and socio-economic objectives for the Pilot Plan. This section also details the development of the key SA questions used to undertake the assessment.
- Section 7: Sets out the rationale behind the scoping of topic areas into the SA, and presents Baseline Information collated for the assessment.
- Section 8: Details the findings of the assessment of the general and sectoral policies set out in the draft Pilot Plan.
- Section 9: Details the overall findings of the assessment, including the overall effects of the draft Pilot Plan and its reasonable alternatives through answering a set of key SA questions for each topic area scoped into the assessment.
- Section 10: Summarises the findings of the assessment, and discusses the potential for cumulative and in-combination effects arising from the draft Pilot Plan and wider policy, future challenges, and recommendations for mitigation and monitoring.

- Section 11: Explains the next steps in the policy making process, including that of the SEA portion of the assessment process.

### 2.3.2 The following Appendices have been developed for the SA:

- Appendix A: Contains detailed tables presenting the analysis of the general policies outlined in the draft Pilot Plan.
- Appendix B: Contains detailed tables presenting the analysis of the sectoral policies outlined in the draft Pilot Plan.
- Appendix C: Contains detailed tables presenting the analysis of the reasonable alternatives to the draft Pilot Plan.
- Appendix D: Contains an overview of relevant data sources and an analysis of key environmental objectives considered relevant to the draft Pilot Plan.
- Appendix E: Contains a summary table detailed compliance of the SA with the requirements of the 2005 Act.
- Appendix F: Presents the Draft HRA Record prepared for the draft Pilot Plan.

### 3 The Consultation Paper for the Draft Pilot Pentland Firth and Orkney Waters Marine Spatial Plan

#### 3.1 The purpose of the draft Pilot Plan

- 3.1.1 The draft Pilot Plan for the PFOW will set out an integrated planning policy framework to guide marine development, activities and management decisions, whilst ensuring the quality of the marine environment is protected. It is anticipated that the finalised Pilot Plan will establish a useful basis for the preparation of the two separate Regional Marine Plans for the Orkney and North Coast Scottish Marine Regions.
- 3.1.2 The broad aim of the non-statutory plan is to set out a coherent strategic vision, objectives and policies to further the achievement of sustainable development including the protection and, where appropriate, enhancement of the marine environment within the Plan area.. It will seek to balance the needs of a diverse range of economic sectors including commercial fishing, renewable energy, tourism, recreation, aquaculture, shipping, and oil and gas, amongst many others, with those of local communities, whilst protecting the environment on which they depend.
- 3.1.3 The main purposes of the draft Pilot Plan are:
  - To establish a coherent strategic vision, objectives and policies to further the achievement of sustainable development including the protection and, where appropriate, enhancement of the health of the plan area.
  - To inform and guide the regulation, management and use of the area to which the plan applies.
  - To provide reliable and robust information to support the plan policies.
  - To guide the location of all marine uses and activities and ensure they occur in the most suitable and least sensitive areas.
  - To minimise conflicts of interest and encourage compatible uses.
  - To provide clarity and direction to users of the marine environment as to how it will be managed and regulated and the framework within which decisions will be taken.
  - To set out sustainable development objectives that respect environmental limits to ensure healthy and productive seas in the future.
  - To develop a policy framework that supports integrated marine and terrestrial planning and development.

3.1.4 It is anticipated that the many lessons learned through the process of producing the Pilot Plan will inform the preparation of future Regional Marine Plans and the governance arrangements that could underpin Marine Planning Partnerships. As such, the development of the Pilot Plan has enabled the consideration of effective ways to:

- Consult relevant stakeholders and communities to develop a strategic vision, objectives and plan policies.
- Where possible, streamline the processes for input from stakeholders to minimise unnecessary burden.
- Document the process of developing a pilot Marine Spatial Plan so that it can then be utilised by future marine spatial planners (i.e. to develop Regional Marine Plans across Scotland).
- Consider appropriate governance arrangements and identify lessons learned to effectively deliver marine plans at the regional level.

Governance arrangements for the pilot plan are set out in the Pentland Firth and Orkney Waters Marine Spatial Plan Governance Paper.

## 3.2 The development of the Pilot Plan

### The process so far

3.2.1 The process for developing a Pilot Plan for the PFOW commenced in 2009 and followed, as closely as possible, the key steps for the preparation of a regional marine plan set out in Schedule 1 of the Marine (Scotland) Act 2010 (the 2010 Act). Over the last five years, the development of the draft Pilot Plan was progressed in three main stages, beginning with the preparation of the PFOW Marine Spatial Plan Framework Plan published in March 2011. The Framework Plan, published alongside RLG developed for the PFOW area, provided a summary of existing information on different uses of the seas in the area. It explored how the many different uses of the coastal and marine space can affect each other, and made recommendations for future research to ensure that the Pilot Plan was underpinned by relevant, good quality information.

3.2.2 The second stage took forward the work undertaken in preparing the Framework Plan and the RLG, involving the identification of data gaps and the delivery of research studies undertaken to fill the identified data gaps and ultimately, to inform and support the policy framework proposed for the Pilot Plan. These included on studies in inshore fishing, commercial shipping and boating, monitoring of marine mammals and sea birds, and tourism and recreation value studies, amongst others. However, it is noted that many of the studies commissioned were based on the previously defined PFOW plan area which omitted some of the western portion of the north Sutherland coast as it was based on The Crown Estate (TCE) Strategic Area. As work has now been carried out to define the Scottish

Marine Regions, the preparation of the Pilot Plan was subsequently based on the two Scottish Marine Regions of Orkney and North Coast. This decision was based on the development of the Scottish Marine Regions and feedback from consultation responses that supported using these two regions for the Pilot Plan.

3.2.3 In 2012, the third stage involved publication of the Plan Scheme followed by the preparation of a Planning Issues and Options Consultation Paper in mid-2013 presenting key issues proposed by Marine Scotland for inclusion in the Pilot Plan. An Initial SEA Environmental Report was prepared to accompany the Planning Issues and Options Consultation Paper, and this explored the potential for significant environmental impacts associated with the proposals outlined in the Consultation Paper. Together, the two documents formed the basis for the development of the draft Pilot Plan, and the Initial SEA Environmental Report was taken forward in the preparation of this Sustainability Appraisal.

#### The working group and advisory group

3.2.4 Between 2008 and mid-2012 the marine spatial plan process was managed by Marine Scotland. The working group for the development of the Pilot Plan was created in May 2012, and a partnership approach to the delivery of the plan was established between Marine Scotland and the Orkney Islands and Highland Councils. This approach was chosen to enable the balancing of local and national issues and to manage effective engagement with local stakeholders.

3.2.5 To provide additional guidance in the Plan development process, an advisory group was established in January 2013. The role of the group was to oversee the progress of the working group and provide expertise and guidance on its outputs. The advisory group was established to ensure that the essential statutory requirements were addressed within the Pilot Plan and to provide high level technical input across a broad range of expertise. Its members were drawn from organisations with knowledge of the protection and enhancement of the PFOW area and from those whose members use the area for commercial and recreational purposes.

3.2.6 The advisory group was not intended to represent every single interest in the PFOW area. Specific sectorial, recreational and community interests, for example, were addressed through engagement and consultation with those stakeholders, including on a one to one basis as required.

### Vision, principles, aims and objectives

- 3.2.7 An overarching vision, set of guiding principles, aims and objectives were developed to establish the context for the preparation of the draft Pilot Plan and its policies.
- 3.2.8 The Planning Issues and Options consultation undertaken in 2013 provided an opportunity for stakeholders to put forward their vision for the plan area and to provide input into the development of the Plan's guiding principles, aims and objectives. The working group, in collaboration with the Plan advisory group, developed the framework detailed in Figure 3.1 for the development of the draft Pilot Plan, taking cognisance of stakeholder views and that of the wider legislative and policy context, including the UK Marine Policy Statement and the emerging National Marine Plan (NMP).

**Figure 3.1 Vision, Guiding Principles, Aims and Objectives of the Pilot Plan**



### 3.3 The Pilot Plan Area

3.3.1 The geographical extent of the draft Pilot Plan comprises the territorial waters from Mean High Water Springs out to 12 nautical miles (the Pilot Plan area). The Plan area includes the intertidal coastline of Orkney, Sule Skerry and Sule Stack, Stroma and the north coast of mainland Scotland from Duncansby Head along the Caithness and Sutherland coast to Cape Wrath (see Figure 3.2). This area encompasses the full extent of the Orkney and North Coast Scottish Marine Regions.

### 3.4 Key Facts

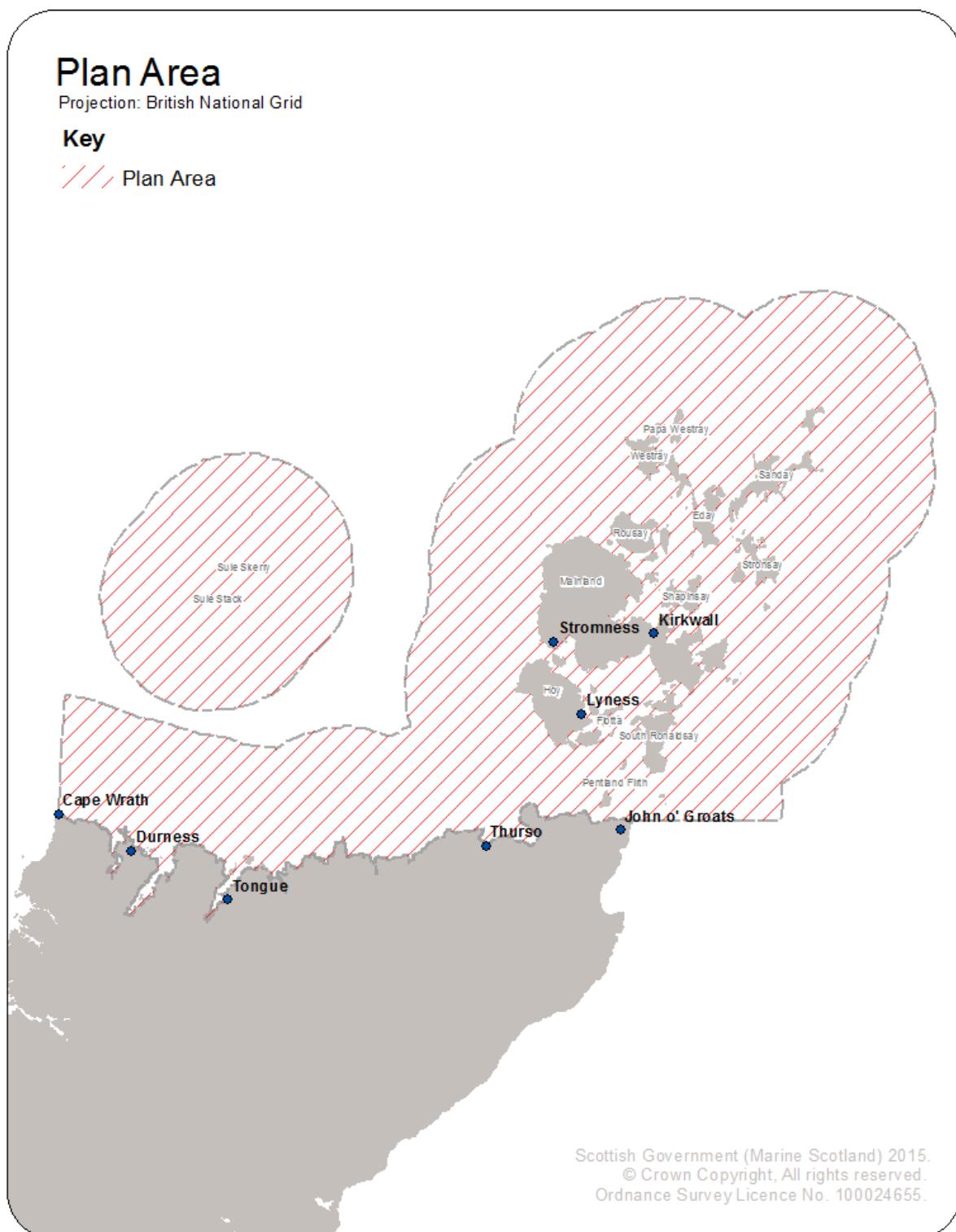
3.4.1 Table 3.1 sets out the key facts about the Plan.

**Table 3.1 Key facts about the Pilot Plan**

<b>Responsible Authority</b>	Marine Scotland.
<b>Title of PPS</b>	The Consultation Paper for the draft Pilot Pentland Firth and Orkney Waters (PFOW) Marine Spatial Plan (the draft Pilot Plan).
<b>What prompted the PPS?</b>	The draft Pilot Plan supports actions detailed in Marine (Scotland) Act 2010.
<b>Subject (e.g. transport)</b>	Marine Spatial Planning.
<b>Period covered by PPS</b>	2016 onwards.
<b>Frequency of updates</b>	The Pilot Plan is unlikely to be updated, but rather is intended to inform the development of the statutory Regional Marine Plans for Orkney and North Coast.
<b>Area covered by PPS</b>	The draft Pilot Plan area includes the intertidal coastline of Orkney, Sule Skerry and Sule Stack, Stroma and the north coast of mainland Scotland from Duncansby Head in Caithness, along the north Sutherland coast to Cape Wrath. This area encompasses the full extent of the Orkney and North Coast Scottish Marine Regions and ranges from the mean high water spring tide to 12 nautical miles.

<b>Purpose and/or objectives of PPS</b>	<p>The draft Pilot Plan for the PFOW will set out an integrated planning policy framework to guide marine development, activities and management decisions, whilst ensuring the quality of the marine environment is protected.</p> <p>The broad aim of the non-statutory plan is to set out a coherent strategic vision, objectives and policies to further the achievement of sustainable development including the protection and, where appropriate, enhancement of the marine environment within the Plan area. It will seek to balance the needs of a diverse range of economic sectors including commercial fishing, renewable energy, tourism, recreation, aquaculture, shipping, and oil and gas, amongst many others, with those of local communities, whilst protecting the environment on which they depend.</p> <p>It is anticipated that the finalised Pilot Plan will establish a useful basis for the preparation of the two separate Regional Marine Plans for the Orkney and North Coast Scottish Marine Regions to be prepared under the Marine (Scotland) Act 2010 (the 2010 Act). The lessons learned should help to inform the preparation of these plans and the governance arrangements that could underpin Marine Planning Partnerships.</p>
<b>Plan Contact</b>	<p>Tracy McCollin  375 Victoria Road  Aberdeen  AB11 9DB  Phone: 0122 429 5573  Email: <a href="mailto:tracy.mccollin@scotland.gsi.gov.uk">tracy.mccollin@scotland.gsi.gov.uk</a></p> <p>Jamie Byfield  Area 2H-South  Victoria Quay  Edinburgh  EH6 6QQ  Phone: 0131 244 4077  Email: <a href="mailto:jamie.byfield@scotland.gsi.gov.uk">jamie.byfield@scotland.gsi.gov.uk</a></p>
<b>SEA Contact</b>	

Figure 3.2 The Pilot Plan Area



## 3.5 Content of the draft Pilot Plan

- 3.5.1 While the Pilot Plan will set out a decision-making framework for the sustainable development and use of the PFOW marine area, it will also seek to balance the demands and aspirations of all users of the coastal and marine area. To implement the Plan's overall vision, aims and objectives, the policy framework of the draft Pilot Plan consists of a suite of 17 General Policies (1 – 9) and Sectoral Policies (1 – 10). The General and Sectoral Policies, presented in Table 3.2 and Table 3.3 respectively, were identified through a process of stakeholder engagement undertaken as part of the Planning Issues and Options consultation stage (see Section 3.2).
- 3.5.2 While in principle, the General Policies are applicable to all development and activities in the draft Pilot Plan area, their relevance to any given development and/or activity will vary depending on particular circumstances (e.g. type, scale, location and any potential impacts). The Sectoral Policies have been developed to support the sustainable development and management of specific sectors.
- 3.5.3 The draft Pilot Plan states that these policies were developed to provide overarching non-statutory guidance for marine users and consenting bodies, rather than replacing existing responsibilities. As a consequence, it will not detail decisions on proposed developments but rather become one of a number of material considerations in the determination of future consenting applications in the PFOW area. Each of the policies is to be afforded equal weight in decision-making and have been developed to be read in conjunction with one another, and alongside the relevant legislation, policies and plans. These are set out in detail in the draft Pilot Plan.

**Table 3.2 General Policies in the draft Pilot Plan**

<b>General Policies</b>
1A: Sustainable Development
1B: Supporting Sustainable Social and Economic Benefits
1C: Safeguarding the Marine Ecosystem
2: Wellbeing and Quality of Life and Amenity of Coastal Communities
3: Climate Change
4A: Nature Conservation Designations
4B: Protected Species
4C: Wider Biodiversity
4D: Landscape and Seascapes
4E: Geodiversity
5A: Water Environment
5B: Coastal Processes and Flooding
6: Historic Environment
7: Integrating Coastal and Marine Development
8A: Noise
8B: Waste and Marine Litter
9: Invasive Non-native Species

**Table 3.3 Sectoral Policies in the draft Pilot Plan**

<b>Sectoral Policies</b>
1: Commercial Fisheries
2: Aquaculture
3: Oil and Gas
4: Renewable Energy Generation
5: Recreation, Sport, Leisure and Tourism
6: Marine Transport
7: Ports and Harbours
8: Pipelines, Electricity and Telecommunications Infrastructure
9: Marine Aggregates
10: Defence

## 4 The Sustainability Appraisal (SA)

### 4.1 Introduction

4.1.1 This Report presents the findings of the SA undertaken to consider the potential for social, economic and environmental effects from implementation of the draft Pilot Plan, whilst also exploring those of its reasonable alternatives. As detailed in the following sections, this Report addresses the requirement for a SEA, contains a Draft HRA Record that presents the initial findings of the HRA process undertaken on the draft Pilot Plan, and presents the findings of a Socio-economic Assessment.

### 4.2 Outline of the Strategic Environmental Assessment (SEA) Process

4.2.1 SEA describes the measures included within the 2005 Act. These measures set out the process of identifying the likely significant effects that a public plan, policy, programme or strategy will have on the environment, if implemented. The 2005 Act also sets out the material relating to the assessment that is required to be presented in an SEA Environmental Report. For the purposes of the Consultation Paper on the draft Pilot Plan, this SA has been prepared to address these requirements.

4.2.2 A combined Screening and Scoping Report was submitted to the SEA Gateway on 14 January 2013<sup>1</sup> and this was forwarded to the statutory Consultation Authorities<sup>2</sup> for comment as required under the 2005 Act. In the Screening section of the Report, it was determined that the provisions proposed for inclusion in the draft Pilot Plan were likely to have the potential for significant environmental effects and, as such, fell under the scope of Section 5(3) of the 2005 Act.

4.2.3 The Scoping section of the Report built upon this finding and identified the potential for a range of environmental effects. It considered the relevant aspects of the environment to be considered in the SEA, whilst also establishing the framework for undertaking the SEA. Upon conclusion of the consultation on that report, the views of the Consultation Authorities were taken on board and both the SEA on the draft Pilot Plan were progressed.

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<sup>1</sup> The Scottish Government (2013) Pilot Pentland Firth & Orkney Waters Marine Spatial Plan, Strategic Environmental Assessment, Scoping Report [online] Available at: <http://www.gov.scot/Topics/Environment/environmental-assessment/sea/SEAG> (accessed 24/2/2014)

<sup>2</sup> Scottish Environment Protection Agency (SEPA), Scottish Natural Heritage (SNH) and Historic Environment Scotland

4.2.4 An initial SEA Environmental Report<sup>3</sup> was published alongside the Planning Issues and Options Consultation Paper<sup>4</sup>, with both issued for public consultation in June 2013. The views expressed by respondents in this consultation were taken on board in the development of the draft Pilot Plan, and also in the SEA and in the preparation of this Report. The findings of the SEA are presented in this SA Report.

## 4.3 Outline of the Socio-economic Assessment Process

4.3.1 Socio-economic assessment describes the process of identifying the likely potential for significant effects that a PPS will have on the social and economic factors, if implemented. As for environmental considerations, social and economic considerations were a fundamental part of the Pilot Plan's development from an early stage, demonstrated by the development of specific policies for inclusion in the draft Plan (e.g. sustainable development, support for sustainable social and economic benefits outlined in the policies, and for the wellbeing, quality of life and amenity of coastal communities).

4.3.2 The findings of the social and economic analyses have been incorporated into the SA process and are presented in this Report. In particular, the inclusion of social and economic issues have been considered in the development of the Communities, Population and Human Health and Material Assets topic areas scoped into the assessment.

4.3.3 The findings of the socio-economic assessment were informed by development of the socio-economic baseline for the PFOW area and discussions with stakeholders during the development of the draft Pilot Plan. The socio-economic baseline is presented as a stand-alone report published alongside the SA and the draft Pilot Plan, and is summarised in the baseline information detailed in this report (see Section 7).

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<sup>3</sup> The Scottish Government (2013) Pilot Pentland Firth and Orkney Waters Marine Spatial Plan, Strategic Environmental Assessment, Scoping Report [online] Available at: <http://www.gov.scot/Topics/Environment/environmental-assessment/sea/SEAG> (accessed 24/2/2014)

<sup>4</sup> The Scottish Government (2013) Pilot Pentland Firth and Orkney Waters Marine Spatial Plan, Planning Issues and Options Consultation Paper, may 2013 [online] Available at: <http://www.gov.scot/Resource/0042/00425039.pdf> (accessed 24/2/2014)

## 4.4 Outline of the Habitats Regulation Appraisal (HRA) Process

- 4.4.1 HRA describes the procedure for addressing the requirements of Article 6(3) of EC Council Directive 92/43/EEC on the conservation of natural habitats and of wild flora and fauna (the Habitats Directive). In the context of this Report, this process explored whether the Pilot Plan is likely to have a significant effect on a European site, if implemented. The HRA has been taken forward by the Scottish Government in co-operation with Scottish Natural Heritage (SNH), and in line with HRA Guidelines published by SNH in 2012<sup>5</sup>.
- 4.4.2 The initial stage of the HRA involved screening the draft Pilot Plan to consider the need for a HRA. The intent was also, where possible, to identify the designated European/Ramsar sites and their interest features that could be affected by the Pilot Plan and its policies, and the pathways for adverse effects to inform future stages of the HRA process. In this first step, the possible impacts of the general and sectoral policies were considered and a Draft HRA Record developed based upon the screening process detailed in Appendix C of the SNH Guidelines.

## 4.5 Content of this Sustainability Appraisal (SA)

- 4.5.1 This integrated SA Report presents the findings of the SEA, HRA and socio-economic assessments on the draft Pilot Plan and its policies, and outlines the potential for social, economic and environmental effects from its implementation. The integration of these separate components into one report enables the potential for cumulative impacts on the environment, communities and other marine users to be considered in a cohesive fashion, and for recommendations of a holistic nature to be drawn. It also allows for the consideration of cumulative effects of the collection of policies and the overall ambitions of the draft Pilot Plan. This was considered to be a particular advantage given the close interactions of environment and socio-economic aspects within the PFOW and the role that the marine environment plays in supporting its many communities.
- 4.5.2 This report amalgamates these assessment processes and provides a means of synthesising the results, whilst enabling the Plan to draw upon information from each component, where relevant, in its development.

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<sup>5</sup> SNH (2015) Habitats Regulations Appraisal of Plans: Guidance for Plan-making Bodies in Scotland [online] Available at: <http://www.snh.gov.uk/docs/A1500925.pdf> (accessed 28/04/2015)

## 5 The Context of the Pilot Plan

### 5.1 Overview of the Relationship with other plans, programmes or strategies

5.1.1 The 2005 Act requires that an outline of the relationships between the proposed Plan and other relevant PPS be included in the SEA Environmental Report. In terms of this SA, this process enables key environmental protection and socio-economic objectives to be identified and taken into account during the assessment process. The interactions with the draft Pilot Plan and the various other PPS in place or in development at the international, UK and national levels are discussed in the following sections.

### 5.2 The Marine (Scotland) Act 2005

5.2.1 The legislative and management framework for the marine environment is established in Scotland by the Marine (Scotland) Act 2010 (the 2010 Act). The 2010 Act builds on the vision established by Marine Scotland which used the UK vision as a starting point.

5.2.2 As previously noted, the Scottish Government has jurisdiction over marine planning matters from 0 – 12 nautical miles. However, for the purposes of marine planning, the marine area from 12 – 200 nautical miles is executively devolved to the Scottish Ministers. As the draft Pilot Plan has only been developed for marine waters out to 12 nautical miles, the draft Pilot Plan reflects the legislative provisions outlined in the 2010 Act<sup>6</sup>.

5.2.3 The 2010 Act allows for a system of regional marine planning to be developed for Scottish waters. The regional plans will be directed by the objectives and policies of the NMP<sup>7</sup> and will draw on existing work undertaken as part of the Scottish Sustainable Marine Environment Initiative (SSMEI)<sup>8</sup>. The SSMEI comprised a series of local marine planning pilot projects, undertaken with the aim of gaining a greater understanding of the nature, value, and management needs of Scotland's marine environment. As such, in the context of the PFOW area, the development of the Orkney and North Coast regional plans will draw upon this work and that of the development of the Pilot Plan.

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<sup>6</sup> The Scottish Government (2010) Marine (Scotland) Act 2010 [online] Available at: <http://www.gov.scot/Topics/marine/seamanagement/marineact> (accessed 20/01/2015)

<sup>7</sup> Marine Scotland (2014) Scotland's National Marine Plan [online] Available at: <http://www.gov.scot/Topics/marine/seamanagement/national> (accessed 20/01/2015)

<sup>8</sup> The Scottish Government (2012) The Scottish Sustainable Marine Environment Initiative (SSMEI), Introduction [online] Available at: <http://www.gov.scot/Topics/marine/seamanagement/regional/SSMEI> (accessed 21/01/2015)

## 5.3 Other PPS at the National and Regional Levels

5.3.1 Figure 5.1 illustrates the relationships between the draft Pilot Plan and other marine planning documents in Scotland, including the statutory NMP, the underlying Regional Marine Plans set out in the provisions of the 2010 Act and the Sectoral Plans such as that for Offshore Renewable Energy in Scottish Waters<sup>9</sup>. Other non-statutory documents and data sources such as the RLG developed to accompany the draft Pilot Plan, building upon the work of Scotland's Marine Atlas<sup>10</sup>, Offshore Wind Wave and Tidal RLG<sup>11</sup> and supporting sources such as National Marine Plan Interactive (NMPi)<sup>12</sup>, that, while non-statutory, are also likely to help to inform and support the management of Scotland's marine environment. As noted in Section 5.2, its development also builds on other marine spatial planning initiatives such as the SSMEI, which facilitated the development of marine plans for Shetland, Firth of Clyde, Sound of Mull and the Berwickshire coast.

5.3.2 In this vein, it is anticipated that the non-statutory Pilot Plan will provide guidance for the subsequent development of statutory Marine Regional Plans for Orkney and the North Coast regions (see Figure 5.1). Prior to the development of these statutory plans, the process of development for the draft Pilot Plan has allowed the methodology for regional marine planning to be developed in the PFOW area, and should enable the development of the two regional plans to build on the consultation process and the lessons learned through this process.

5.3.3 In addition, marine planning sits alongside terrestrial planning policy and other planning and regulatory regimes, which together, work to manage sustainable development and use of the coastal and marine environment.

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<sup>9</sup> Marine Scotland (2013) Draft Sectoral Marine Plans for Offshore Renewable Energy in Scottish Waters [online] Available at: <http://www.gov.scot/Publications/2013/07/2403/downloads> (accessed 20/01/2015)

<sup>10</sup> Baxter, J.M., Boyd, I.L., Cox, M., Donald, A.E., Malcolm, S.J., Miles, H., Miller, B., Moffat, C.F., (Editors), 2011. Scotland's Marine Atlas: Information for the national marine plan. Marine Scotland, Edinburgh [online] Available at: <http://www.gov.scot/Publications/2011/03/16182005/0> (accessed 20/01/2015)

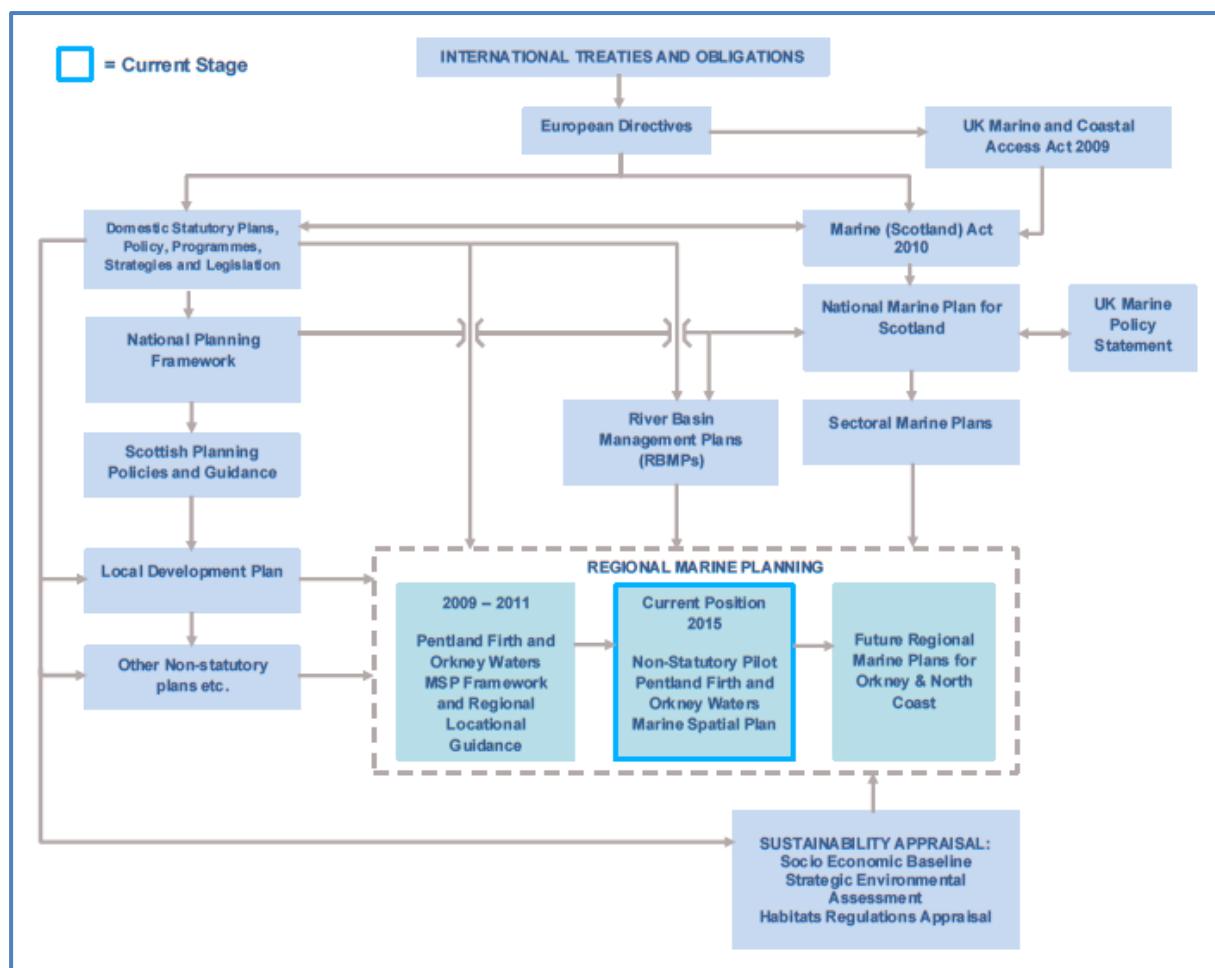
<sup>11</sup> Marine Scotland (2012) Draft Regional Locational Guidance [online] Available at: <http://www.gov.scot/Topics/marine/marineenergy/Planning> (accessed 20/01/2015)

<sup>12</sup> National Marine Plan Interactive [online] Available at: <http://marinescotland.atkinsgeospatial.com/nmpil/> (accessed 20/01/2015)

## 5.4 At the UK level

5.4.1 In 2011, the UK Government and the devolved administrations prepared a joint Marine Policy Statement (MPS)<sup>13</sup>. This Statement provided the framework for preparing Marine Plans and for decision-making in relation to the marine environment, and established policies and objectives for specific sectors and activities. It built upon the UK vision for clean, healthy, safe, productive and biologically diverse oceans and seas and the 'High Level Objectives' for the marine environment agreed amongst the four UK administrations<sup>14</sup> to fulfil this vision.

**Figure 5.1 The context of the Pilot Pentland Firth and Orkney Waters Marine Spatial Plan in relation to other legislation.**



<sup>13</sup> UK Government (2011) UK Marine Policy Statement [online] Available at: <https://www.gov.uk/government/publications/uk-marine-policy-statement> (accessed 28/04/2015)

<sup>14</sup> HM Government, the Northern Ireland Executive, the Scottish Government and the Welsh Assembly Government.

## 5.5 At the European level

- 5.5.1 The Marine Strategy Framework Directive (MSFD)<sup>15</sup> requires Member States to put measures in place to achieve or maintain good environmental status by 2020 through application of an ecosystem approach to marine management. Member States were required to report on their initial assessment of their seas and to determine good environmental status and associated targets and indicators by 2012.
- 5.5.2 The Directive is transposed into UK legislation by the Marine Strategy Regulations 2010<sup>16</sup>. At the UK level, the Marine and Coastal Access Act 2009 requires marine plans to be prepared for the UK marine area (0 – 200 nautical miles).
- 5.5.3 In July 2014, the European Parliament and Council adopted legislation to create a common framework for maritime spatial planning in Europe<sup>17</sup>. While member states remain free to plan their own maritime activities, the Directive sets minimum common requirements for local, regional and national planning in shared seas. This is aimed at reducing conflicts and creating synergies between sectors, encouraging investment, increasing co-ordination and cross-border co-operation, and protecting the environment through the early identification of impacts and opportunities for multiple use of space<sup>18</sup>. The NMP was prepared in accordance with the Directive<sup>19</sup>.

## 5.6 At the International level

- 5.6.1 The United Nations Convention of the Law of the Sea (UNCLOS)<sup>20</sup> establishes the right of coastal nations to set laws and regulate the use of their marine areas out to 12 nautical miles. The Convention also

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<sup>15</sup> EC (2008) Our Oceans, Seas and Coasts, Legislation: The Marine Directive [online] Available at: [http://ec.europa.eu/environment/marine/eu-coast-and-marine-policy/marine-strategy-framework-directive/index\\_en.htm](http://ec.europa.eu/environment/marine/eu-coast-and-marine-policy/marine-strategy-framework-directive/index_en.htm) (accessed 28/04/2015)

<sup>16</sup> The Marine Strategy Regulations (2010) [online] Available at: [http://www.legislation.gov.uk/ksi/2010/1627/pdfs/ksi\\_20101627\\_en.pdf](http://www.legislation.gov.uk/ksi/2010/1627/pdfs/ksi_20101627_en.pdf) (accessed 28/04/2015)

<sup>17</sup> EC (2014) Directive 2014/89/EU of the European Parliament and of the Council of 23 July 2014 establishing a framework for maritime spatial planning [online] Available at: [http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=uriserv:OJ.L\\_.2014.257.01.0135.01.ENG](http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=uriserv:OJ.L_.2014.257.01.0135.01.ENG) (accessed 28/04/2015)

<sup>18</sup> EC (2014) Maritime Spatial Planning [online] Available at: [http://ec.europa.eu/maritimeaffairs/policy/maritime\\_spatial\\_planning/index\\_en.htm](http://ec.europa.eu/maritimeaffairs/policy/maritime_spatial_planning/index_en.htm) (accessed 28/04/2015)

<sup>19</sup> Marine Scotland (2014) Scotland's National Marine Plan [online] Available at: <http://www.gov.scot/Topics/marine/seamanagement/national> (accessed 28/04/2015)

<sup>20</sup> United Nations Convention on the Law of the Sea [online] Available at: [http://www.un.org/depts/los/convention\\_agreements/texts/unclos/unclos\\_e.pdf](http://www.un.org/depts/los/convention_agreements/texts/unclos/unclos_e.pdf) (accessed 28/04/2015)

establishes exclusive economic zones from 12 – 200 nautical miles from the coast and establishes rules or provisions for shipping and transit passage, development of resources, and the conservation and management of the living resources of the high seas, amongst others.

## 5.7 Other Drivers

5.7.1 There are a significant number of policy and legislative drivers at the national, European and international levels that apply to the various sectors which use the marine environment including transport, shipping, fishing, energy and renewable energy. The requirements of these drivers, including that of the International Maritime Organization (IMO) that regulates shipping, for example, have been taken into account in the Draft Pilot Plan's preparation.

# 6 Approach to the SA

## 6.1 Overview

6.1.1 The SA has been able to directly inform the development of the Plan as a result of being fully integrated into plan development. The following sections set out the two-tier approach undertaken in the appraisal, including how the SEA and Socio-economic components have been scoped, and how the consideration of alternatives to the draft Pilot Plan have contributed to its development.

## 6.2 Scoping the SEA and Socio-economic Assessment

6.2.1 The combined SEA Screening and Scoping Report<sup>21</sup>, prepared in January 2013 and issued to the statutory bodies for consultation, presented an initial overview of the likely content of the draft Pilot Plan and outlined the initial stage of thinking in relation to marine planning within the PFOW. Its preparation at an early stage of the development process, and that of a Draft Environmental Report prepared alongside the Planning Issues and Options Consultation Paper for the Pilot Plan in May 2013, were undertaken to continue this iterative plan development process and to build on the earlier engagement of the Consultation Authorities.

6.2.2 The Screening and Scoping Report identified a range of data sources to be used in preparing the environmental baseline for the SEA, and also considered the environmental aspects that were likely to be affected based upon the proposed direction of the Plan at that early stage of the process<sup>22</sup>. At this stage, it was determined that air quality would be scoped out of the SEA. While greenhouse gas emissions were noted as a consideration under the Climate Change topic area scoped into the assessment, it was considered unlikely that the adoption of the Plan would result in significant effects on air quality at the regional level.

6.2.3 The consideration of other marine users and associated social and economic aspects of the assessment process was discussed in the context of Population and Human Health and Material Assets in the Screening and Scoping Report. Whilst at that stage, the Report set out plans for addressing these issues in a separate Socio-economic Assessment and an overarching Sustainability Appraisal, as the process progressed, a decision

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<sup>21</sup> Scottish Government (2013) SEA Database [online] Available at: <http://www.gov.scot/Topics/Environment/environmental-assessment/sea/SEAG> (accessed 09/02/2015)

<sup>22</sup> Biodiversity; Climatic factors; Cultural heritage and historic environment; Landscapes, seascapes, marine geodiversity and coastal processes; Communities, population and human health, Water and the marine environment; and Material assets/Economic.

was taken to incorporate both the SEA and Socio-economic assessment into the one SA Report (see Section 7.2).

## 6.3 Assessment Methodology

6.3.1 The SA explored the potential for significant effects which could arise from the adoption of the Draft Pilot Plan through two tiers of assessment: Analysis of policies and a cumulative assessment of the draft Pilot Plan in the wider policy context.

### Analysis of Policies

6.3.2 The likelihood of the general and sectoral policies set out in the draft Pilot Plan to have significant social, economic and environmental effects was undertaken, and this analysis is presented in the tables in Appendices A and B of this Report. Possible alternatives to the development of the Pilot Plan were also considered under this tier of the assessment and an analysis of the reasonable alternatives identified for the Pilot Plan are presented in the tables in Appendix C. The consideration of reasonable alternatives is discussed further in Section 6.6 of this Report.

6.3.3 As the Plan and its policies took shape, it was considered that many of the policies outlined in the draft Pilot Plan set out ambitions, and were aimed at promoting improved management and development rather than delivering specific actions. As a consequence, it was considered that some policies, by themselves, were unlikely to have significant social, economic or environmental effects, but rather that they would contribute to delivery of wider ambitions (e.g. sustainability, protection of the marine environment, reduction of GHG emissions). This stage of the assessment also explored the likelihood of the policies contributing towards meeting these wider ambitions, and explored the potential for them to contribute to positive and/or negative impacts on the SA topic areas.

6.3.4 The findings of this tier of assessment are presented in Section 8 of this Report.

### Cumulative Assessment

6.3.5 The second tier of assessment involved exploring the likelihood of cumulative effects associated with the collective group of these Policies within the wider policy and regulatory context (e.g. interactions with national policies, consenting processes governing activities and development in marine and coastal areas of the PFOW). The assessment identified that the Plan and its policies would likely frame and strengthen wider policy ambitions at the regional level, and together with its associated documents and (i.e. the RLG, Socio-economic and Environmental Baselines) could contribute to the delivery of these wider ambitions.

6.3.6 To frame this discussion, a set of assessment questions for the draft Pilot

Plan were developed. The findings of this assessment are discussed further in Section 9 of this Report.

## 6.4 The development of objectives

### Objectives

6.4.1 The SEA Screening and Scoping Report provided an initial review of key documents likely to have a bearing on the assessment of environmental impacts of the Pilot Plan. From this, a group of initial environmental objectives were developed for the seven SEA topic areas scoped into the assessment, and these were subsequently used to focus the development of the Draft Environmental Report published in May 2013.

6.4.2 As the draft Pilot Plan evolved, these objectives were progressively refined, and were informed by the development of the Socio-economic Baseline. An analysis of key environmental and socio-economic objectives is provided in Appendix D, and these objectives were used to develop the SA objectives and the key SA Questions presented in Table 6.1.

### Key SA Questions

6.4.3 The primary tool used in undertaking the second tier of the assessment involved testing the Pilot Plan and its proposed provisions against a series of Questions to reflect on key issues identified in the collation of objectives and the baseline information for the assessment. These questions, called the key SA questions, were developed for two purposes. Initially, they were used to guide the assessment of the sectoral and cross-cutting policies presented in the Plan, and to frame the consideration of the potential for effects associated with each of the Plan's Policies with regard to each of the environmental and socio-economic topic areas scoped into the assessment.

6.4.4 However, rather than applying these questions rigorously to the specific policies in the first tier of the assessment, a decision was taken to adopt a more proportionate and holistic approach in applying these questions to the Pilot Plan as a whole in the second tier of assessment. In this way, the potential for significant cumulative effects associated with the collection of policies was explored and how the Plan and its individual policies would work together in contributing to meet the assessment objectives. These questions also provided an opportunity to explore the influence of overarching and wider policies (e.g. NMP and current consenting processes).

**Table 6.1 Summary of objectives, their implications for the Pilot Plan and Key SA Questions.**

Summary of environmental and socio-economic objectives	Potential implications	SA Objectives	Key SA Questions
<b>1: Biodiversity</b>			
<p>The objectives at the international, national and local levels largely relate to the conservation of biodiversity, and the adoption of measures and PPS to work towards these aims alongside the promotion of enhancement of biodiversity features where possible. For example, the designation of sites and species for management and/or protection or conservation, amongst others.</p> <p>Many objectives also reflect ambitions for the sustainable development of biodiversity, including supporting important industries (e.g. sustainable fisheries, land use management).</p> <p>The objectives demonstrate important links between biodiversity interests and those in other environmental topic areas, most notably water and soil.</p>	<p>The SA should assess the extent to which the Pilot Plan will contribute to the core aims or protection and enhancement of biodiversity and natural heritage.</p> <p>There is a need to establish and mitigate impacts on coastal and marine habitats and species, particularly those designated at the international, national and local levels within the PFOW area.</p> <p>The SEA should also explore the extent to which the Pilot Plan will contribute to the core aims or protection and enhancement of biodiversity and natural heritage outlined in these objectives. It should encourage the Pilot Plan to take positive action in reflecting the aspirations and goals set out within the EU Biodiversity Strategy, the emerging Scottish response to the 2020 vision, and Biodiversity Action Plans (BAPs) at the local level (Orkney and the Highlands); the latter emphasising the importance of ecosystem health, and framing biodiversity and natural heritage conservation within the context of sustainable economic growth within the PFOW area.</p> <p>Many effects on biodiversity and natural heritage can only be identified at a local level as they depend on the type and location of activities which are brought forward under the terms of individual policies. As a result, the assessment should focus on high level strategic issues arising from the emerging policy framework, whilst acknowledging that there will likely be a need to establish and mitigate impacts on designated sites and species from future development within the PFOW area.</p>	<ol style="list-style-type: none"> <li>1. To safeguard marine and coastal ecosystems and their interactions, and where possible, enhance these ecosystems.</li> <li>2. To avoid adverse effects on, and where possible, enhance the integrity of designated sites, including Natura 2000 sites.</li> </ol>	<p>1 (a) How will the draft Pilot Plan and its policies contribute to meeting the aspirations and goals of the EU and Scottish Biodiversity Strategies, and the core aims of protection and enhancement of biodiversity and natural heritage?</p> <p>(b) Will the development of these policies:</p> <ul style="list-style-type: none"> <li>• Help to preserve, and where possible, enhance biodiversity, habitat and geodiversity features in coastal and marine areas in the PFOW?</li> <li>• Generate significant impacts on key marine, coastal and terrestrial habitats and species, or the networks of designated biodiversity sites within the UK?</li> </ul> <p>(c) How will the draft Pilot Plan and its policies contribute to the management of invasive non-native species?</p>

Summary of environmental and socio-economic objectives	Potential implications	SA Objectives	Key SA Questions
<b>2: Climatic factors</b>			
<p>Relevant objectives at the international and national levels target both reductions in emissions and addressing the effects of climate change, including working towards a low carbon energy mix. Specific targets include commitments to reduce greenhouse gas (GHG) emissions by 42% by 2020, 80% by 2050, and the setting of annual targets for 2010-2050; largely decarbonised electricity generation and heat sectors by 2030 and 2050 respectively; and almost complete decarbonisation of road transport by 2050; amongst others. In all, these policies and commitments highlight the importance of energy efficiency across a range of sectors, and the need to increase energy output from renewable sources.</p>	<p>The stated objectives and commitments promote the role of sectors such as the energy and transport sectors, amongst others, in contributing to climate change mitigation and aiding in adaptation to its predicted effects in the longer term. The SA should explore the extent to which the Pilot Plan can aid in delivering both climate change mitigation and adaptation commitments, and in particular, the role that the PFOW area can play in delivering a shift towards low carbon energy. The assessment should take into account the Pilot Plan's role in addressing issues such as changing vulnerability of the natural environment, the need for land and sea use changes, and requirements for long term resilience in the face of the predicted effects of climate change.</p>	<p>3. To reduce GHG emissions.</p> <p>4. To ensure that adaptation to the potential effects of climate change are considered in the development of the Pilot Plan and in future development in the region.</p>	<p>2 (a) How will the draft Pilot Plan and its policies contribute to climate change mitigation and adaptation?</p> <p>(b) Will the draft Pilot Plan and its policies generate significant direct, in-direct or secondary impacts that may exacerbate or contribute to the anticipated effects of climate change?</p>
<b>3: Cultural heritage and the historic environment</b>			
<p>International and national objectives largely relate to the conservation and protection of cultural heritage features, ranging from the protection of marine features such as designated wrecks, to terrestrial features including historic buildings and scheduled monuments with coastal relevance.</p>	<p>As with those relating to biodiversity and natural heritage, wider policy on cultural heritage and the historic environment emphasises the role of the environment in supporting sustainable economic growth in the PFOW area. The Pilot Plan should take into account both the historic marine environment and that of coastal and terrestrial features with coastal components in the context of sustainable development and economic growth in the PFOW area. The SA should consider the potential for impacts on cultural heritage features and the historic environment within the PFOW area associated with future development undertaken in the context of the Pilot Plan. Key principles for managing change in the historic environment could also be applicable at a broader scale and present similar issues in other environmental topic areas. For example, policy relating to biodiversity and natural heritage, and landscape/seascape issues, amongst others.</p>	<p>5. To protect and maintain the historic marine environment.</p> <p>6. To avoid damaging both known and unknown coastal and marine archaeology.</p> <p>7. To avoid adversely impacting on the character and setting of historic features (e.g. monuments, buildings).</p>	<p>3 (a) How will the draft Pilot Plan and its policies contribute to protecting the historic environment and its setting in both the marine environment and for terrestrial features with coastal components, including both known and unknown features?</p> <p>(b) Will the draft Pilot Plan and its policies generate significant impacts on cultural heritage and the historic environment in the PFOW coastal and marine regions?</p>

Summary of environmental and socio-economic objectives	Potential implications	SA Objectives	Key SA Questions
<b>4: Landscapes and seascapes</b>			
<p>The identified PPS outline the importance of landscapes, both designated and un-designated, and reflect ambitions at the international, national and local levels to safeguard protected areas and recognise and conserve wider landscapes and seascapes.</p>	<p>The assessment should reflect the principles of the European Landscape Convention and underlying policies, particularly the 'all landscape' approach it promotes and recognition of the importance of landscape and seascapes to local communities. The SEA should consider the potential for effects of the Pilot Plan on landscape and seascapes quality and diversity. Such an assessment should however, go beyond a focus on protected areas such as national scenic areas (NSAs) at the national scale to also consider other levels of recognition such as the identification of areas of wild land, national nature reserves, landscapes that contribute to sense of place more generally, and areas that would benefit from enhancement, amongst others.</p>	<p>8. To promote the protection and enhancement of both seascapes and coastal landscape features.</p> <p>9. To avoid the potential for adverse landscape, seascapes, visual and cumulative effects.</p>	<p>4 (a) How will the draft Pilot Plan and its policies contribute to the preservation of recognised and protected areas (i.e. NSAs) and other levels of recognition (i.e. the identification of areas of wild land, national nature reserves, landscapes that contribute to sense of place more generally, and areas that would benefit from enhancement, amongst others)?</p> <p>(b) Will the draft Pilot Plan and its policies generate adverse impacts on landscape, seascapes and visual amenity?</p>
<b>5: Communities, population and human health</b>			
<p>The various PPS aim to ensure protection of communities and human health in the environmental, social and economic sense, particularly for marine users (e.g. bathing) through ensuring access to activities and areas to help to keep people active and healthy, maintaining or improving accessibility and connectivity of remote island and coastal communities, contributing to the resilience and cohesion of coastal and island communities, and providing economic benefits, including employment opportunities.</p>	<p>There are numerous ongoing commitments to improving mental and physical health and wellbeing. The Pilot Plan could contribute to these through promoting key assets such as core paths, considering coastal and marine recreation, ensuring safe environments in the PFOW area and contributing to improving the wellbeing of local communities and delivery of sustainable economic benefits (e.g. employment opportunities). The SEA should inform the Pilot Plan through exploring the extent to which these objectives are being met, and explore potential access issues associated with future development within the PFOW area.</p>	<p>10. To avoid adversely affecting other users of the coastal and marine environment.</p> <p>11. To avoid adversely affecting human health and safety in coastal and marine environments.</p> <p>12. To avoid adversely affecting the accessibility and connectivity of remote island and coastal communities.</p> <p>13. To positively contribute to improving the wellbeing of local communities and delivery of sustainable economic benefits.</p> <p>14. To contribute to the resilience and cohesion of coastal and island communities.</p>	<p>5 (a) How will the draft Pilot Plan and its policies contribute to the delivery of sustainable economic development including employment benefits and opportunities for local communities?</p> <p>(b) Will the draft Pilot Plan and its policies contribute to improving the wellbeing of local communities and the population in the PFOW, including the management of noise impacts and disturbance from coastal and marine activities?</p> <p>(c) Will the draft Pilot Plan and its policies generate significant impacts on the wellbeing and connectivity of local communities and the population in the PFOW, or generate other environmental effects?</p> <p>(d) How will the draft Pilot Plan and its policies contribute to the resilience and cohesion of coastal and island communities in the PFOW?</p>

Summary of environmental and socio-economic objectives	Potential implications	SA Objectives	Key SA Questions	
<b>6: Water</b>				
<p>The water-related objectives outlined in the identified legislation and policies are focused largely on protecting water quality, through improved management of coastal and marine operations, and aiming to reduce adverse impacts from sources such as pollutants.</p> <p>Many also reflect links between the water environment and other topic areas (e.g. biodiversity, soil and marine geodiversity, human health, material assets) and set out objectives in relation to 'ecological status' as well as presenting water quality standards.</p> <p>Policies relating to the water environment aim to improve the condition of all water bodies through the appropriate management of activities and a range of pressures.</p> <p>Protection of the water environment extends to coastal water bodies, rivers and marine areas, including those which are recognised as Bathing Waters.</p>	<p>The Pilot Plan will have a key role to play in helping to ensure that the targets such as those set by the Water Framework Directive (WFD) and Scotland's River Basin Management Plans (RBMPs) are met, with support from the SEA. The Plan should highlight those areas which are currently designated as shellfish growing waters and bathing waters, and should outline the rationale underpinning these designations.</p> <p>These policies, plans and their environmental objectives emphasise the inter-relationships between marine waters, coastal waters, rivers and soils in relation to water quality. The SA could explore these relationships, including the integrated and consistent management of terrestrial and marine areas in the context of the Pilot Plan and the specific interests in this area (e.g. the importance of the PFOW area for renewable energy investment, fisheries and aquaculture).</p>	<p>15. To avoid adversely affecting water quality in the coastal and marine water environment (e.g. pollution, release of contaminants from accidents).</p> <p>16. To maintain good ecological status in accordance with the WFD and where possible work towards achieving high ecological status To positively contribute to improving the wellbeing of local communities and delivery of sustainable economic benefits.</p>	<p>6 (a) How will the draft Pilot Plan and its policies contribute to meeting the water quality targets such as those set by the WFD, Scotland's RBMPs and Bathing Waters Directive, amongst others?</p> <p>(b) Will the draft Pilot Plan and its policies generate any significant environmental impacts on water quality in coastal and marine environments?</p>	
<b>7: Soil, marine geodiversity and coastal processes</b>				
	<p>The identified policies aim to provide protection for soils, largely terrestrial and coastal, although the principles are also applicable more widely and are applicable to other environmental topic areas (e.g. climatic factors, water, landscape).</p>	<p>The Pilot Plan and this SA should reflect the principles of the Scottish Soil framework, whilst also considering links to related objectives and pressures in other topic areas (e.g. the potential for future implications associated with the effects of climate change).</p> <p>Coastal planning emphasises the importance of integrated management of these areas, whilst the NMP requires a consistent approach with terrestrial planning. The Pilot Plan and its SEA could explore this further in the context of coastal and marine geology, and coastal processes.</p> <p>The SA should explore the potential effects of the Pilot Plan and associated developments at the strategic level on marine and coastal geology, including the need to ensure the Plan is 'future-proof', and could investigate the potential for secondary effects.</p>	<p>17. To maintain the integrity of coastal processes and avoid exacerbating coastal erosion/accretion.</p> <p>18. To maintain and protect the character and integrity of the seabed and coastline.</p>	<p>7 (a) How will the draft Pilot Plan and its policies contribute to the preservation of Scotland's geodiversity?</p> <p>(b) Will the draft Pilot Plan and its policies present opportunities to improve the resilience of the PFOW coastline, including contributing to the management of the effects of climate change on coastlines within the PFOW, such as flooding or coastal erosion?</p> <p>(c) Will the draft Pilot Plan and its policies generate any significant environmental impacts on coastal and marine geodiversity or coastal processes?</p>

Summary of environmental and socio-economic objectives	Potential implications	SA Objectives	Key SA Questions
<b>8: Material assets</b>			
<p>While a wide range of policies have been identified, together these broadly aim at making the best use of the Scotland's marine and coastal resources in a sustainable way that supports economic growth. Many have clear links to other topic areas, most notably to climatic factors, further demonstrating widespread ambitions to reduce GHG reduction and infuse adaptation to changing climatic conditions across many sectors.</p> <p>Biodiversity links are also apparent in some objectives, mainly through ensuring the sustainability of sectors such as fishing and tourism, amongst others, into the future.</p>	<p>These policies, plans and strategies set out a number of objectives of relevance to the Pilot Plan and its environmental assessment. Many of the aims and objectives around material assets focus on improving transport infrastructure and services, reducing waste and promoting the waste hierarchy, with underpinning themes that seek to reduce emissions and shift towards a low carbon energy mix.</p> <p>These objectives also have a strong economic focus, supporting the many sectors that use the marine and coastal environments, but are also linked with opportunities for improving efficiencies and making the best use of resources, while also creating stronger and more resilient communities and environments.</p> <p>The SA should explore the extent to which these broader goals and ambitions aim could be incorporated or promoted through the Pilot Plan, whilst also seeking to optimise their performance in relation to wider environmental aims and objectives.</p>	<p>19. To promote sustainable development and shared use of the coastal and marine environment, and to avoid adverse effects on other coastal and marine users.</p> <p>20. To avoid adverse impacts on existing and planned infrastructure in the coastal and marine environments.</p>	<p>8 (a) Will the draft Pilot Plan support the development of a sustainable marine economy and safeguard and/or create jobs that support new or existing communities?</p> <p>(b) Will the draft Pilot Plan contribute to the growth of marine industries?</p> <p>(c) How will the draft Pilot Plan remove or avoid barriers to new marine enterprise opportunities?</p> <p>(d) How will the draft Pilot Plan and its policies contribute to improved management of wastes, including reduced waste generation in the coastal and marine environments in the PFOW?</p> <p>(e) How will the draft Pilot Plan help to meet wider waste management ambitions (e.g. marine litter, contamination, pollutants, emissions)?</p>

## 6.5 Approach to mitigation and monitoring

6.5.1 Much like the NMP before it, the avoidance or reduction of adverse social, economic and environmental effects has been built into the development of the draft Pilot Plan, primarily through the inclusion of the general policies and provisions in the sectoral policies. Together, these provide overarching non-statutory guidance for marine users and consenting bodies in the PFOW area, and will complement and support existing ambitions and responsibilities rather than replacing them. Existing consenting processes will remain the mechanisms by which development proposals and qualifying marine activities will be progressed and assessed. However, the Pilot Plan, its policies and the accompanying RLG, will become one of a number of material considerations in the determination of any future consenting applications in the PFOW area, and help to identify and fill data gaps in the future (see Section 3.2).

6.5.2 Given the wide-ranging nature of these policies, particularly in supporting sustainable development, promoting sustainable social and economic benefits, the preservation of the marine environment, and promoting early engagement between stakeholders; the policies themselves will act as cross-cutting mitigation measures across the whole policy framework. Thus, they will lay the foundation for the development of the upcoming statutory Regional Marine Plans for the Orkney and North Coast regions. However, the assessment has also explored opportunities for additional mitigation and monitoring, where possible, particularly in informing the development of future Regional Marine Plans within the PFOW area and in identifying opportunities to overcome key challenges in these processes. Mitigation and monitoring is discussed in further detail in Section 10.2.

## 6.6 Reasonable alternatives considered

### Alternatives

6.6.1 The 2005 Act requires that the potential for significant environmental effects of reasonable alternatives to the draft Pilot Plan are assessed as part of the SEA process. To this end, the SA explored the implications of several possible alternatives, focusing primarily on several proposed alternative approaches to the preparation of the draft Pilot Plan but also considering a range of alternatives to aspects of the Plan, many of which were incorporated into its development.

6.6.2 The broad alternatives identified in the development of the draft Pilot Plan were:

- Do not develop a Pilot Plan – this alternative considered not preparing a Pilot Plan but rather to proceed directly with the development of the Orkney and North Coast Regional Marine Plans under the 2010 Act. It also included an option involving to the potential development of separate Pilot Plans for the Orkney and North Coast regions to inform the development of these regional plans.
- Consider adopting a ‘zoned approach’ in the development of a Pilot Plan – this alternative involved looking at the zoning of marine areas for different types of marine uses and/or development.
- Limiting the scope of the Pilot Plan to outlining existing requirements for developers and marine users – this alternative involved restricting the scope of the Plan to setting out the current requirements for future developers and marine users only. For example, this alternative would involve referring to the requirements of current consenting processes, and awareness of obligations under the SEA and HRA Directives, amongst others, without explicitly linking these to wider ambitions.
- Adopting a ‘staged approach’ to inform the future development of Regional Marine Plans for the PFOW area – this was identified as the preferred alternative for the draft Pilot Plan and involved building upon the intent of the previous alternatives. It would provide an overview of existing ambitions and policies and promoting ambitions for the sustainable development and consideration of socio-economic and environmental factors in the future management of the PFOW area. The aim of this alternative is to primarily inform and guide decision-making in the PFOW area and to complement current mechanisms for managing development in and use of the marine environment.

### Engagement with stakeholders

6.6.3 In the development of the policies contained within the draft Pilot Plan, a series of discussions with stakeholders was undertaken to gauge stakeholder interest in the Pilot Plan itself, and to help guide its development and that of its policies. Particular focus was given to ensuring that both were useful documents for marine users, developers and decision-makers alike, and that these were aligned with the overarching NMP. The establishment of the working group in 2012, the publication of the Planning Issues and Options Consultation Paper and its Draft Environmental Report for consultation in 2013, and engagement with stakeholders during the preparation of the draft Pilot Plan set the scene for further engagement ahead of the development of Regional Marine Plans for the PFOW area over the next few years.

6.6.4 More recently, a series of formal and informal events were held in July 2013 and late 2014 to engage with stakeholders from a wide range of sectors with interests in the PFOW area. These broadly including meeting with stakeholders such as the commercial fishing, renewables, shipping and marine navigation, ports and harbours, aquaculture, recreation, leisure and tourism sectors, amongst others; and also included input from the SEA Consultation Authorities<sup>23</sup>, Marine Scotland Science (MSS), Marine Scotland Licensing and Operations Team (MS LOT) and other environmental stakeholders to refine the development of both the general safeguarding policies and the relevant sectoral policies. In these discussions, the application of alternative priorities was a key focal point, particularly in identifying opportunities to improve the Pilot Plan and its policies in achieving its environmental and socio-economic goals.

6.6.5 A range of other alternatives were identified during these periods of consultation, including many raised by stakeholders during the consultation process ahead of production of the draft Pilot Plan. Many of these included broad suggestions such as providing additional focus on the co-existence of marine users, having a 'balanced approach' with no one type of development having priority over another, focusing on designing development around the considerations for other marine users, and greater engagement between developers and stakeholders. Several specific alternatives were also identified in relation to specific policies contained within the Pilot Plan. For example, some raised concerns that some stakeholders have not received due consideration in development in the PFOW area previously (e.g. surfers along the north Caithness and Sutherland coast, amongst others), whilst others expressed a desire for a presumption in favour of certain types of development.

6.6.6 The consideration and assessment of the reasonable alternatives to the draft Pilot Plan are discussed in Sections 8 and 9, and the consideration of the reasonable alternatives noted above is presented in Appendix C.

## 6.7 Compliance of the Assessment with Legislation

6.7.1 Compliance of the SEA component of the SA with the requirements of the 2005 Act are summarised in Appendix E.

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<sup>23</sup> Scottish Natural Heritage, Scottish Environment Protection Agency, and Historic Scotland.

# 7 Baseline Information

## 7.1 Introduction

7.1.1 A key component of the SEA and Socio-economic Assessment processes is the collation of relevant baseline information, and the use of this information in informing the development of the PPS upon which the assessments are being conducted. As the draft Pilot Plan was developed, the relevant information for environmental, social and economic aspects was compiled. This information was collated into the Baseline Information presented in the following sections of this Report, and in the accompanying Socio-economic Baseline Report.

## 7.2 Scoping of topics for inclusion in the assessment

7.2.1 In order to establish the environmental, social and economic effects of the draft Pilot Plan, it is necessary to understand the features that are likely to be affected. The SEA Screening and Scoping Report identified a range of data sources that provided a baseline for the SA, and the Initial Environmental Report built upon this to present an initial baseline commentary. This data, in addition to sources suggested by the Consultation Authorities in their responses on the initial Environmental Report, and with the consideration of social and economic factors via the Socio-Economic Assessment process, has been used to develop the baseline information presented in this Report.

7.2.2 The scope of environmental and socio-economic issues considered to be likely to be affected by the draft Pilot Plan and included in this SA is set out in Table 7.1. As noted in Section 6.2, the consideration of environmental issues in relation to air was scoped out of the SEA as it was considered that there would not be significant effects on this from the adoption of the Plan. Whilst the consideration of GHG emissions has been noted, this is discussed within the Climate Change topic area in the assessment. The development of the Material Assets and Communities, Population and Human Health sections in this report have been expanded beyond that typically considered for SEA, to include the consideration of socio-economic effects relating to the draft Pilot Plan.

7.2.3 Sections 7.3 to 7.11 set out the relevant aspects of the environmental baseline and provide an overview of the socio-economic baseline for each of the topic areas detailed above. Specific focus has been given to those characteristics which have the potential to be affected by development in the PFOW area and on taking a proportional approach to the assessment process. The likely evolution of the baseline in the absence of the plan is discussed in Section 7.12.

**Table 7.1 Scoping of Issues**

SA Topic Areas	Scoped In
Biodiversity, Flora and Fauna	✓
Climatic Factors	✓
Cultural Heritage	✓
Landscape and Seascapes	✓
Soil, Marine Geodiversity and Coastal Processes	✓
Communities, Population and Human Health	✓
Air	X
Water	✓
Material Assets	✓

## 7.3 The PFOW and the Pilot Plan Area

7.3.1 The Pentland Firth is a stretch of water that joins the North Atlantic to the North Sea, separating Orkney from the north coast of mainland Scotland. The Pilot Plan Area, referred to in this SA as the PFOW area, consists of many distinct areas, including the Orkney archipelago comprising approximately 70 islands with over 1,200 km of coastline; the varied coastline across the extent of the north Caithness and Sutherland coast from Cape Wrath in the west to Duncansby Head; and islands such as Stroma, Muckle Skerry and Pentland Skerries located within the Pentland Firth itself.

7.3.2 Between them, these areas are known for their great natural beauty; internationally and nationally recognised flora, fauna and habitat features; and valuable natural resources that support a wide range of industries and sectors as well as the many communities that call the area home. The coastal and marine environments have played a major role in shaping life in the area, and has made an important contribution to local, regional and national culture and history, in many cases dating back millennia. As such, the area contributes heavily to the dependence of many communities and industries on the wide and varied resources that they contain.

7.3.3 The Pilot Plan Area is presented in Figure 3.2.

## 7.4 Biodiversity

### Overview

7.4.1 The waters of the Pentland Firth and around Orkney are rich in biodiversity, supporting a wide range of valuable and important habitats and species habitats; many of which are considered rare and/or vulnerable. In addition to forming key elements of the quality of biodiversity in the PFW and Scotland's seas, these species and habitats also provide environmental and economic benefits.

**Habitats**

7.4.2 The value of many marine and coastal habitats such as submerged reefs, maerl beds, sandbanks, salt marshes and dune systems including machair<sup>24</sup>, is demonstrated through their designation at the European (e.g. EC Habitats Directive (92/42/EEC), Special Areas of Conservation (SAC)) and national levels (e.g. Sites of Special Scientific Interest (SSSI)).

7.4.3 There are four SACs in Orkney (Sanday, Loch of Stenness, Stromness Heaths and Coast, and Hoy) and three SACs on the north Caithness and Sutherland coast (Strathy Coast, Invernaver, and Caithness and Sutherland Peatlands), designated for the protection of marine and coastal habitats<sup>25</sup>, with some 29 sites with coastal or marine biodiversity interests on Orkney and along the north Caithness and Sutherland coast receiving protection as SSSI<sup>26,27</sup>. A range of important habitats are also recognised due to their importance to priority species in the UK Biodiversity Action Plan (UKBAP) list<sup>28</sup>, which is implemented at the local level through the development of Local Biodiversity Action Plans for Orkney<sup>29</sup> and the Scottish Highlands<sup>30</sup>.

7.4.4 Scottish Ministers are committed to setting up a national network of ecologically coherent Marine Protected Areas (MPAs) to protect features of

<sup>24</sup> Marine Scotland (2010) Pentland Firth and Orkney Waters Marine Spatial Plan Framework and Regional Locational Guidance for Marine Energy: Final Report [online] Available at: <http://www.gov.scot/Resource/Doc/295194/0115355.pdf> (accessed 28/04/2015)

<sup>25</sup> SNH (2013) Special Areas of Conservation (SACs) in the marine environment [online] Available at: <http://www.snh.gov.uk/protecting-scotlands-nature/protected-areas/international-designations/sac/marine-sacs/> (accessed 28/04/2015)

<sup>26</sup> SNH (2013) Sitelink, Protected Area Search [online] Available at: <http://gateway.snh.gov.uk/sitelink/index.jsp> (accessed 29/01/2015)

<sup>27</sup> SNH (2013) SNHi [online] Available at: <http://www.snh.gov.uk/publications-data-and-research/snhi-information-service/map/> (accessed 29/01/2015)

<sup>28</sup> JNCC (2010) UK BAP priority species and habitats [online] Available at: <http://jncc.defra.gov.uk/page-5718> (accessed 29/01/2015)

<sup>29</sup> Orkney Islands Council (2013) Biodiversity Action Planning [online] Available at: <http://www.orkney.gov.uk/Service-Directory/L/Local-Biodiversity-Plan.htm> (accessed 29/01/2015)

<sup>30</sup> Highland Biodiversity partnership (2010) Highland Biodiversity Action Plan 2015 – 20 (Draft) [online] Available at: [http://www.highlandbiodiversity.com/userfiles/file/acion-plans/hbap\\_review/HBAP\\_consultative-draft-Nov-14.pdf](http://www.highlandbiodiversity.com/userfiles/file/acion-plans/hbap_review/HBAP_consultative-draft-Nov-14.pdf) (accessed 29/01/2015)

biodiversity and geodiversity conservation importance in both inshore and offshore waters adjacent to Scotland. This is demonstrated by the designation of a suite of 30 nature conservation MPAs by Scottish Ministers in July 2014, comprising 17 areas in Scotland's territorial waters and a further 13 in offshore waters. Of these, three MPAs were identified in the PFWOW with biodiversity interests (e.g. North-west Orkney for sandeel interests; Wyre and Rousay Sounds for kelp and seaweed communities on sublittoral sediment and maerl bed interests; and Papa Westray for black guillemot interests) with a further two MPAs located to the south of the PFWOW region near Wick (e.g. Noss Head and East Caithness Cliffs). A further four MPA proposals were also identified in Scottish territorial waters requiring further assessment<sup>3132</sup>.

7.4.5 Out with these designations, some 27 seabed habitats are considered to be Priority Marine Features (PMF), including many considered to be characteristic of Scotland's marine environment. These features range from kelp beds and flame shell beds in coastal areas to cold-water reefs and offshore deep sea muds in deeper seas, and are considered to be of conservation importance<sup>33</sup>.

### Species

7.4.6 The PFWOW are internationally renowned for their importance to many species ranging from seabirds and wintering waterfowl to a variety of marine mammals (e.g. cetaceans, seals) and other marine fauna (e.g. fish, elasmobranchs).

7.4.7 Scotland holds internationally important numbers of 24 species of breeding seabirds, and these are often considered to be an important indicator to the state of the marine environment. The Caithness and Orkney coastlines are recognised for their importance in supporting extensive colonies of migratory and breeding seabirds such as Atlantic puffins, Black-legged kittiwakes, Arctic skuas, Arctic terns, Razorbills, Northern fulmars, Common guillemots, Storm petrels, Northern divers, Slavonian grebes and Greater black-backed gulls. The PFWOW region also plays an important role for seabirds that breed out with this area, and its coastal and marine waters serve as important feeding grounds. For example, Sule Skerry and Sule Stack located 60 km off the Orkney Mainland support bird colonies of species such as gannets and European shag that feed in the PFWOW area.

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<sup>31</sup> SNH (2014) Nature Conservation Marine Protected Areas [online] Available at: <http://www.snh.gov.uk/protecting-scotlands-nature/protected-areas/national-designations/mpas/> (accessed 29/01/2015)

<sup>32</sup> National Marine Plan Interactive [online] Available at: <http://marinescotland.atkinsgeospatial.com/nmpi/#> (accessed 29/01/2015)

<sup>33</sup> SNH (2014) Priority Marine Features in Scotland's Seas [online] Available at: <http://www.snh.gov.uk/protecting-scotlands-nature/priority-marine-features/priority-marine-features/> (accessed 29/01/2015)

Similarly, there are many sites on the north Caithness and Sutherland coast and further afield that support a wide range of bird species utilising the PFOW for feeding grounds. In addition, many coastal areas contain saltmarsh and wetland areas that also support breeding or overwintering wading birds.

7.4.8 Some marine species, such as many seabirds, are afforded protection under the Wildlife and Countryside Act 1981, whilst other endangered species are classed as European Protected Species (EPS). Rare and vulnerable birds also receive protection within the European Birds Directive (79/409/EEC) and are afforded protection at the national level through the designation of Special Protection Areas (SPAs), and it is not surprising that the importance of this region for many species and populations is further reflected by the designation of 12 SPAs in coastal areas in Orkney and along the north Caithness and Sutherland coast. Several of these have also been designated as Ramsar sites, and additional SPA designations located in inland areas also have coastal interests (e.g. breeding red-throated divers which breed on small lochs but feed at sea).

7.4.9 Amongst these, SPAs have been designated for migratory and breeding seabirds, wading birds and one has been designated as a Ramsar site under the international convention on the protection of wetlands and waterfowl. Seaward extensions have been applied to some SPAs, including several located on the north Caithness and Sutherland coast such as the North Caithness Coast SPA that extends along a large stretch of the northern coastline. This area also contains some five separate SSSIs which are designated for bird species, in addition to the protection of important maritime and coastal habitats<sup>34</sup>.

7.4.10 The UK government has also committed to identifying a network of SPAs in the marine environment, and having them substantially classified, by the end of 2015. At this stage, a suite of 14 draft SPAs (dSPAs) have been identified by the Joint Nature Conservation Council (JNCC) and SNH in Scotland's marine environment. These sites have been identified to alert stakeholders to additional marine sites that are likely to be considered by the Scottish Government for designation, including two sites within the PFOW (North Orkney dSPA and Pentland Firth and Scapa Flow, Orkney dSPA) identified for species listed under Annex 1 of the Birds Directive and for regularly occurring migratory bird species<sup>35</sup>.

7.4.11 Some 11 Royal Society for the Protection of Birds (RSPB) Reserves have been created in Orkney, from Hoy in the south to North Hill in the north and

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<sup>34</sup> SNH (2013) SNHi [online] Available at: <http://www.snh.gov.uk/publications-data-and-research/snhi-information-service/map/> (accessed 12/09/2014)

<sup>35</sup> JNCC and SNH (2014) The suite of Scottish marine dSPAs, 22 July 2014 [online] Available at: <http://www.snh.gov.uk/docs/A1350044.pdf> (accessed 25/09/2014)

Copinsay in the east. Whilst not formal designations, several Important Bird Areas (IBA) have also been identified by Birdlife International in the region. The largest two areas are located at Hoy<sup>36</sup>, based upon its importance for breeding seabirds, waders and raptors, and at Scapa Flow, considered to be important for wintering waterbirds<sup>37</sup>. The locations of these areas are presented in the RLG.

7.4.12 In addition to birdlife, the waters of the Pentland Firth and Orkney region also support a wide range of fish species and marine mammals, as do those along the north Caithness and Sutherland coast. The PFOW are internationally recognised for their importance for seal populations in particular<sup>38</sup>, demonstrated by the designation of a harbour seal conservation area surrounding the Orkney Isles, the presence of two SACs within Orkney waters for breeding seal colonies (i.e. Faray and Holm of Faray for grey seals, and Sanday for harbour seals)<sup>39</sup>, and in studies such as seal density mapping undertaken by the Sea Mammal Research Unit (SMRU)<sup>40</sup>. As shown in Figure 7.3, designated seal haul out sites are located throughout the Orkney Isles, within the Pentland Firth (i.e. near Stroma, Muckle Skerry and the Pentland Skerries), and on the north Caithness and Sutherland coast (i.e. near Gills Bay, Duncansby Head, Whiten Head, Eilean Hoan and Kyle of Tongue)<sup>41</sup>.

7.4.13 The harbour seal population over much of Scotland's east coast and Northern Isles has shown a marked decline in recent years. In 2013, just 1,865 harbour seals were counted, equating to a decline of around 30% over the last three years alone; a rate of decline in line with the annual rate observed since 2006<sup>42</sup>. A 2014 report produced by the Natural Environment Research Council (NERC) Special Committee on Seals

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<sup>36</sup> BirdLife International (2013) Important Bird Areas factsheet: Hoy. [online] from <http://www.birdlife.org/datazone/sitelistfactsheet.php?id=2495> (accessed 29/01/2015)

<sup>37</sup> BirdLife International (2013) Important Bird Areas factsheet: Scapa Flow. [online] from <http://www.birdlife.org> (accessed 02/02/2015)

<sup>38</sup> Sea Mammal Research unit (2013) Marine Mammal Scientific Support Research Programme MMSS/001/11, Grey and harbour seal density maps, Prepared for Marine Scotland [online] Available at: <http://www.gov.scot/Resource/0041/00416981.pdf> [accessed 02/02/2015]

<sup>39</sup> Marine Scotland (2011) Scotland's Marine Atlas: Information for the National Marine Plan, pg. 120.

<sup>40</sup> SMRU (2013) Marine Mammal Scientific Support Research Programme MMSS/001/11, Grey and harbour seal density maps [online] Available at: <http://www.gov.scot/Resource/0041/00416981.pdf> (accessed 02/02/2015)

<sup>41</sup> The Scottish Government (2014) Haul-out sites [online] Available at: <http://www.gov.scot/Topics/marine/marine-environment/species/19887/20814/haulouts> (accessed 02/02/2015)

<sup>42</sup> SNH (2014) Scottish Natural Heritage Commissioned Report No. 759: Surveys of harbour (common) and grey seals on the east, north and north-west coast of Scotland and in Orkney, including the Moray Firth and the Firth of Tay, in August 2013 [online] Available at: [http://www.snh.org.uk/pdfs/publications/commissioned\\_reports/759.pdf](http://www.snh.org.uk/pdfs/publications/commissioned_reports/759.pdf) (accessed 02/02/2015)

(SCOS) noted a decline of 76% since 2001 in of seals in Orkney<sup>43</sup>. A 2013 report showed regional differences in the severity of the decline in harbour seal numbers in Orkney. The outer islands in the northeast had the highest counts of harbour seals, peaking in 1997, and this region has showed the greatest decline. The north and east mainland and adjacent islands (comprising Rousay, Shapinsay and Deerness, amongst others) has showed a slow and more gradual decline since the late 1980s. In the third region comprising Scapa Flow, south and west mainland and the southern islands (including Hoy, South Ronaldsay and Flotta, amongst others) harbour seal counts peaked in 1997 and have since declined. On the north coast of the Scottish mainland, some 73 harbour seals were counted in 2013, equating to a similar rate of decline since the previous survey in 2008<sup>44</sup>. This count was the lowest recorded to date.

7.4.14 Approximately 38% of the world's grey seals breed in the UK, of which some 88% of these breed at colonies in Scotland, and the main concentrations are in the Outer Hebrides and Orkney<sup>45</sup>. While grey seal numbers have increased in Orkney over a long period of time to the late 1990s, there has been a significant decrease in the rate of pup production<sup>46</sup> and population growth appears to be levelling off<sup>47</sup>. A 2013 survey noted that "the numbers of grey seals in Orkney in August has remained remarkably constant". However, the surveys also indicated that the counts of both grey and harbour seals in the Sanday SAC has declined since 1997<sup>48,49</sup>.

7.4.15 Many other species have been sighted within the Pentland Firth and around Orkney, and many of these, such as whales, dolphins and porpoises, are identified as species of European Community interest and afforded protection under Annex IV of the Habitats Directive. Some nineteen

<sup>43</sup> SCOCS (2014) Scientific Advice on Matters Related to the Management of Seal Populations: 2014 [online] Available at: <http://www.smru.st-and.ac.uk/documents/2259.pdf> (accessed 28/04/2015)

<sup>44</sup> SNH (2014) Scottish Natural Heritage Commissioned Report No. 759: Surveys of harbour (common) and grey seals on the east, north and north-west coast of Scotland and in Orkney, including the Moray Firth and the Firth of Tay, in August 2013 [online] Available at: [http://www.snh.org.uk/pdfs/publications/commissioned\\_reports/759.pdf](http://www.snh.org.uk/pdfs/publications/commissioned_reports/759.pdf) (accessed 02/02/2015)

<sup>45</sup> SCOCS (2014) Scientific Advice on Matters Related to the Management of Seal Populations: 2014 [online] Available at: <http://www.smru.st-and.ac.uk/documents/2259.pdf> (accessed 28/04/2015)

<sup>46</sup> Marine Scotland (2011) Scotland's Marine Atlas: Information for the National Marine Plan, pg. 120-123.

<sup>47</sup> SCOCS (2014) Scientific Advice on Matters Related to the Management of Seal Populations: 2014 [online] Available at: <http://www.smru.st-and.ac.uk/documents/2259.pdf> (accessed 28/04/2015)

<sup>48</sup> SNH (2014) Scottish Natural Heritage Commissioned Report No. 759: Surveys of harbour (common) and grey seals on the east, north and north-west coast of Scotland and in Orkney, including the Moray Firth and the Firth of Tay, in August 2013 [online] Available at: [http://www.snh.org.uk/pdfs/publications/commissioned\\_reports/759.pdf](http://www.snh.org.uk/pdfs/publications/commissioned_reports/759.pdf) (accessed 02/02/2015)

<sup>49</sup> SCOS Main Advice (2013) Scientific Advice on Matters Related to the Management of Seal Populations: SCOS 2013 [online] Available at: <http://www.smru.st-andrews.ac.uk/pageset.aspx?psr=411> (accessed 02/02/2015)

cetacean species have been recorded in the PFWOW since 1980, and of these, six species occur regularly (i.e. harbour porpoise, minke whale, white-beaked dolphin, Risso's dolphin, killer whale and bottlenose dolphin). Several, such as Bottlenose dolphins and Harbour seals, are also listed under Annex II of the Habitats Directive. Others cetaceans such as short-beaked common dolphin, atlantic white-sided dolphin, long-finned pilot whale and sperm whale have also been sighted and are casual visitors to the area. Others, such as common skate and basking sharks have also been sighted within the PFWOW region<sup>50</sup>. Both species are listed as UKBAP species<sup>51</sup> and/or identified on the International Union for the Conservation of Nature (IUCN) Red List of Threatened Species<sup>52</sup>.

7.4.16 Scotland's waters support a rich variety of fish species, including several species that are known to migrate through the PFWOW. The waters around Orkney in particular host valuable spawning grounds for many fish species, including commercial species such as herring and whiting. Nursery grounds for species such as sandeels and nephrops are also located in or near to the region; the importance of sandeel habitats in particular is reflected in the MPA located to the north-west of Orkney. However, there remains a high degree of uncertainty and data gaps, particularly relating to spawning activities<sup>53</sup>. In addition to being important commercial assets for the fishing sector, species such as cod, haddock and whiting are also important food sources for seabirds and marine mammals, and as such, impacts to these species can have secondary effects on predator species. As one such example, it is thought that declines in sandeel populations have contributed to fluctuations in puffin numbers<sup>54</sup>.

7.4.17 Some 55 species identified in Scotland's seas have been identified as PMFs. While not formal designations, these species have been identified by SNH and JNCC as being of conservation importance, and the development of the PMF has been developed to help focus future

<sup>50</sup> SNH (2012) SNH Commissioned Report 419: Abundance and behaviour of cetaceans and basking sharks in the Pentland Firth and Orkney Waters [online] Available at: <http://www.snh.gov.uk/publications-data-and-research/publications/search-the-catalogue/publication-detail/?id=1875> (accessed 02/02/2015)

<sup>51</sup> JNCC (2010) UK BAP priority species and habitats [online] Available at: <http://jncc.defra.gov.uk/page-5718> (accessed 5/2/2014)

<sup>52</sup> IUCN (2009) ICUN Red List of Threatened Species [online] Available at: <http://www.iucnredlist.org/> (accessed 02/02/2015)

<sup>53</sup> Ellis, J.R, Milligan S.P. Readdy L., Taylor N. and Brown M.J. (2012) Cefas Science Series Technical Report no. 147, Spawning and nursery grounds of selected fish species in UK waters [online] Available at: <http://www.cefas.defra.gov.uk/publications/techrep/TechRep147.pdf> [accessed 25/09/2014]

<sup>54</sup> Natural Environment Research Council: Centre for Ecology and Hydrology (undated) Impress: Interactions between the marine environment, predators and prey, Implications for sustainable sandeel fisheries [online] Available at: [http://www.ceh.ac.uk/sci\\_programmes/impress.html](http://www.ceh.ac.uk/sci_programmes/impress.html) (accessed 10/10/2014)

conservation action, research, education and to promote a consistent approach to marine nature conservation advice. These features range from species with low or limited mobility such as fan mussels to mobile species such as basking sharks and seals, amongst many others<sup>55</sup>.

7.4.18 The importance of both Atlantic salmon and sea trout in Scottish waters is demonstrated by the inclusion of the marine life stages of both species as PMFs. Salmon rivers and sea trout spawning burns have been identified within the PFW, and a number of significant salmon rivers are located within Caithness, along the north Sutherland coast and on the eastern coastlines of Scotland. Many sites, such as the Rivers Borgie, Naver, Thurso, and Berriedale and Langwell Waters located on the north Caithness and Sutherland coast, have been designated as SACs due to salmon interests, amongst other features (see Figure 7.4). The Pentland Firth is believed to be an important migration route for Atlantic salmon, particularly for those from salmon rivers located on Scotland's east coast. However, there is some uncertainty surrounding the migratory patterns of adult or post-smolt Atlantic salmon through and out with Scottish waters, particularly over whether migration occurs through or around Orkney, and over whether the Pentland Firth is the preferred or only route used<sup>56</sup>.

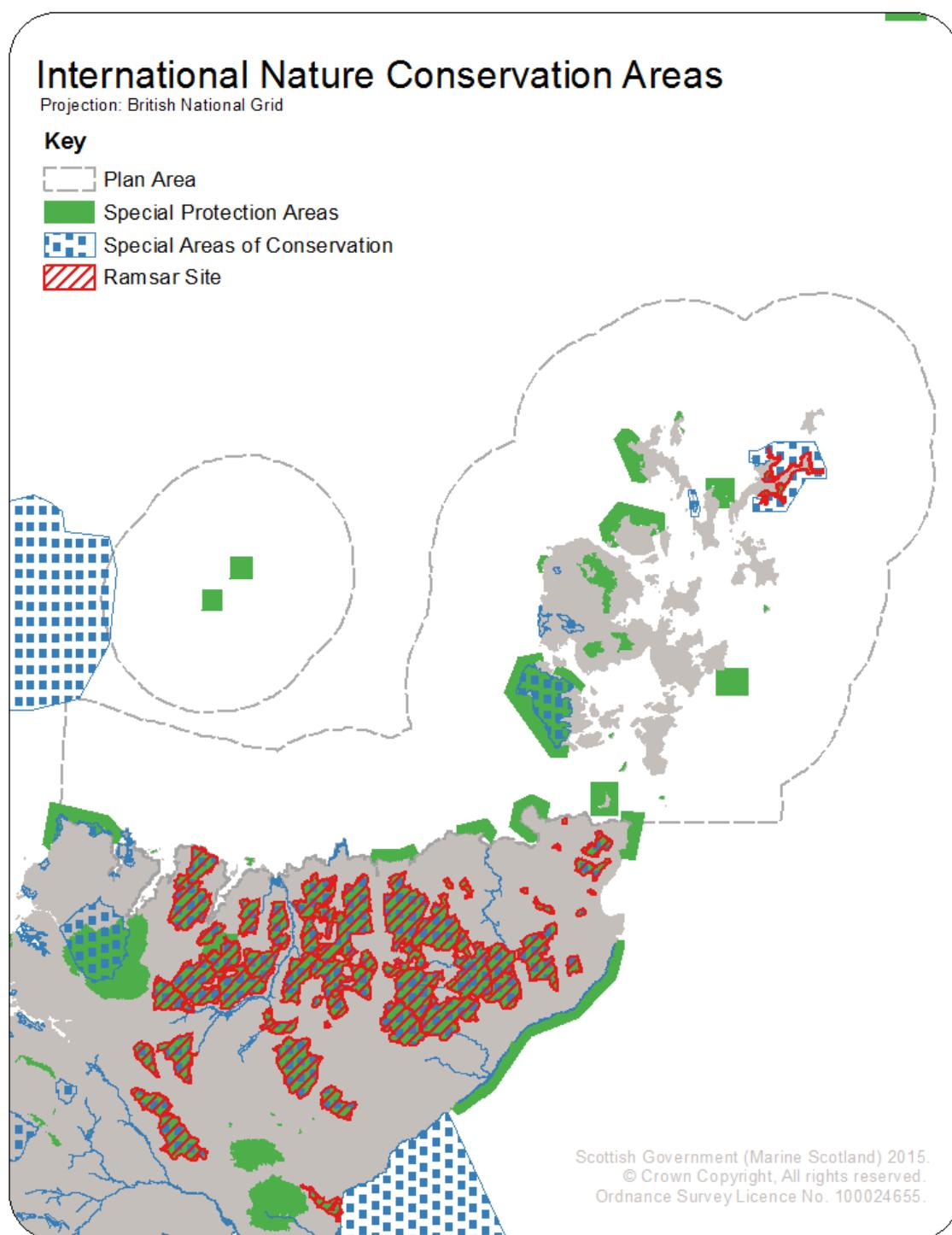
#### **Key pressures for biodiversity:**

- Potential for adverse effects on marine and coastal habitats and species from increased development in marine and/or coastal areas (e.g. disturbance, barrier effects, damage to or loss of habitats, pollution).
- Potential for adverse effects on marine and coastal habitats and species from the effects of climate change (e.g. acidification, displacement by invasive non-native species, coastal erosion).
- Potential for cumulative or in-combination effects on biodiversity interests from increased use of coastal and marine environments (e.g. disturbance, barrier effects, damage to or loss of habitats).

<sup>55</sup> SNH (2014) Priority Marine Features in Scotland's Seas [online] Available at: <http://www.snh.gov.uk/protecting-scotlands-nature/priority-marine-features/priority-marine-features/> (accessed 09/10/2014)

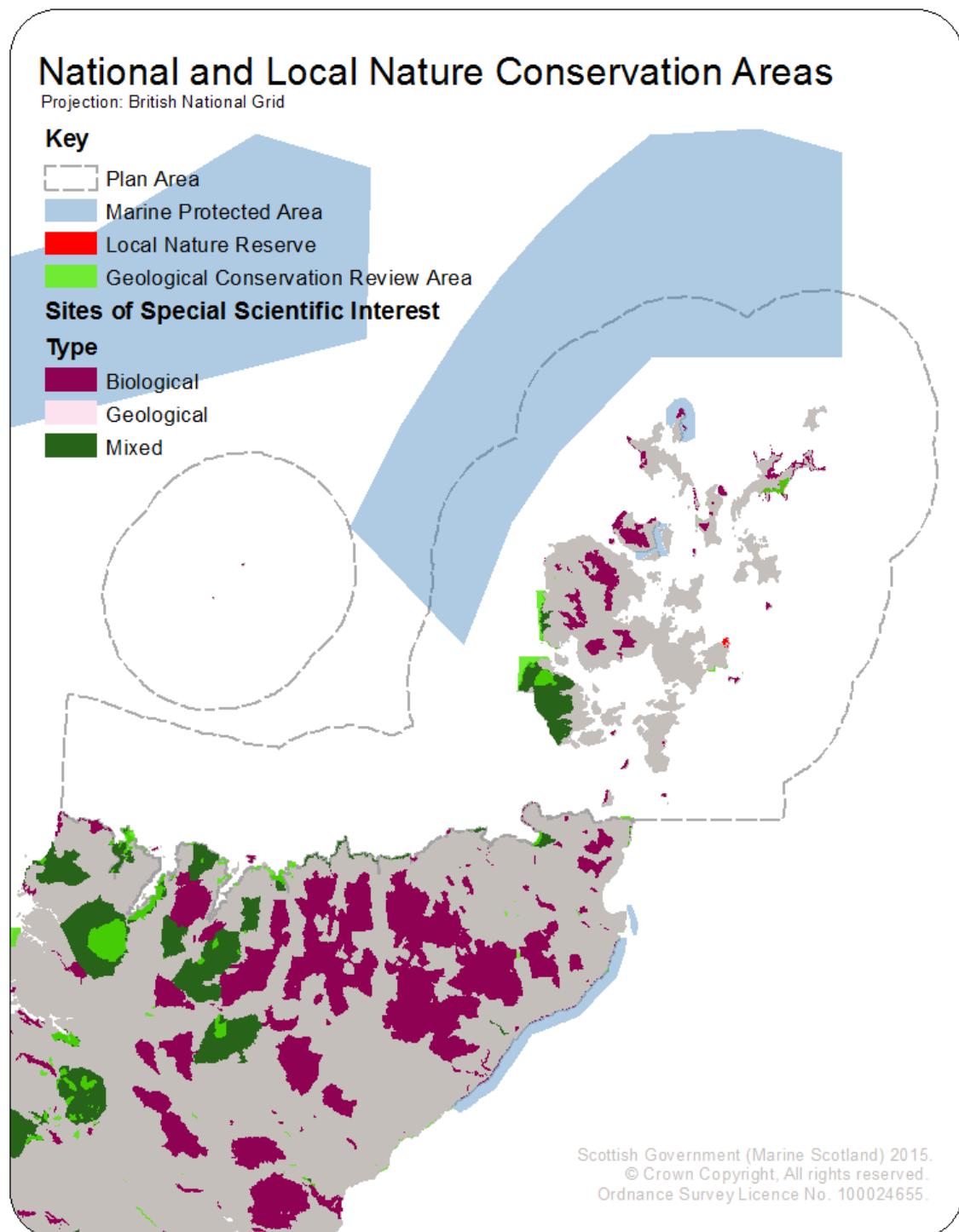
<sup>56</sup> Marine Scotland Science (2010) Scottish Marine and Freshwater Science Volume 1 No 14, Review Of Migratory Routes And Behaviour Of Atlantic Salmon, Sea Trout And European Eel In Scotland's Coastal Environment: Implications For The Development Of Marine Renewables [online] Available at: <http://www.gov.scot/Resource/Doc/295194/0111162.pdf> [accessed 09/09/2014]

**Figure 7.1 International Nature Conservation Areas in the PFOW Area<sup>57</sup>**



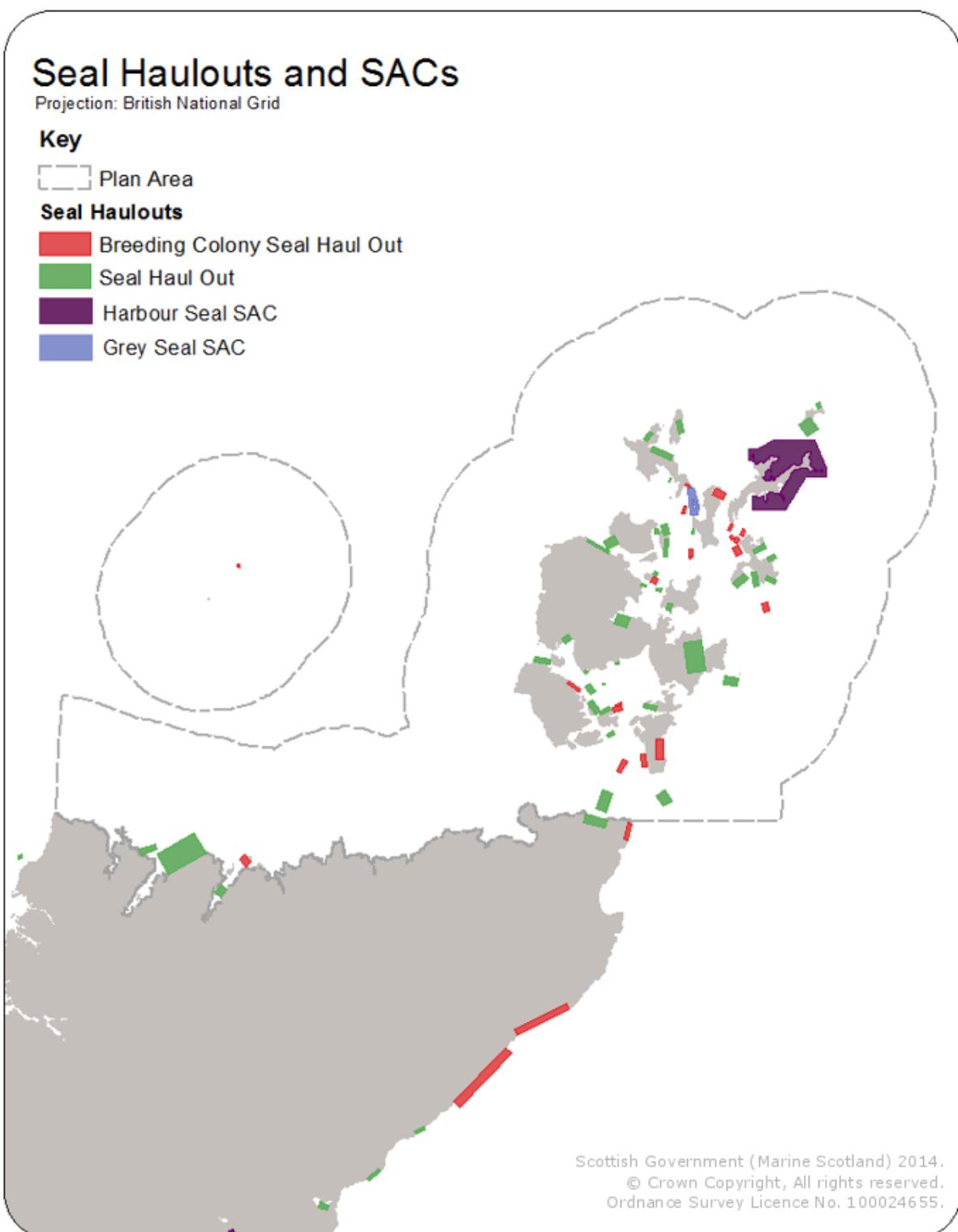
<sup>57</sup> National Marine Plan Interactive [online] Available at:  
<http://marinescotland.atkinsgeospatial.com/nmpi/#>

Figure 7.2 National Nature Conservation Areas in the PFOW Area<sup>58</sup>



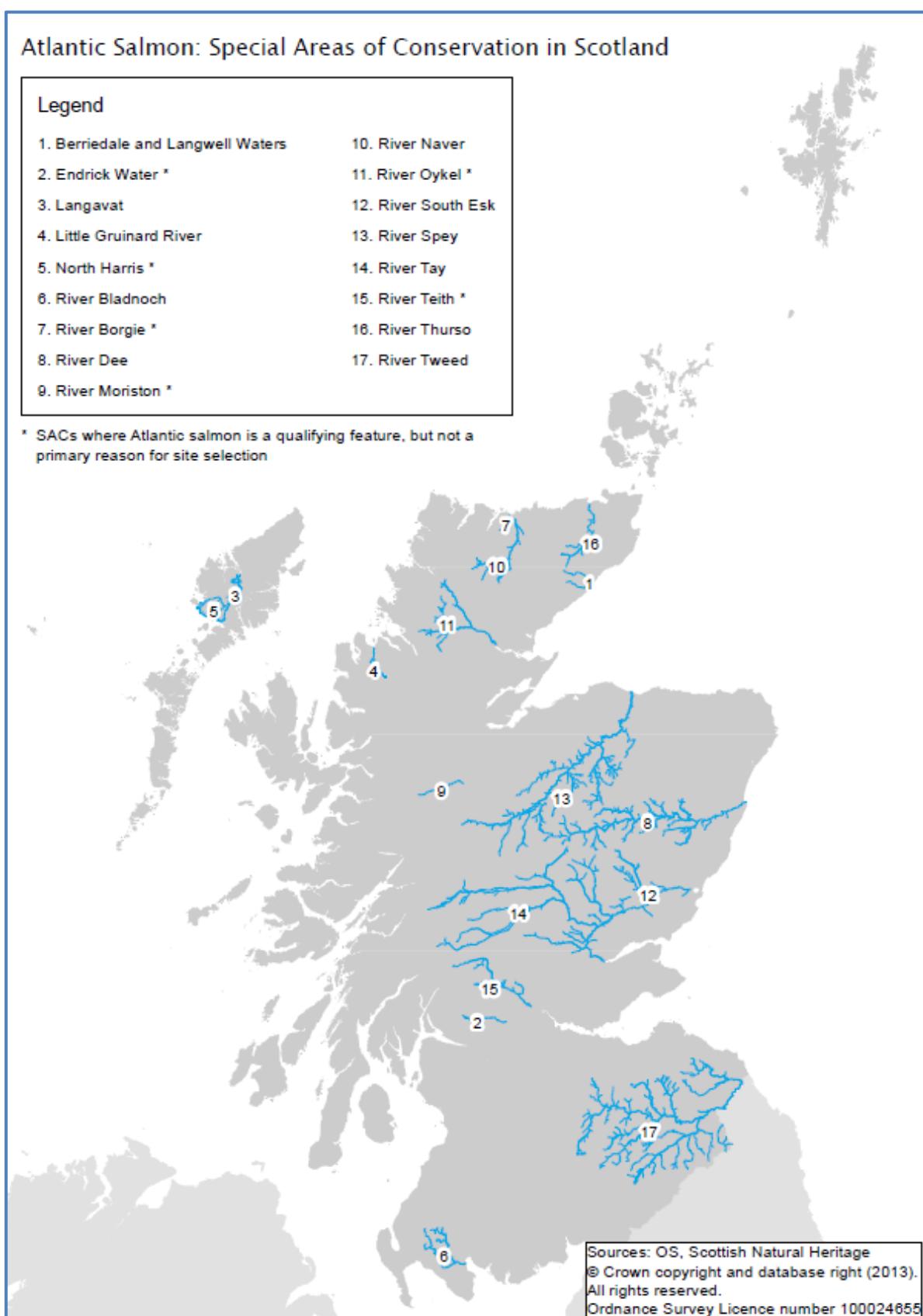
<sup>58</sup> National Marine Plan Interactive [online] Available at: <http://marinescotland.atkinsgeospatial.com/nmpi/#>

Figure 7.3 Seal Conservation Areas and Haul Out Sites in the PFOW<sup>59</sup>



<sup>59</sup> National Marine Plan Interactive [online] Available at:  
<http://marinescotland.atkinsgeospatial.com/nmpi/#>

**Figure 7.4 Atlantic Salmon Special Areas of Conservation in Scotland**



## 7.5 Climatic Factors

### Predictions

7.5.1 Climate change has been predicted to lead to a range of effects on the marine and coastal environment, including an expected increase in water temperatures, rise in sea levels, changes in wave heights and subsequent changes to our coastlines. Since 1961, average temperatures in all parts of Scotland have risen for every season, and sea-surface temperatures around the UK coast have also risen by approximately 0.7 °C over the last three decades. The UK Climate Projections 2009 model (UKCP09) projects rises of 1.5 – 4.0 °C in temperature of shelf seas by the end of this century<sup>60</sup>.

7.5.2 Our seas are also becoming more acidic as increasing amounts of atmospheric carbon dioxide are absorbed at the sea surface, particularly those to the north and west of Scotland. A five-year baseline study has been initiated to investigate the seasonal and inter-annual variability of the carbonate chemistry of Scottish offshore and coastal waters, involving the collection of water samples from several locations including where the Atlantic and shelf waters meet near Orkney and Shetland<sup>61</sup>. Changes in temperature and acidity are a concern for marine ecosystems and the many organisms that share them. Such changes are considered likely to increase the vulnerability of some habitats and species, and also lead to additional changes in the marine environment.

7.5.3 There is clear indication that the effects of climate change are already creating changes in the marine environment. For example, increasing sea temperatures are known to already be leading to the extension of the northern limit of seabed animals and declines in the breeding success of some species of seabirds such as Arctic skua, Black-legged kittiwake and shag from decreases in food availability linked to climate change<sup>62</sup>.

7.5.4 While sea levels around the UK rose by about 1 mm/year in the 20th century (corrected for land movement), it is estimated that recent increases, particularly in Orkney, have been higher than this. The UKCP09 model projects further rises of between 16 cm and 68 cm above 1990 levels under a Medium Emissions Scenario for Kirkwall (used here as a proxy for PFOW). Given global carbon emissions a High Emission Scenario may be more relevant, which projects between 19 cm and 84 cm by 2100, above

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<sup>60</sup> Marine Scotland (2011) Scotland's Marine Atlas: Information for the National Marine Plan, pg. 189.

<sup>61</sup> Marine Scotland (2012) Topic Sheet no. 117 v1, Ocean acidification – alteration to the chemistry of marine carbonate system [online] Available at: <http://www.gov.scot/Resource/0040/00408986.pdf> (accessed 02/02/2015)

<sup>62</sup> Marine Scotland (2011) Scotland's Marine Atlas: Information for the National Marine Plan, pg. 189.

1990 levels<sup>63</sup>. As discussed in the UK Climate Change Risk Assessment (CCRA), more frequent coastal flooding is already present within parts of Scotland and tide gauges are expected to become more frequent and may coincide with more intense rainfall associated with the effects of climate change<sup>64</sup>. For example, increases in drought incidents during drier summers and increases in the frequency of extreme weather events are predicted<sup>65</sup> (e.g. storms and flooding). As a consequence, the predicted changes in sea levels are expected to exacerbate existing wave and storm surges, and this could have serious repercussions for marine and coastal environments. In particular, those coastal areas known to be susceptible to erosion and accretion, including numerous soft coastlines in Orkney, and the potential for knock-on effects for the industries operating in them.

### Current Actions

7.5.5 Adaptation and mitigation of the predicted effects of climate change are a focus of Scottish Government commitments at the national and sectoral levels. The Scottish Government's Climate Change Adaption Framework highlights these trends for sea level rise, air and sea temperatures, and atmospheric carbon dioxide (CO<sub>2</sub>) concentrations to be factored into future decision-making across all sectors, including those with interests in the marine environment<sup>66</sup>. Published in May 2014, the Scottish Climate Change Adaptation Programme was the first in an iterative process of programmes to address impacts and opportunities identified in progressive CCRAs. It sets out additional information on adaptation to climate change in the natural environment, including the marine and coastal environment, and Scottish Ministers' objectives in relation to adaptation to climate change<sup>67</sup>. Sectoral plans such as the Marine and Fisheries Climate Change Adaptation Plan take adaptation forward at the sectoral level.

7.5.6 The Climate Change (Scotland) Act 2009 sets out a number of provisions for movement to a low carbon economy, setting legally binding national targets for GHG (i.e. at least a 42% in GHG emissions by 2020 and at least

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<sup>63</sup> Marine Scotland (2011) Scotland's Marine Atlas: Information for the National Marine Plan, pg. 189.

<sup>64</sup> Sniffer (2008) Project FRM10: Coastal Flooding in Scotland: A Scoping Study [online] Available at: [http://www.sniffer.org.uk/files/7013/4183/7993/FRM10\\_final\\_030908\\_with\\_security.pdf](http://www.sniffer.org.uk/files/7013/4183/7993/FRM10_final_030908_with_security.pdf) (accessed 12/11/2014)

<sup>65</sup> Defra (2012) UK Climate Change Risk Assessment: Government Report, January 2013 [online] Available at: [https://www.gov.uk/government/uploads/system/uploads/attachment\\_data/file/69487/pb13698-climate-risk-assessment.pdf](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/69487/pb13698-climate-risk-assessment.pdf) (accessed 10/9/2014)

<sup>66</sup> The Scottish Government (2009) Scotland's Climate Change Adaptation Framework [online] Available at: <http://www.gov.scot/Topics/Environment/climatechange/scotlands-action/adaptation/AdaptationFramework> (accessed 10/9/2014)

<sup>67</sup> The Scottish Government (2014) Climate Ready Scotland Scottish Climate Change Adaptation Programme [online] Available at: <http://www.gov.scot/Publications/2014/05/4669> (accessed 02/02/2015)

80% by 2050, compared to the 1990 baseline). Other objectives have also been set, including the target for renewable energy sources to generate the equivalent of 100% of Scotland's gross annual electricity consumption by 2020, and an interim target of 50% by 2015. The Low Carbon Scotland: Report of Policies and Proposals 1 and 2 (RPP and RPP2)<sup>68,69</sup> outline the range of policies and proposals that have been developed, and are being progressively implemented, to work towards the GHG reduction targets. Both are expected to play key roles in both reducing GHG emissions and Scotland's reliance on fossil fuel combustion; including a variety of measures across numerous sectors, broadly focusing on improving efficiency in sectors such as energy generation and transport, improved efficiency in heating public, commercial and residential properties, increased use of renewable energy to displace more traditional sources, and amongst many others, supported by the development of a wide range of related policies.

#### **Key pressures:**

- Climate change impacts on coastal areas are expected to include sea level change, exacerbating the effects of extreme waves and storm surges, amongst others.
- Climate change impacts on marine ecosystems can include changing ocean acidity, salinity, rising sea temperatures and rising sea levels.
- Scotland has set targets and implemented actions for reducing GHG emissions across many sectors, including those for renewable energy generation and transport with the potential for increased spatial pressure on coastal and marine areas.
- Climate change adaptation is likely to be required in response to the predicted effects on the coastal and marine environment, particularly in the minimisation of impacts and the potential loss of vulnerable species and habitats.

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<sup>68</sup> The Scottish Government (2011) Low Carbon Scotland - Meeting our Emissions Reduction Targets 2010-2022 [online] Available at: <http://www.gov.scot/Topics/Environment/climatechange/scotlands-action/lowcarbon/rpp> (accessed 02/02/2015)

<sup>69</sup> The Scottish Government (2013) Low Carbon Scotland - Meeting our Emissions Reduction Targets 2013-2027 [online] Available at: <http://www.gov.scot/Topics/Environment/climatechange/scotlands-action/lowcarbon/meetingthetargets> (accessed 02/02/2015)

## 7.6 Cultural heritage and historic environment

7.6.1 The PFOW area contains a wide variety of coastal and marine historic features. The rich marine heritage of Orkney and its waters in particular is demonstrated through the establishment of a voluntary underwater conservation zone in place around the remains of seven scheduled wrecks of ships from the German High Seas Fleet located within Scapa Flow. However, as shown in Figure 7.5, this provides just a glimpse of the many wreck sites identified in the waters around Orkney. The Pentland Firth and waters off the north Caithness and Sutherland coast are recognised for their high potential for submerged cultural features such as its prehistoric landscapes, shipwrecks and anchorages<sup>70</sup>. Designated wreck sites, such as the HMS Bullen and the wreck of HMS Duke of Albany receiving protection of Military Remains Act 1986 and located within the Firth and to its east respectively, are two such examples<sup>71,72</sup> of the vast number of wreck sites in the PFOW area. While many sites lie wholly within the marine environment, it is believed that there are many more unprotected sites of interest on and around Scotland's coastline.

7.6.2 In addition to off-shore heritage, historic and cultural heritage sites are also in abundance across both the Orkney Isles and the north Caithness and Sutherland coast. These include a variety of listed buildings and scheduled monuments such as lighthouses, brochs, fortifications, cairns, chapels and dwellings, and other monuments with varying levels of listing and importance. Many of these sites, particularly those in Orkney, are located in coastal areas and as a consequence, have coastal or marine interests. Of particular importance is the Heart of Neolithic Orkney World Heritage Site (WHS) occupying much of the west coast of the Orkney Mainland and Isle of Hoy<sup>73</sup>.

7.6.3 The north Caithness and Sutherland coast contains a number of historic features in coastal areas, principally consisting of listed buildings, gardens and designated landscapes, and historic monuments. In general the eastern part of this coastline contains a larger number of these coastal sites

<sup>70</sup> Orca Marine (2012) Project Adair: Mapping marine heritage sites in Orkney and the Pentland Firth, Desk-based Assessment March 2012 [online] Available at: <http://www.orkney.uhi.ac.uk/studying-at-oc/departments/archaeology/archaeology-files/mapping-marine-heritage-sites-in-orkney-and-pentland-firth> [accessed 02/02/2015]

<sup>71</sup> RCAHMS (2014) Canmore [online] Available at: [http://canmoremapping.rcahms.gov.uk/index.php?action=do\\_details&cache\\_name=aWRudW1saW5rLDMyMzk5OF9zZWY2h0eXBILGFkdmFuY2VkJX29yYQ==&set=0&list\\_z=0&numlink=323998](http://canmoremapping.rcahms.gov.uk/index.php?action=do_details&cache_name=aWRudW1saW5rLDMyMzk5OF9zZWY2h0eXBILGFkdmFuY2VkJX29yYQ==&set=0&list_z=0&numlink=323998) [accessed 02/02/2015]

<sup>72</sup> RCAHMS (2014) Canmore [online] Available at: [http://canmoremapping.rcahms.gov.uk/index.php?action=do\\_advanced&idnumlink=101996](http://canmoremapping.rcahms.gov.uk/index.php?action=do_advanced&idnumlink=101996) [accessed 02/02/2015]

<sup>73</sup> RCAHMS (2014) Pastmap [online] Available at: <http://jura.rcahms.gov.uk/PASTMAP/Map> [accessed 02/02/2015]

than the western portion, with the highest densities generally located in the more populated areas (e.g. Thurso, Scrabster)<sup>74</sup>. Of particular note within the Pentland Firth are the A-listed Pentland Skerries Lighthouses, Stackel Brae castle near the Pentland Firth, and monuments on the Island of Stroma; and on the north Caithness and Sutherland coast include the A-listed Castle of Mey and its designated gardens located near John O'Groats and around 500 m from the coast. Scheduled monuments in the region largely include the prehistoric coastal remains of brochs, standing stones, stone rows, tumuli and chambered cairns<sup>75</sup>. There are currently no Historic Marine Protected Areas (HMPA) in the Pilot Plan area.

7.6.4 Previous SEA work undertaken on plans such as the Scottish Government's Sectoral Plans for Offshore Renewables, amongst others, have highlighted the potential for significant effects of coastal and marine development on the historic environment, either directly or via impacts on setting. These have broadly noted that any such effects, and the sensitivity of historic and cultural heritage receptors to specific and cumulative effects, will require careful consideration and mitigation at the project level if they are to be developed within the marine spatial plan area. For some types of development, most notably for offshore wave and tidal technologies, guidance has been developed to aid those involved in developments and the development process on the potential for impacts on the historic environment, and to seek early resolution of any such issues<sup>76</sup>.

**Key pressures to cultural heritage and the historic environment:**

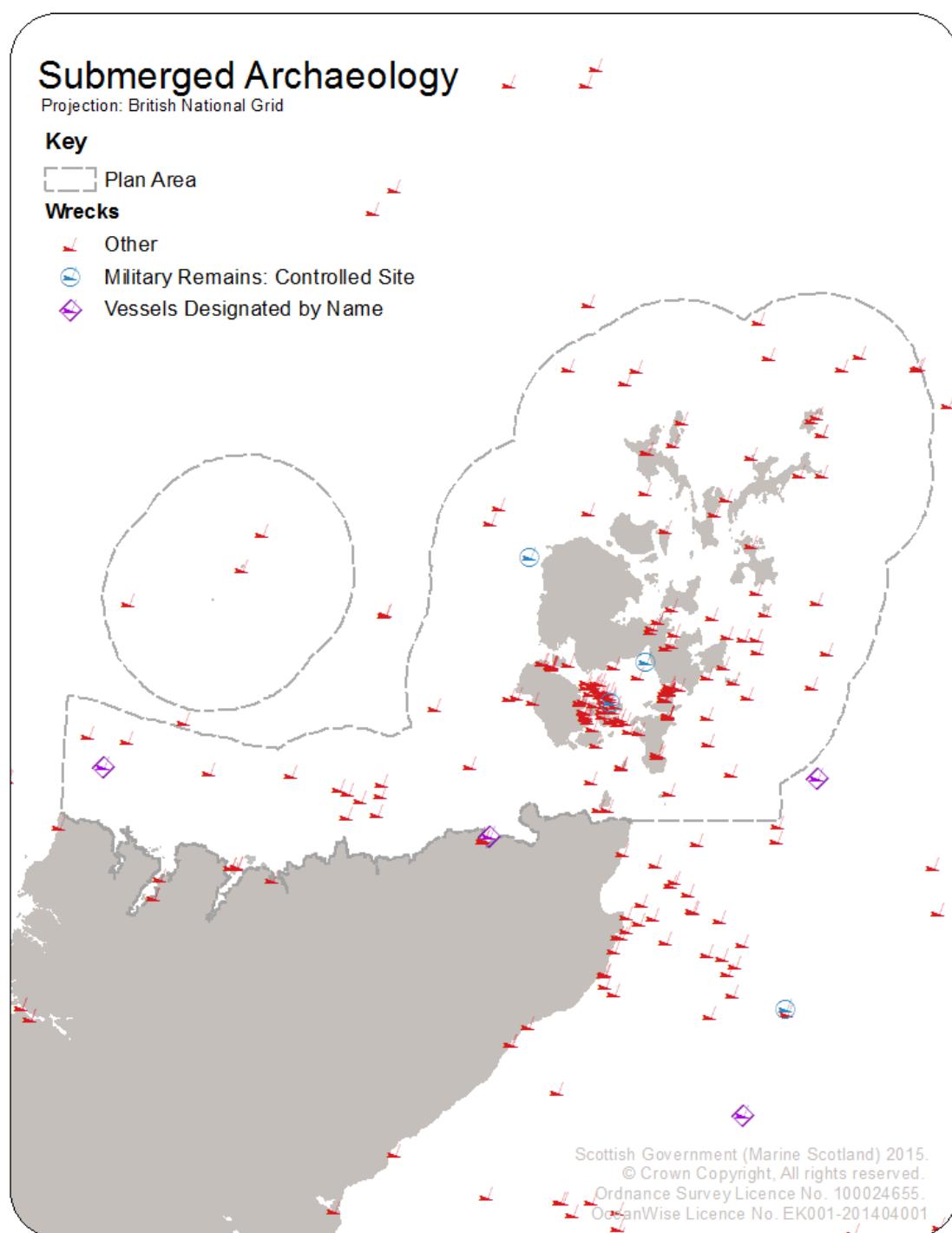
- Inappropriate development has the potential to affect the setting of cultural heritage and historic assets located in both coastal and marine areas.
- Construction/infrastructure installation works have the potential for both direct and indirect impacts to historic assets located in coastal areas or on the seabed, either as direct damage to historic features through seabed disturbance, or via secondary effects such as changes to coastal processes and sediment dynamics.

<sup>74</sup> RCAHMS (2014) Pastmap [online] Available at: <http://jura.rcahms.gov.uk/PASTMAP/Map> [accessed 02/02/2015]

<sup>75</sup> The Scottish Government (2012) Pentland Firth and Orkney Waters Marine Spatial Plan Framework and Regional Locational Guidance for Marine Energy, Draft Report [online] Available at: <http://www.gov.scot/Resource/Doc/295194/0096884.pdf> [accessed 02/02/2015]

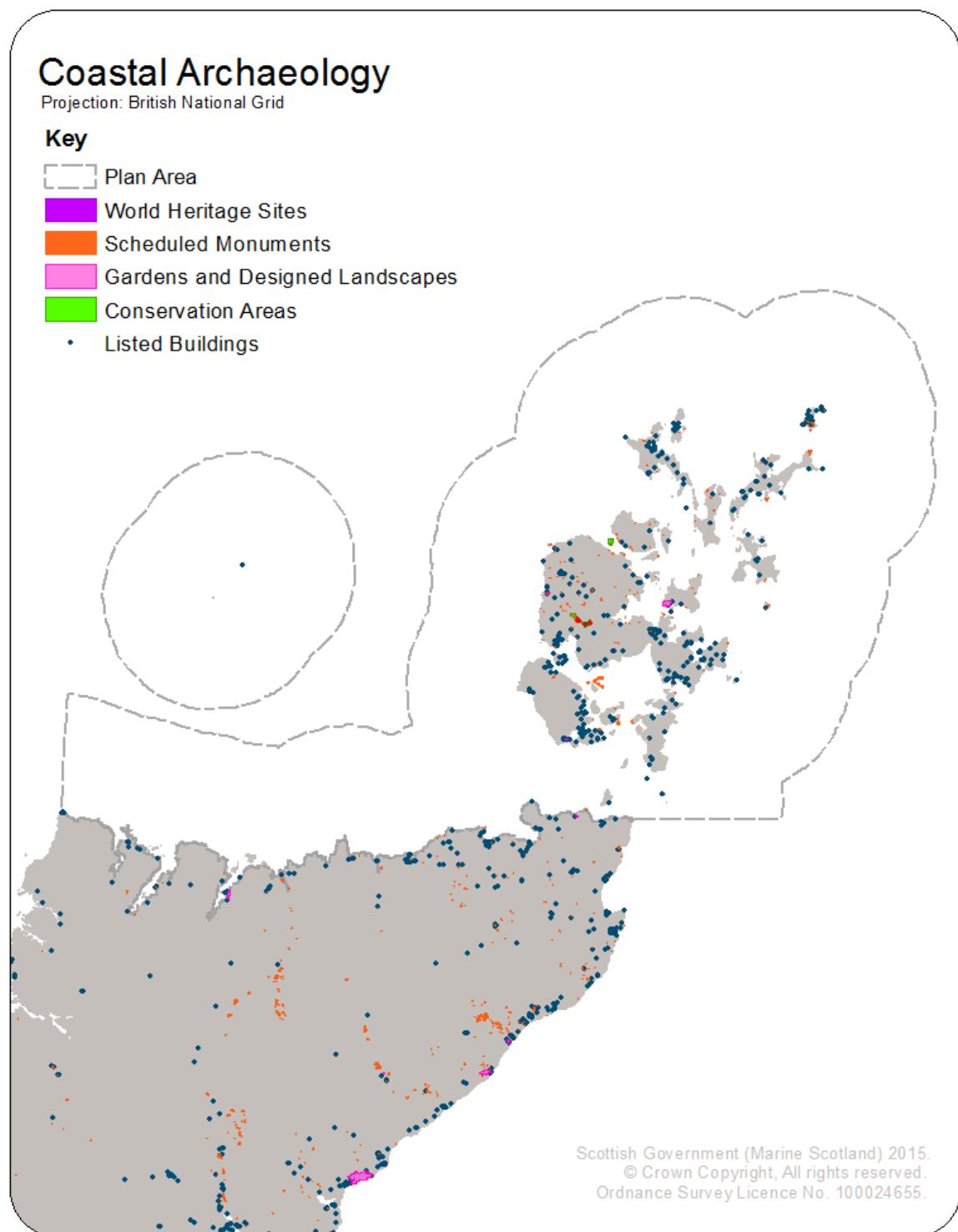
<sup>76</sup> English Heritage, Historic Scotland and Cadw (2013) Historic Environment Guidance for Wave and Tidal Energy, November 2013 [online] Available at: <http://www.historic-gov.scot/wave-tidal-energy-guidance-nov-13.pdf> (accessed 02/02/2015)

Figure 7.5 Submerged Archaeology in the PFOW<sup>77</sup>



<sup>77</sup> National Marine Plan Interactive [online] Available at:  
<http://marinescotland.atkinsgeospatial.com/nmpi/#>

Figure 7.6 Coastal Archaeology in the PFOW<sup>78</sup>



<sup>78</sup> National Marine Plan Interactive [online] Available at:  
<http://marinescotland.atkinsgeospatial.com/nmpi/#>

## 7.7 Landscape and seascape

7.7.1 There are a large number of landscape designations at the national and local level within Orkney and along Scotland's north coast, and many of these have with coastal and/or marine components. The scenic quality and character of Scotland's landscapes are internationally renowned. Over 12% by area of Scotland has been classified as National Scenic Areas (NSAs), supported by other levels of classifications including national parks and a range of local landscape designations.

7.7.2 Of Scotland's 40 NSAs, two are located within the PFOW region (i.e. Hoy and West Mainland NSA, and Kyle of Tongue NSA) with each containing large sections of their respective coastlines. The special qualities identified by SNH for Hoy and West Mainland NSA include the archaeological landscape setting of the Heart of Neolithic Orkney WHS in addition to other aspects such as the layering of geology, topography, archaeology and land use, presence of sandstone and flagstone, the coastal scenery and the contrasts between different land uses (i.e. fertile farmland, unimproved moorland and townscapes), amongst others<sup>79</sup>. The wildness of Hoy has also been identified with some 4,990 hectares (ha) of land recognised as a wild land areas and areas of "high wildness" in a recent mapping exercise undertaken by SNH. The identification of areas such as this, along with several additional areas along or near to the north Caithness and Sutherland coast (e.g. Ben Hope to Ben Loyal, Foinaven to Ben Hee and Cape Wrath), have been recognised as being of national importance in the Scottish Planning Policy (SPP)<sup>80</sup>.

7.7.3 The value attributed to the landscapes and seascapes along the north Caithness and Sutherland coast are further demonstrated through the identification of five Special Landscape Areas (SLAs) by the Highland Council on the north coast of the Scottish mainland; including Oldshoremore, Cape Wrath and Durness located to the west of the PFOW area; Eriboll East and Whiten Head; Farr Bay, Strathy and Portskerra; Dunnet Head and Duncansby Head. The two SLAs at Dunnet Head and Duncansby Head are located immediately south of the Pentland Firth. Both areas are noted for their extensive seaward views and the landscapes they afford, particularly that of Duncansby Head with its complex landscape of cliffs, stacks, geos, arches, caves and wave cut platforms. These areas are known to be particularly sensitive to development which would affect views from the headland, or affect the perception of scale of the cliff

<sup>79</sup> SNH (2010) The special qualities of the National Scenic Areas, SNH Commissioned Report No.374 [online] Available at: <http://www.snh.gov.uk/docs/B699719.pdf> [accessed 11/09/2014]

<sup>80</sup> SNH (2014) Mapping Scotland's wildness and wild land [online] Available at: <http://www.snh.gov.uk/protecting-scotlands-nature/looking-after-landscapes/landscape-policy-and-guidance/wild-land/mapping/> (accessed 09/10/2014)

landscape. The other SLAs located in the western portion of the PFOW and further west are noted for their both inland and coastal features, including their open sea views, indented coastline comprising rocky headlands and sheltered bays, and dramatic cliffscapes amongst others<sup>81</sup>.

7.7.4 Orkney's landscape and seascape takes a strong coastal presence and includes coastal areas made up of rugged cliffs, beaches, enclosed bays, and isolated coasts; lowland marginal areas consisting of agricultural land and wetlands, amongst others; and rolling upland areas consisting of rolling heath and moorland hills and montane habitats<sup>82</sup>. It is anticipated that Local Landscape Areas (LLAs) within Orkney will be developed by Orkney Islands Council in the future, and that this will be informed by new Landscape Character Assessment work to be undertaken by SNH to build upon that previously undertaken. The Orkney Islands Council is currently progressing with an application for funding for the North Isles Landscape Partnership Scheme<sup>83</sup>. The scheme will seek to explore landscape value of Orkney's northern isles and look into the links with cultural heritage, amongst other aspects, and will follow on from the work of the Scapa Flow Landscape Partnership Scheme running from 2009 – 2012<sup>84</sup>.

7.7.5 How a development impacts on landscape/seascape and geomorphology can often be a matter of individual perception, and in many instances, this can vary greatly depending on the type of development and locational factors (e.g. topography, distance). However, the assessment of landscape and visual impacts, and landscape character assessment are well-established methodologies. There is already considerable guidance available, such as that published by SNH relating to the siting and design of installations for the aquaculture industry and offshore wind, that has been developed to address both approaches to impact and capacity assessment, and also to help in minimising visual impacts. These principles have been previously applied for a wide range of marine and coastal development (i.e. offshore wind, aquaculture, pier/harbour expansion), and as such, some impacts can often be readily predicted for development in these sectors. However, it is also noted that the nature and significance of any such effects are less known for new or emerging sectors, such as wave and tidal renewables.

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<sup>81</sup>The Highland Council (2011) Assessment of Highland Special Landscape Areas, June 2011 [online] Available at:

<http://www.highland.gov.uk/download/meetings/id/18894/item12speciallandscapeareascitationspdf> [accessed 02/02/2015]

<sup>82</sup> Land Use Consultants (1998) No. 100, Orkney Landscape Character Assessment [online] Available at: <http://www.snh.org.uk/publications/on-line/LCA/orkney.pdf> (accessed 02/02/2015)

<sup>83</sup> Orkney Islands Council (2015) [online] Available at: <http://www.orkney.gov.uk/Planning-News/north-isles-landscape-partnership-scheme.htm> (accessed 17/02/2015)

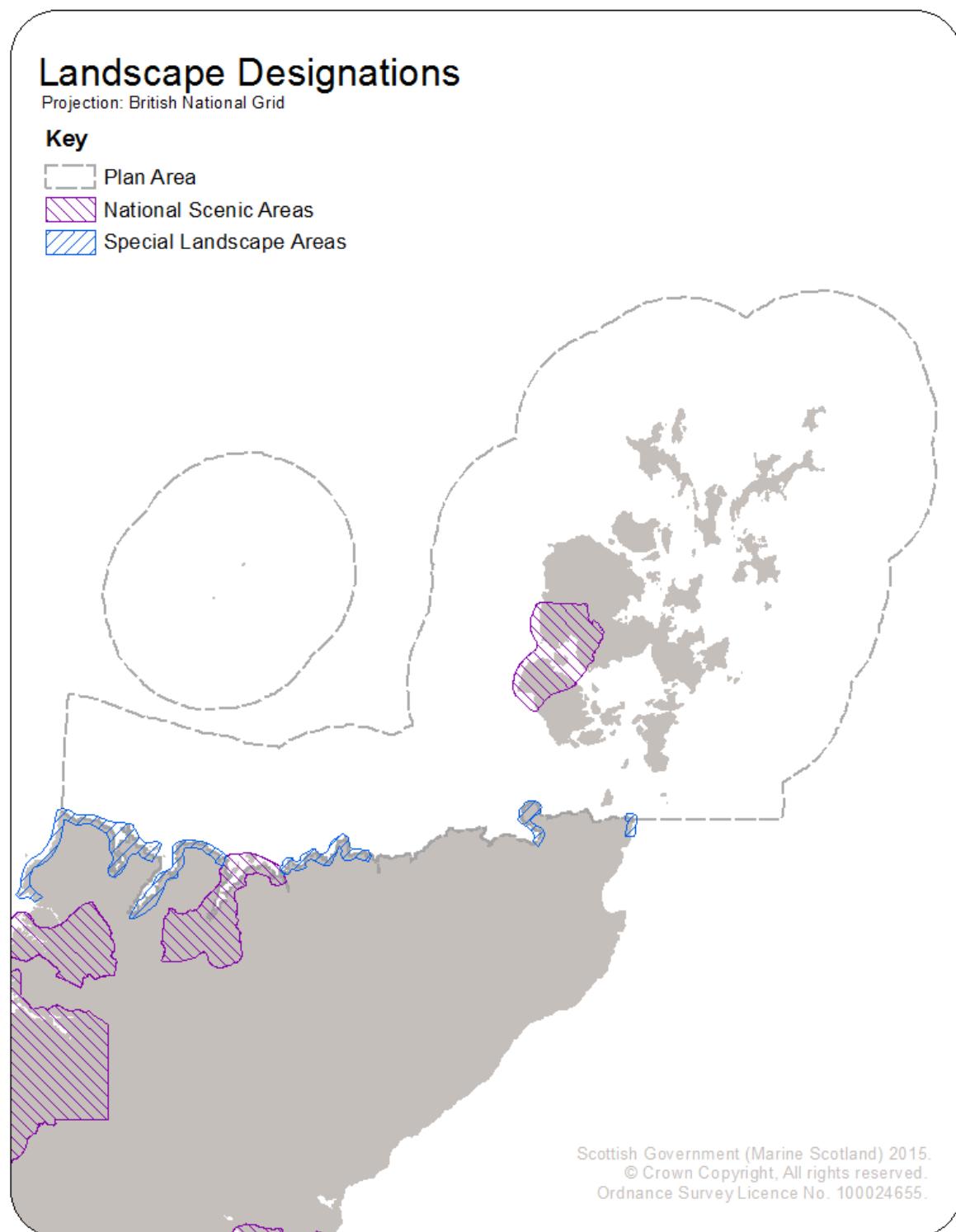
<sup>84</sup> Scapa Flow Landscape Partnership Scheme (2011) [online] Available at: [http://www.scapaflow.co/index.php/history\\_and\\_archaeology/](http://www.scapaflow.co/index.php/history_and_archaeology/) (accessed 17/02/2015)

7.7.6 Previous SEA work undertaken for plans such as the Scottish Government's Sectoral Plans for Offshore Renewables have also highlighted the potential for significant effects of developments on seascapes and coastal landscapes from coastal and marine development. These have broadly noted that any such effects, the sensitivity of valued and designated coastlines, and the potential for cumulative effects on them, will require careful consideration and mitigation at the project level if they are to be developed within the marine spatial plan area.

**Key pressures for landscape and seascape:**

- Sensitivity of coastal landscapes and communities to landscape and visual impacts from coastal and marine development as a result of their high landscape and seascape quality, natural character and wildness.
- Potential for cumulative impacts from often incremental and increased onshore and offshore development on landscape/seascape character and scenic value.
- Pressures on landscape/seascape in coastal areas from coastal erosion due to the expected effects of climate change, waste and inappropriate development.

Figure 7.7 Landscape designations in the PFOW<sup>85</sup>



<sup>85</sup> National Marine Plan Interactive [online] Available at:  
<http://marinescotland.atkinsgeospatial.com/nmpi/#>

## 7.8 Soil, marine geodiversity and coastal processes

### Designations

7.8.1 Many of Scotland's coastal and offshore marine protected sites cover important coastal and marine habitats<sup>86</sup>. Some degree of protection is afforded to marine geology features through SAC designations, where the processes supporting the habitats and species are acknowledged, although it is the designation of coastal SSSI which offers the primary mechanism of protection for terrestrial and coastal sites to the seaward limit of local authority areas. Scotland's SSSI are underpinned by the Geological Conservation Review (GCR) undertaken by the JNCC<sup>87</sup>.

7.8.2 Further, a suite of Nature Conservation MPAs have also been developed to protect important areas of marine habitat, geology and geomorphology in Scottish waters<sup>88,89</sup>, such as the North-west Orkney MPA (whilst protected for sandeels, it contains a range of geological formations including sand banks, sand wave fields and sediment wave fields)<sup>90</sup>, and Wyre and Rousay Sounds MPA and Papa Westray MPA interests (Marine Geomorphology of the Scottish Shelf Seabed) recognised for both biodiversity and geodiversity interests<sup>91,92</sup>.

7.8.3 As shown in Figure 7.8, there are GCR sites located at several locations in Orkney, with the southern tip of Hoy and the coastline to the west of Stromness also identified. Concentrations of GCR sites also extend along the North Sutherland coastline near to Durness and Loch Eriboll and continue further inland, with smaller areas located on the coastline near to Thurso and Castleton, and further west of the PFOW near Cape Wrath<sup>93</sup>.

<sup>86</sup> Scottish Government (2011) Scotland's Marine Atlas, Scottish Government pg. 72

<sup>87</sup> SNH (2012) Geological Conservation Review (GCR) Sites [online] Available at: <http://www.snh.gov.uk/protecting-scotlands-nature/safeguarding-geodiversity/protecting/geological-conservation/> [accessed 02/02/2015]

<sup>88</sup> SNH (2014) Nature Conservation Marine Protected Areas [online] Available at: <http://www.snh.gov.uk/protecting-scotlands-nature/protected-areas/national-designations/mpas/> [accessed 02/02/2015]

<sup>89</sup> Scottish Government (2014) Nature Conservation Marine Protected Areas Designations [online] Available at: <http://www.gov.scot/Topics/marine/marine-environment/mpanetwork> (accessed 02/02/2015)

<sup>90</sup> JNCC (2014) North-west Orkney MPA [online] Available at: <http://jncc.defra.gov.uk/page-6484> (accessed 02/02/2015)

<sup>91</sup> SNH (2014) Nature Conservation Marine Protected Areas [online] Available at: <http://www.snh.gov.uk/protecting-scotlands-nature/protected-areas/national-designations/mpas/> [accessed 02/02/2015]

<sup>92</sup> Scottish Government (2014) Marine Protected Areas Designations [online] Available at: <http://www.gov.scot/Topics/marine/marine-environment/mpanetwork/developing/DesignationOrders> (accessed 02/02/2015)

<sup>93</sup> JNCC (undated) UK Map of GCR Sites [online] Available at: <http://jncc.defra.gov.uk/page-4173> (accessed 02/02/2015)

## Coastal erosion

7.8.4 Scotland's coastlines are varied in nature, representing around 8% of the coastline of Europe, and its geodiversity is evident in the PFOW area. Local variations in the hardness and composition of sedimentary rock layers, and differential erosion over millennia has led to a diverse and valued group of coastal forms. Some of these are widely recognised including, for example, the Old Man of Hoy and the Stacks of Duncansby. These cliffs are largely resilient and contrast susceptible formations such as the dune systems found in places such as Dunnet, Sanday and Westray, and the many pocket beaches interspersed with rocky coastlines and headlands amongst the Orkney isles and along the north Caithness and Sutherland coast<sup>94</sup>.

7.8.5 Coastal erosion and accretion are natural processes which are intrinsic attributes of dynamic soft shores. Where these affect built structures and assets, significant problems can occur. Sea level rise, reductions in coastal sediment supply and variations in storminess are the principal causes of coastal erosion. Human activities can play a role in exacerbating these natural processes (e.g. construction of sea walls, groynes and dredging in the near-shore)<sup>95,96</sup>.

7.8.6 In 2004, the EUerosion project categorised Scotland's coast and summarised the character of the coastline, whilst assessing its potential stability and behaviour. This survey reported that Scotland's coastline was comprised of predominantly hard coasts composed of rocks and cliffs (70%); soft coasts considered potentially susceptible to erosion impacts, composed of unconsolidated gravels, sand and silts (29%); and artificial coasts such as harbours and sea walls (less than 1%). In 2010-11, SNH updated the 2004 dataset and estimated that around 8% of Scotland's coast was considered accretional<sup>97</sup> and an estimated 12% was erosional<sup>98</sup>, with shorelines with beaches, sand dunes, conglomerates/soft-rock cliffs,

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<sup>94</sup> SNH (2002) Natural Heritage Future – Orkney and Caithness [online] Available at: <http://www.snh.gov.uk/docs/A306319.pdf> (accessed 02/02/2015)

<sup>95</sup> SNH (1997) Information and Advisory Note Number 72, February 1997, Coastal erosion and defence, II. Coastal erosion and coastal cells [online] Available at: <http://www.snh.org.uk/publications/on-line/advisorynotes/72/72.html> (accessed 02/02/2015)

<sup>96</sup> Prasetya G (unknown) Chapter 4: Protection From Coastal Erosion, Thematic paper: The role of coastal forests and trees in protecting against coastal erosion [online] Available at: <http://www.fao.org/docrep/010/ag127e/AG127E09.htm> (accessed 02/02/2015)

<sup>97</sup> SNH (2012) Coastal Erosion [online] Available at: <http://www.snh.gov.uk/about-scotlands-nature/rocks-soils-and-landforms/coasts/erosion/> (accessed 02/02/2015)

<sup>98</sup> Marine Climate Change Impacts Annual Report Card 2010-2011 <http://www.mccip.org.uk/media/7562/mccip-report-2010-2011.pdf> (accessed 02/02/2015)

machair and marshes with muddy sediments identified as being particularly susceptible<sup>99</sup>.

7.8.7 Orkney is regarded as having one of the most active coastlines in the British Isles and coastal erosion and deposition is evident on many sections of the coast. The interaction of sea level rise, coastal erosion and deposition across millennia, has shaped the archipelago into its current form, which is reflected by and continues to expose archaeology across these islands. Coastal erosion has occurred over the last 10,000 years, and is likely to continue and to occur at an increasing rate based upon climate change predictions<sup>100</sup>. The spatial pattern and rate of erosion will be highly variable and based on local characteristics and circumstances, and in some instances, this is likely to impact communities, infrastructure, cultural and natural heritage<sup>101</sup>. As shown in Figure 7.12, parts of Sanday and Westray in particular are thought to be more susceptible to erosion. However this is being systematically investigated within the National Coastal Change Assessment in 2014 – 2015.

7.8.8 While the north Caithness and Sutherland coast is generally rocky and resistant to erosion, the EUerosion study identified sections of the coastline that had been affected or were vulnerable to erosion/accretion, including Thurso-Scrabster Bay, Porthkerra and near John O'Groats, amongst others (see Figure 7.10)<sup>102</sup>.

7.8.9 In many instances, coastal erosion can create secondary impacts for coastal areas and the many assets they contain; for example, important sites of cultural and archaeological significance, and other known and undiscovered coastal archaeology<sup>103</sup>.

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<sup>99</sup> European Commission (2004) EuroSION: Living with Coastal Erosion in Europe – Sediment and Space for Sustainability – Results for the EuroSION Study, [online] Available at: <http://www.euroSION.org/reports-online/reports.html> (accessed 02/02/2015)

<sup>100</sup> UKCP (2009) Maps and Key Findings [online] Available at: <http://ukclimateprojections.metoffice.gov.uk/21708> (accessed 02/02/2015)

<sup>101</sup> Historic Scotland (undated) Coastal Erosion [online] Available at: <http://www.historic.gov.scot/coastalerosion> (accessed 02/02/2015)

<sup>102</sup> European Commission (2004) EuroSION: Living with Coastal Erosion in Europe – Sediment and Space for Sustainability – Results for the EuroSION Study, [online] Available at: <http://www.euroSION.org/reports-online/reports.html> (accessed 02/02/2015)

<sup>103</sup> Historic Scotland (undated) Coastal Erosion [online] Available at: <http://www.historic.gov.scot/coastalerosion> (accessed 02/02/2015)

## Bathymetry

7.8.10 Work undertaken on the development of the Offshore Renewables RLGs undertaken in 2013 considered detail on the sediment composition and included European University Information Systems (EUNIS) predicted habitat data<sup>104</sup>. The seabed surrounding the Orkney Isles consists largely of coarse sediments such as sandy gravels and gravelly sands, with patches of sandy sediments to the south west near to the North Sutherland Coast, and to the south east of the Isles. Within the Pentland Firth, the seabed largely consists of undifferentiated rock.

7.8.11 The EUNIS dataset included in Figures 9 and 10 of the RLGs, described the Orkney seabed area as being generally composed of circalittoral coarse sediments, deep circalittoral coarse sediments and sands all around the Isles, with the exception of deep moderate and high energy circalittoral rock within the narrows of the Pentland Firth. Shallow and deep circalittoral coarse sediments were predicted to the east and west of the Firth, interspersed with circalittoral fine or muddy sand pockets offshore of the North Sutherland Coast. The composition of the sands is highly variable in its source as well as its size, with minerogenic sands (small grains of rock) supplemented by carbonate sands (fragments of shells and other marine life). The marine sediment pathways are highly complex and have led to considerable variation in the shell content on beaches and machair plains across the archipelago<sup>105</sup>.

7.8.12 The depth of the seabed varies greatly from 30 – 170 m around and within the Isles; the deepest areas being located to their north west beyond the offshore wind and wave plan option areas. Depths vary from 20 – 100 m within the Pentland Firth and off the North Sutherland coast, with the narrows of the Firth being the shallowest part.

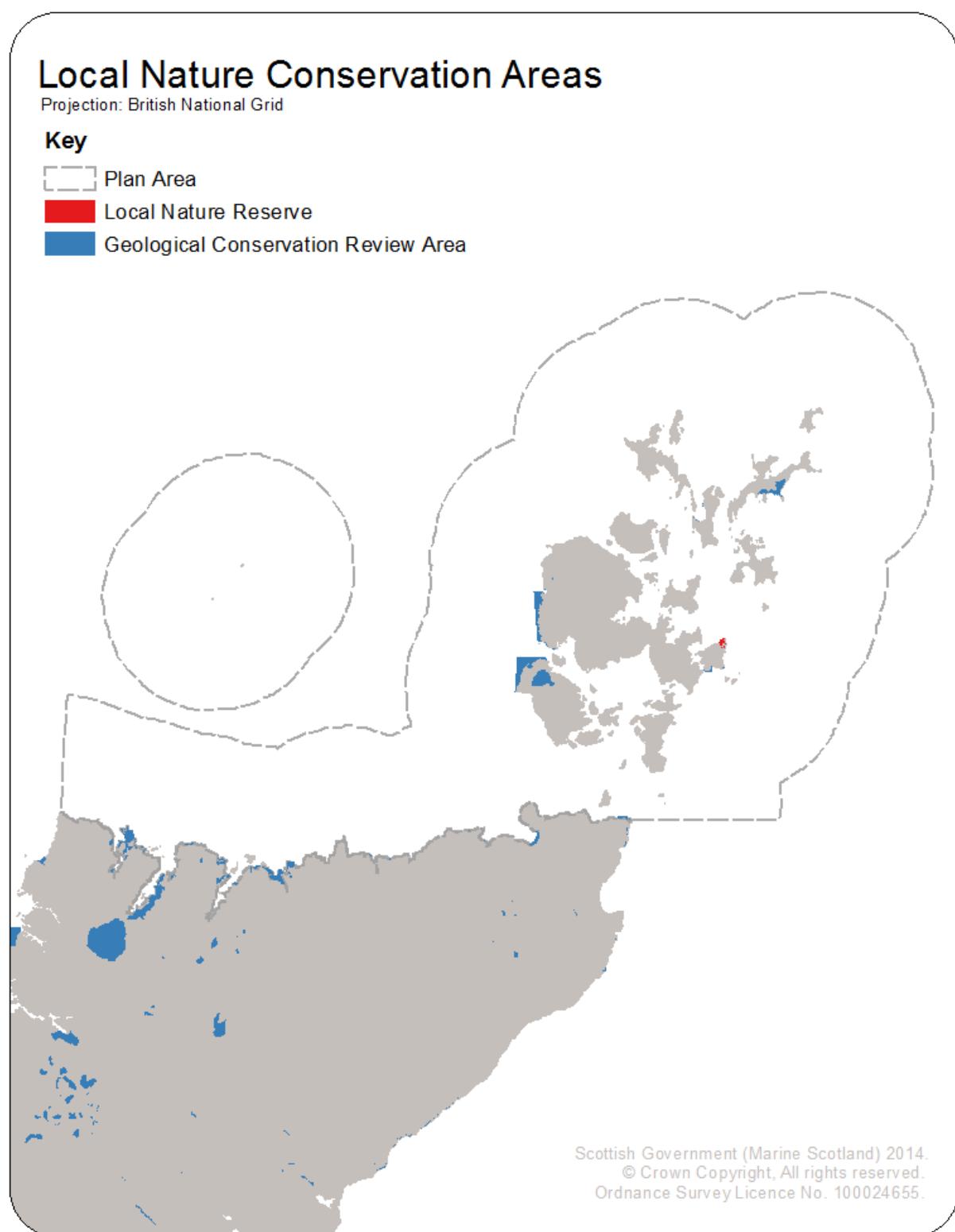
### **Key pressures for soil, marine geodiversity and coastal processes:**

- Pressures from coastal erosion due to natural effects, offshore or coastal development, and the expected effects of climate change have been widely identified.
- Pressure from sea level rise influencing both coastal erosion and flooding, and responses to it. For example, inappropriate planning and coastal defences can exacerbate issues or shift issues into nearby areas rather than alleviate the causes.

<sup>104</sup> Scottish Government (2013) Offshore Renewable Energy, Planning, Regional Locational Guidance [online] Available at: <http://www.gov.scot/Topics/marine/marineenergy/Planning/waverlg> (accessed 02/02/2015)

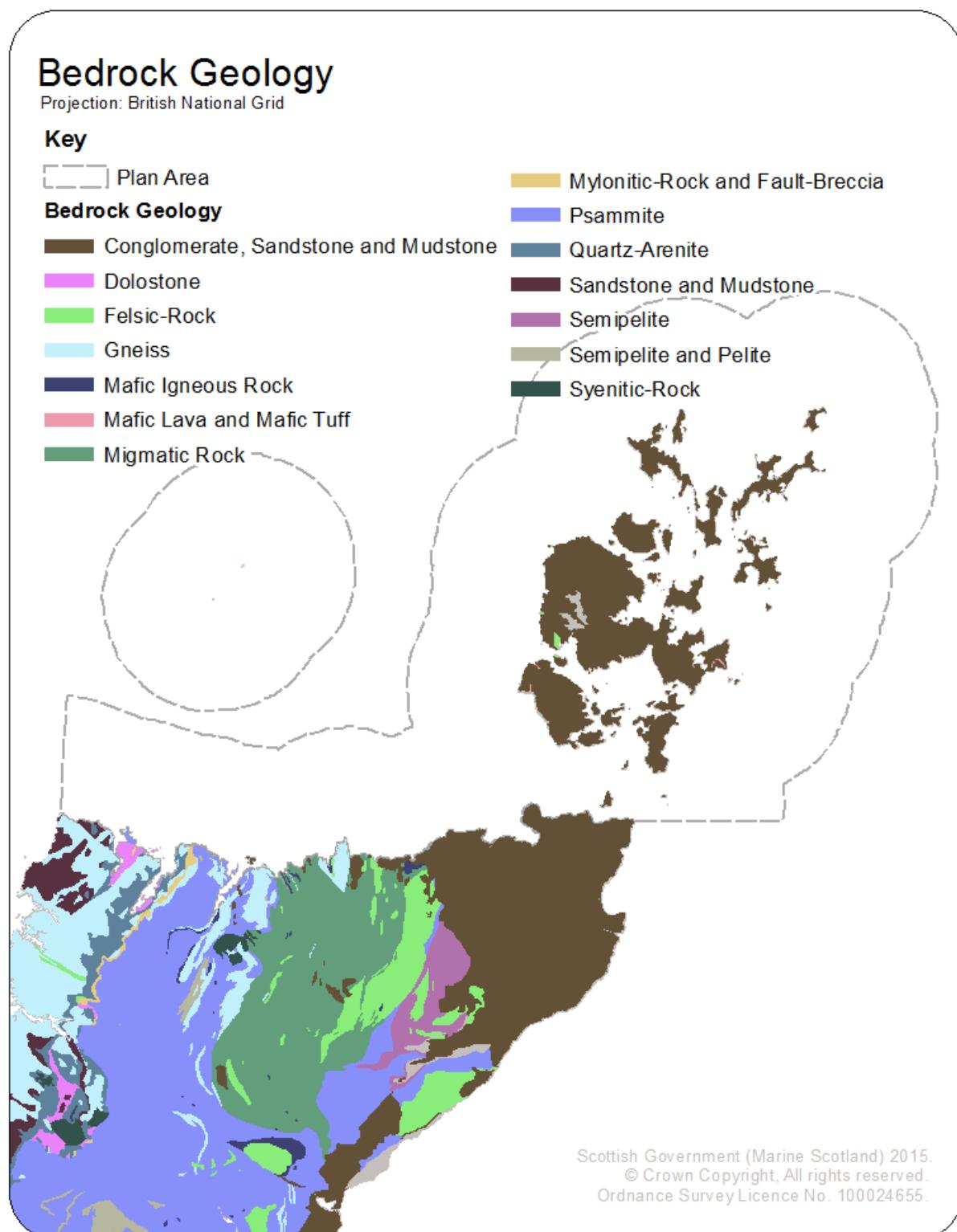
<sup>105</sup> Farrow, G.E., Allen, N.H and Akpan, E.B. (1984) Bioclastic carbonate sedimentation on a high-latitude, tide-dominated shelf: northeast Orkney Islands, Scotland. Journal of Sedimentary Petrology, 54, 2, 373-393.

Figure 7.8 Geological Conservation Review Sites in the PFW Area<sup>106</sup>



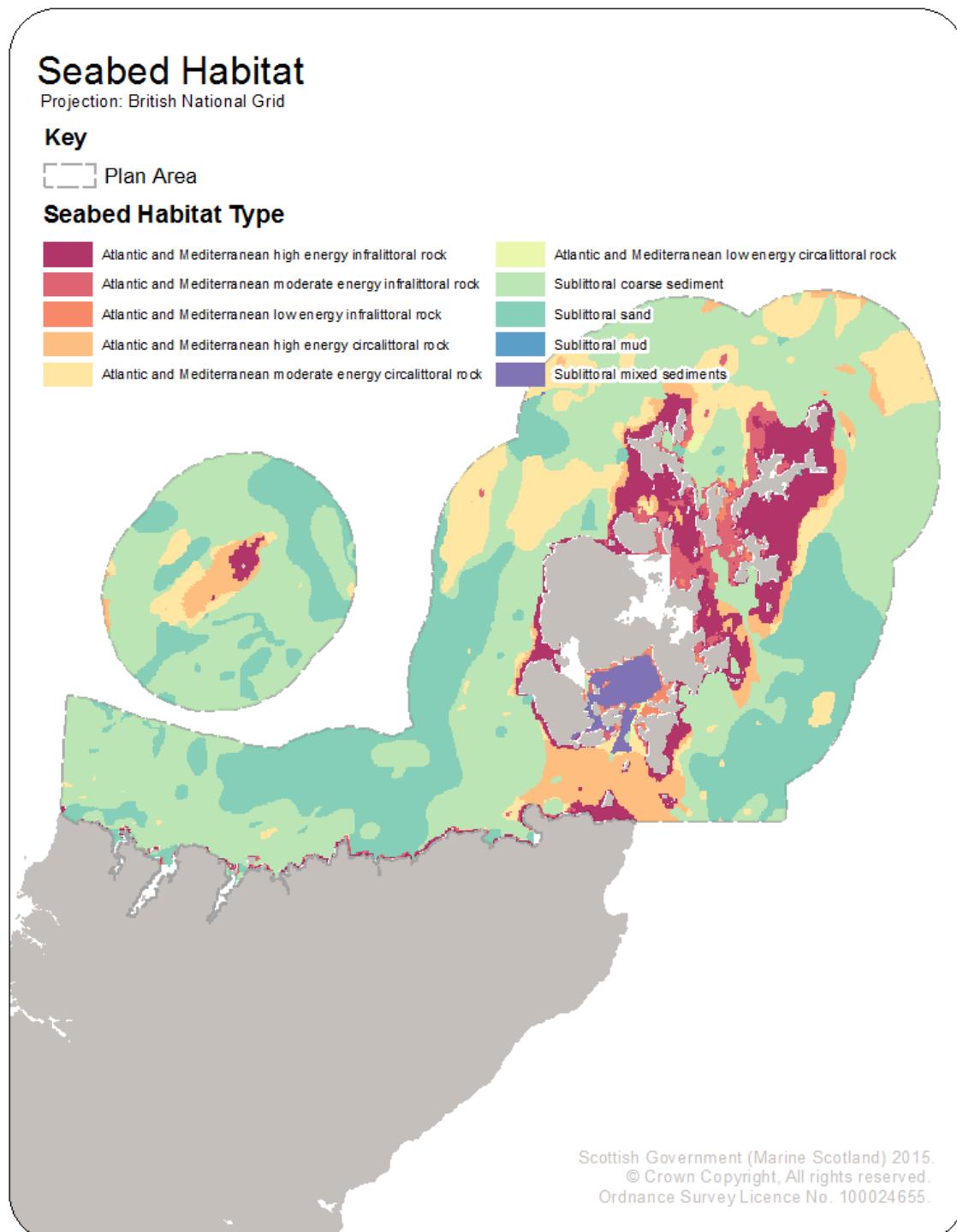
<sup>106</sup> National Marine Plan Interactive [online] Available at:  
<http://marinescotland.atkinsgeospatial.com/nmpi/#>

Figure 7.9 Coastal Geology in the PFOW<sup>107</sup>



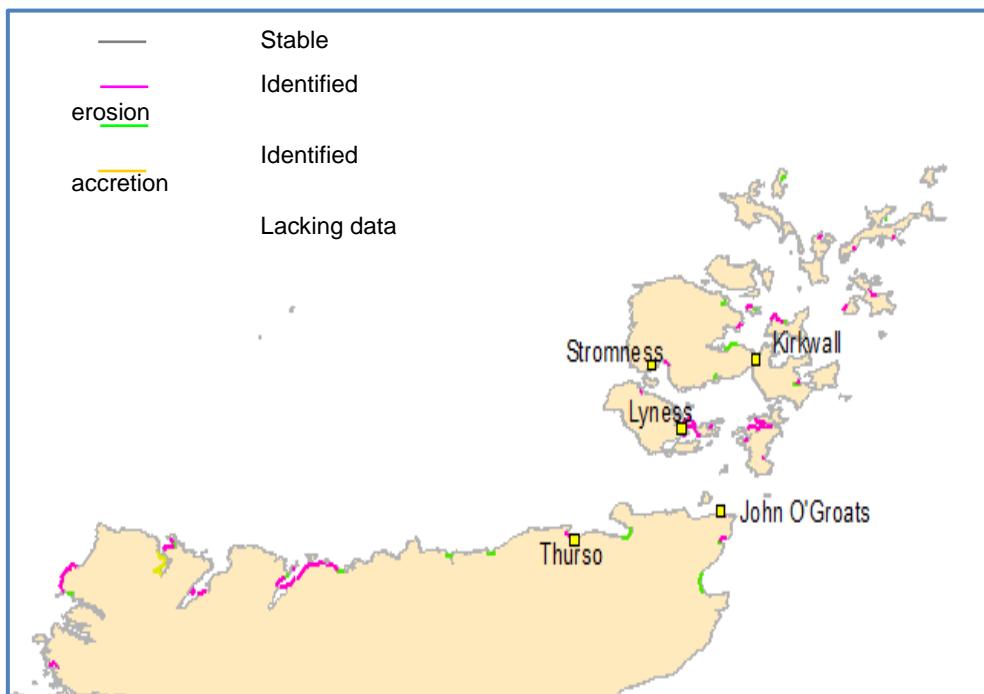
<sup>107</sup> National Marine Plan Interactive [online] Available at: <http://marinescotland.atkinsgeospatial.com/nmpi/#>

**Figure 7.10 Seabed habitat in the PFOW area classified according to the European Nature Information System (EUNIS) habitat classification system<sup>108</sup>**

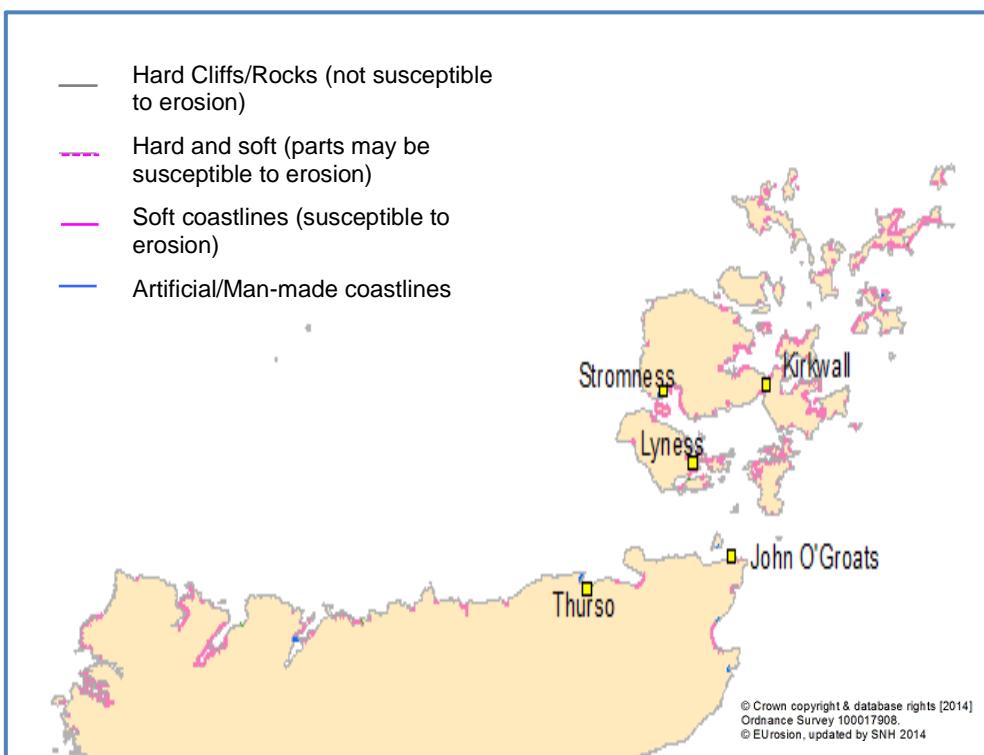


<sup>108</sup> National Marine Plan Interactive [online] Available at: <http://marinescotland.atkinsgeospatial.com/nmpi/#>

**Figure 7.11 Erosion Coastal Erosion Survey 2014<sup>109</sup>**



**Figure 7.12 Erosion Coastal Survey and Erosion Potential in PFOW<sup>110</sup>**



<sup>109</sup> European Commission (2004) *Erosion: Living with Coastal Erosion in Europe – Sediment and Space for Sustainability – Results for the Erosion Study*, [online] Available at: <http://www.euroSION.org/reports-online/reports.html> (accessed 02/02/2015)

<sup>110</sup> SNH (2015) *Natural Spaces, EEA EuroSION Scotland Layers* [online] Available at: <https://gateway.snh.gov.uk/natural-spaces/> (accessed 23/02/2015)

## 7.9 Communities, population and human health

### Importance of the Marine Environment

7.9.1 The PFOW play an integral role for coastal communities within Orkney and along the north Caithness and Sutherland coast, both in terms of providing the means for economic support and also in supporting quality of life. Data from the Health Scottish Index of Multiple Deprivation (SIMD)<sup>111</sup> indicates that communities on the Orkney mainland are largely ranked within top 40% of Scotland as being least deprived (ranked 60 – 100% in the SIMD). However, there are parts of the Northern Isles where health conditions appear to be in or moving towards the lower percentiles, and communities in the outer isles in Orkney were reported as being more deprived (ranked 20 – 60% in the SIMD). The most deprived area in the islands in the 2012 report was located in West Kirkwall on Orkney Mainland which was amongst the 35% most deprived areas in Scotland. Similarly, education and income domains data shows that deprivation in parts of the PFOW, including Hoy and the southern isles in the Orkney archipelago, are lower than many areas in Scotland. The 2012 SIMD also reported that communities along the north Caithness and Sutherland coast were ranked in the middle deciles (in the 40 – 60% range).

7.9.2 Core marine employment data demonstrates the importance of the marine sector in Scotland, particularly in the Northern and Western Isles, and in the Caithness region<sup>112</sup>. The PFOW marine environment offers opportunities in a range of sectors, attracting a wide range of marine users in supporting industries such as offshore oil and gas, aquaculture, and fishing sectors; and the recreational and tourism sectors ranging from activities such as swimming, surfing, recreational boating and yachting, diving, sea angling, and wildlife and cultural heritage tourism, amongst others. These activities not only provide opportunities in economic terms, but are also an important aspect in the quality of life in local communities in the region (see Section 7.11).

7.9.3 The area also contains important local services including ferries run by Northlink and Orkney Ferries between Orkney and Shetland, Orkney and the Scottish mainland, and between isles in the Orkney archipelago<sup>113,114</sup>.

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<sup>111</sup> Scottish Government (2012) Scottish Index of Multiple Deprivation [online] Available at: <http://www.gov.scot/Topics/Statistics/SIMD/> (accessed 02/02/2015)

<sup>112</sup> Scottish Government (2011) Scotland's Marine Atlas, Information for the national marine plan, Scottish Government, pg. 143.

<sup>113</sup> Scottish Government (2011) Scotland's Marine Atlas, Information for the national marine plan, Scottish Government pg 152-155

<sup>114</sup> Marine Scotland (2012) Offshore Renewable Energy, Planning, Regional Locational Guidance [online] Available at: <http://www.gov.scot/Topics/marine/marineenergy/Planning/> (accessed 02/02/2015)

The importance of these links is reflected by long-term growth in passenger numbers on these services, particularly between the Scottish mainland and the Northern Isles. For example, in operating from the mainland to the Northern Isles, Northlink Ferries carried some 304,000 passengers in 2011, equating to around 1,000 (0.5%) less than in 2010 on the same routes, but around 46% more than in 2001. Orkney Ferries services operating within Orkney carried around 338,000 passengers in 2011, some 7,000 (2%) more than the 2010 and around 19% more than in 2001.

### Risks to Human Health

7.9.4 In addition to environmental impacts, inappropriate development in the marine and coastal environment can affect both the quality of life and human health in local communities. Many effects may be indirect and temporary, arising from activities such as the construction of any new projects (e.g. increased boat traffic and harbour activity, and reduced access for key coastal walking, sailing routes or fishing grounds). However, longer term effects from operational developments or activities may also include create disturbance through factors such as noise and visual impacts for those people within proximity of certain activities or infrastructure (e.g. wind turbines, aquaculture sites, port and harbours). However, many such effects are also dependant on a range of factors including locational factors, sensitivity of receptors and the surrounding environment, amongst others.

7.9.5 Despite Scotland's large marine areas, the high-level of use of the marine environment has proven to be hazardous. Marine Accident Investigation Branch (MAIB) incident report figures indicate that a total of 7 collisions<sup>115</sup> and 14 groundings<sup>116</sup> have been reported for all vessels in Scottish waters since 2005. Of these, just four incidents occurred within or near to the PFOW area including a collision between a fishing vessel and the quay in Scrabster in 2014, the grounding of a jack-up barge and tug in the Stronsay Firth in 2006, and the grounding of a fishing vessel off Stroma in 2011. In January 2015, eight sailors were killed in the sinking of a cargo ship (the MV Cemfjord) off the Caithness coast. The most recent MAIB report outlined that while there were four fatalities on UK-registered merchant and fishing vessels in Scottish waters in 2013 related to fishing vessels

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<sup>115</sup> MAIB (2013) Reports by Incident – Collision/Contact, [online] Available at: [http://www.maib.gov.uk/publications/investigation\\_reports/reports\\_by\\_incident/collision\\_contact.cfm](http://www.maib.gov.uk/publications/investigation_reports/reports_by_incident/collision_contact.cfm) [accessed 02/02/2015]

<sup>116</sup> MAIB (2013) Reports by Incident – Grounding, [online] Available at: [http://www.maib.gov.uk/publications/investigation\\_reports/reports\\_by\\_incident/grounding.cfm](http://www.maib.gov.uk/publications/investigation_reports/reports_by_incident/grounding.cfm) [accessed 02/02/2015]

floundering or fatalities associated with sailing vessels, none were located in or near to the PFOW region<sup>117</sup>.

7.9.6 Water quality can also be linked to human health, particularly in relation to recreation activities such as swimming and diving in the marine environment. The EC Bathing Water Directive seeks to preserve, protect and improve the quality of the environment and to protect human health<sup>118</sup>. As such, microbiological regulation and monitoring is driven by the risk to public health from pathogens in water, and bathing water quality is assessed in Scotland through the presence of total and faecal coliforms and faecal streptococci. If swallowed in sufficient quantities these can cause stomach upsets and ear infections<sup>119</sup>. While two locations in the PFOW at Dunnet Bay and Thurso are monitored, no sites are located in the Northern Isles. Dunnet Bay has been reported as meeting Guideline levels since 2010 and Thurso since 2013<sup>120</sup>.

7.9.7 In a similar way, the quality of shellfish waters is assessed based on the presence of faecal coliforms (i.e. *E. coli* content) in shellfish flesh, addressing the potential impacts on human health from consumption. While potential sources of water contamination are often difficult to distinguish, improvements in quality of these waters are currently being addressed through Scottish Water improving sewage effluent treatment and reducing storm overflows, and mechanisms such as RBMP preventing diffuse pollutants such as animal faeces from entering the water environment<sup>121</sup>.

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<sup>117</sup> MAIB (2014) Annual Report 2013 [online] Available at: [http://www.maib.gov.uk/cms\\_resources.cfm?file=/MAIB\\_Annual\\_Report\\_2013.pdf](http://www.maib.gov.uk/cms_resources.cfm?file=/MAIB_Annual_Report_2013.pdf) [accessed 02/02/2015]

<sup>118</sup> European Commission (2006) The 2006 Bathing Water Directive [online] Available at: [http://ec.europa.eu/environment/water/water-bathing/index\\_en.html](http://ec.europa.eu/environment/water/water-bathing/index_en.html) (accessed 02/02/2015)

<sup>119</sup> Scottish Government (2011) Scotland's Marine Atlas, Information for the national marine plan, Scottish Government pg 56.

<sup>120</sup> SEPA (2014) Bathing Water Results for North of Scotland [online] Available at: [http://www.sepa.org.uk/water/bathing\\_waters/sampling\\_and\\_results.aspx?area=north](http://www.sepa.org.uk/water/bathing_waters/sampling_and_results.aspx?area=north) (accessed 02/02/2015)

<sup>121</sup> Scottish Government (2011) Scotland's Marine Atlas, Information for the national marine plan, Scottish Government pg 56.

**Key pressures for communities, population and human health:**

- Potential loss of amenity value of settlements, key routes and landscapes.
- Disturbance during construction works (e.g. noise, dust, displacement of activities).
- Potential for increased accident risk associated with greater use of the marine environment and installation of new infrastructure (e.g. collisions, capsizing in storm events).
- Potential for secondary effects on human health through impacts on water quality.

## 7.10 Water

### Water Quality

7.10.1 The quality of the water environment has a crucial role to play in numerous industries within the PFOW area, particularly those in the aquaculture, fishing and water recreation sectors. The region's diverse benthic marine habitats depend on good water quality to survive, and in turn to support other marine life, whether they are biological communities associated with the sea floor or at the top of the intertidal zone, resident species such as seals and harbour porpoise, or migratory species such as many cetaceans and Atlantic salmon, amongst others. Similarly, water quality is also related to human health through the consumption of fish and marine produce, and use of the marine environment. Whilst relevant to water quality, these issues are also considered under other environmental topics such as biodiversity (see Section 7.4) and communities, population and human health (see Section 7.9).

7.10.2 The primary mechanism for monitoring and managing the quality of Scotland's waters is the WFD<sup>122,123</sup>. The WFD establishes a framework for the protection of all waters with the aim of ensuring all aquatic ecosystems meet 'good status' by 2015. The classification system is made up of different tiers and includes consideration of chemical, biological and hydromorphological parameters in water quality. The development of the second RBMP for Scotland and Solway-Tweed River Basin Districts (RBD) is currently underway to address the requirements of the Directive in relation to the management of Scotland's river systems. These plans also provide an overview of the state of the water environment for these districts<sup>124</sup>.

7.10.3 Monitoring undertaken by the Scottish Environment Protection Agency (SEPA) identified that 97% of Scotland's coastal waters had a high or good status in 2012, including waters within the PFOW<sup>125</sup>. While the PFOW are largely classified as being of 'good' status, the eastern portion of the Pentland Firth from Duncansby head southwards are of 'high' status<sup>126</sup>.

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<sup>122</sup> EU (2000) Directive 2000/60/EC of the European Parliament and of the Council of 23 October 2000 establishing a framework for Community action in the field of water policy [online] Available at: <http://eur-lex.europa.eu/legal-content/EN/TXT/HTML/?uri=CELEX:32000L0060&from=EN> (accessed 02/02/2015)

<sup>123</sup> Scottish Government (2010) Water Framework Directive in Scotland (WFD) [online] Available at: <http://www.gov.scot/Topics/Environment/Water/15561/WFD> (accessed 02/02/2015)

<sup>124</sup> SEPA (2009) River Basin Management Plans [online] Available at : [http://www.sepa.org.uk/water/river\\_basin\\_planning.aspx](http://www.sepa.org.uk/water/river_basin_planning.aspx) (accessed 02/02/2015)

<sup>125</sup> Scotland's Environment Web (2014) Coastal Waters [online] Available at: <http://www.environment.scotland.gov.uk/get-informed/water/coastal-waters/> (accessed 29/04/2015)

<sup>126</sup> Scotland's Environment (2014) Water [online] Available at: <http://www.environment.scotland.gov.uk/get-informed/water/> (02/02/2015)

7.10.4 Bathing waters are classed as protected areas under Annex IV of the WFD due to their sensitivity to pollution or their economic, social and environmental importance. The EC Bathing Water Directive (2006/7/EC) is translated into Scottish law by the Bathing Waters (Scotland) Regulations 2008, and aims to preserve, protect and improve the quality of the environment and to protect human health by setting out two quality standards (see Section 7.9).

7.10.5 The importance of water quality to coastal and marine industry is also reflected in other mechanisms, such as the designation of shellfish growing waters and support through the publication of guidance such as Marine Scotland's Locational Guidelines for Marine Fish Farms<sup>127</sup>. This guidance designates areas on the basis of predictive modelling to estimate the nutrient enhancement and benthic impact, providing important tools for supporting water quality and sustainable industry development. While some 84 Shellfish Waters Protected Areas are designated under the Water Environment (Shellfish Water Protected Areas: Designation) (Scotland) Order 2013, just three sites are located within the PFOW area. These are the Bay of Firth on Orkney Mainland, and Loch Eriboll and Kyle of Tongue in the North Sutherland Coast<sup>128</sup> (see Figure 7.14).

7.10.6 In 2011, all Scottish shellfish waters complied with the minimum environmental quality standards (the 'mandatory' standard) set by the Directive, and around 55% met the more stringent guideline quality standard (the 'guideline' standard)<sup>129</sup>. The Food Standards Authority (FSA) also monitors shellfish harvesting areas including those in Orkney and the North Sutherland Coast, undertaking biotoxin monitoring programmes, and has the authority to advise members of the public against harvesting wild shellfish in these areas based upon monitoring results. Monitoring results are published weekly and an annual Shellfish Classification Document prepared providing all classified shellfish harvesting area details for the forthcoming year<sup>130</sup>. In these reports, some sites in the region such as Loch Eriboll were classified as favourable for 2015 – 16; whilst the classification of others such as Kyle of Tongue were changed to

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<sup>127</sup> Scottish Government (2014) Locational Guidelines: Marine Fish Farms in Scottish Waters [online] Available at: <http://www.gov.scot/Topics/marine/Publications/publicationslatest/farmedfish/locationalfishfarms> (accessed 02/02/2015)

<sup>128</sup> The Scottish Parliament (2013) The Water Environment (Shellfish Water Protected Areas: Designation) (Scotland) Order 2013 [online] Available at: [http://www.legislation.gov.uk/ssi/2013/324/pdfs/ssi\\_20130324\\_en.pdf](http://www.legislation.gov.uk/ssi/2013/324/pdfs/ssi_20130324_en.pdf) (accessed 02/02/2015)

<sup>129</sup> SEPA (2012) Designated Shellfish Waters in Scotland [online] Available at: [http://www.sepa.org.uk/water/protected\\_areas/shellfish\\_waters.aspx](http://www.sepa.org.uk/water/protected_areas/shellfish_waters.aspx) [accessed 02/02/2015]

<sup>130</sup> FSA (2015) Shellfish Classification Document 2015 – 16 [online] Available at: <http://www.foodstandards.gov.scot/shellfish-classification-document-2015-16> (accessed 29/04/2015)

unfavourable. Some areas have been declassified in recent years by the FSA, including the Bay of Firth Shellfish Harvesting Site for Pacific Oysters (*Crassostrea gigas*) for two areas (Bay of Firth and Bay of Firth – Shore) in 2010<sup>131</sup> and the Rabbit Islands in the Kyle of Tongue in 2015<sup>132</sup>.

7.10.7 Further, based upon monitoring results, commercial shellfish harvesting was temporarily banned by the Orkney Islands Council at Fersness Bay in 2013, due to raised levels of toxin-producing plankton being detected in the area and the potential for shellfish gathered from the shores of the Bay being unsafe to eat.

### Potential Contamination Sources

7.10.8 Potential sources of pollution of the water environment and the pollutants entering the water environment can be varied, ranging from shipping and boating (e.g. the use of anti-fouling tributyltin and copper paints<sup>133</sup>, and other synthetic substances<sup>134</sup>); oil discharges from incidents, collisions or the release of ballast water<sup>135</sup>; introduced non-native species from ballast or vessel hulls; discrete and diffuse terrestrial sources (e.g. natural weathering, industrial discharges and agriculture<sup>136</sup>), atmospheric sources (e.g. chemical contaminants and dust<sup>137</sup>); marine and beach litter including public litter, sewage related debris, fishing and shipping litter<sup>138</sup>; radioactive contamination (e.g. naturally occurring radioactive material (NORM),

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<sup>131</sup> SEPA (2011) Shellfish Growing Waters, Bay of Firth, Orkney Mainland [online] Available at: <http://apps.sepa.org.uk/shellfish/pdf/23.pdf> (accessed 02/02/2015)

<sup>132</sup> FSA (2015) Shellfish Classification Document 2015 – 16 [online] Available at: <http://www.foodstandards.gov.scot/shellfish-classification-document-2015-16> (accessed 29/04/2015)

<sup>133</sup> OSPAR Commission (2010) Quality Status Report 2010 – Assessment of the Impact of Shipping on the Marine Environment [online] Available at: [http://qsr2010.ospar.org/media/assessments/p00440\\_supplements/p00440\\_suppl\\_5\\_release\\_of\\_ant\\_i-fouling\\_chemicals.pdf](http://qsr2010.ospar.org/media/assessments/p00440_supplements/p00440_suppl_5_release_of_ant_i-fouling_chemicals.pdf) (accessed 02/02/2015)

<sup>134</sup> Scottish Government (2011) Scotland's Marine Atlas, Information for the national marine plan, Scottish Government pg 182.

<sup>135</sup> Advisory Committee on Protection of the Sea (ACOPS) Annual survey of Reported Discharges attributed to vessels and offshore oil and gas installations operation in the United Kingdom Pollution Control Zone 2010 [online] Available at: <http://www.acops.org.uk/documents/annual-marine-pollution-survey-2010.pdf> (accessed 02/02/2015)

<sup>136</sup> Advisory Committee on Protection of the Sea (ACOPS) Annual survey of Reported Discharges attributed to vessels and offshore oil and gas installations operation in the United Kingdom Pollution Control Zone 2010 [online] Available at: <http://www.acops.org.uk/documents/annual-marine-pollution-survey-2010.pdf> (accessed 02/02/2015).

<sup>137</sup> Marine Scotland (2012) Clean Seas [online] Available at: <http://www.gov.scot/Topics/marine/marine-environment/ecosystems/cleanseas> (accessed 02/02/2015)

<sup>138</sup> Scottish Government (2011) Scotland's Marine Atlas, Information for the national marine plan, Scottish Government pg 066.

wastes<sup>139</sup> and accidental releases<sup>140</sup>); and munitions contamination and military waste<sup>141</sup>.

7.10.9 In many instances, these are most likely to be localised and site specific sources, but may also be exacerbated by external factors such as the effects of climate change which can reduce the ability of the water environment to safely absorb and break down pollution. For example, the likelihood of reduced summer rainfall may mean less water is available in rivers and inland waters for diluting pollutants during these periods<sup>142</sup> and higher annual river flows, particularly during winter months, may help to dilute pollutant discharges to rivers while increasing the quantity reaching coastal and marine waters.

#### **Key pressures for the water environment:**

- Potential for contamination of the water environment from marine or coastal activities such as the use of anti-fouling paint, pollution from oil spillage and sewage, construction activities, amongst others.
- Potential for pollution of coastal waters resulting from activities on land; particularly agricultural activities, industries discharges and storm water runoff.
- Potential for secondary impacts to coastal and marine industries such as in-shore fisheries, tourism and aquaculture, amongst others.
- Potential for secondary impacts to coastal and marine biodiversity, including impacts of marine litter and other marine activities.

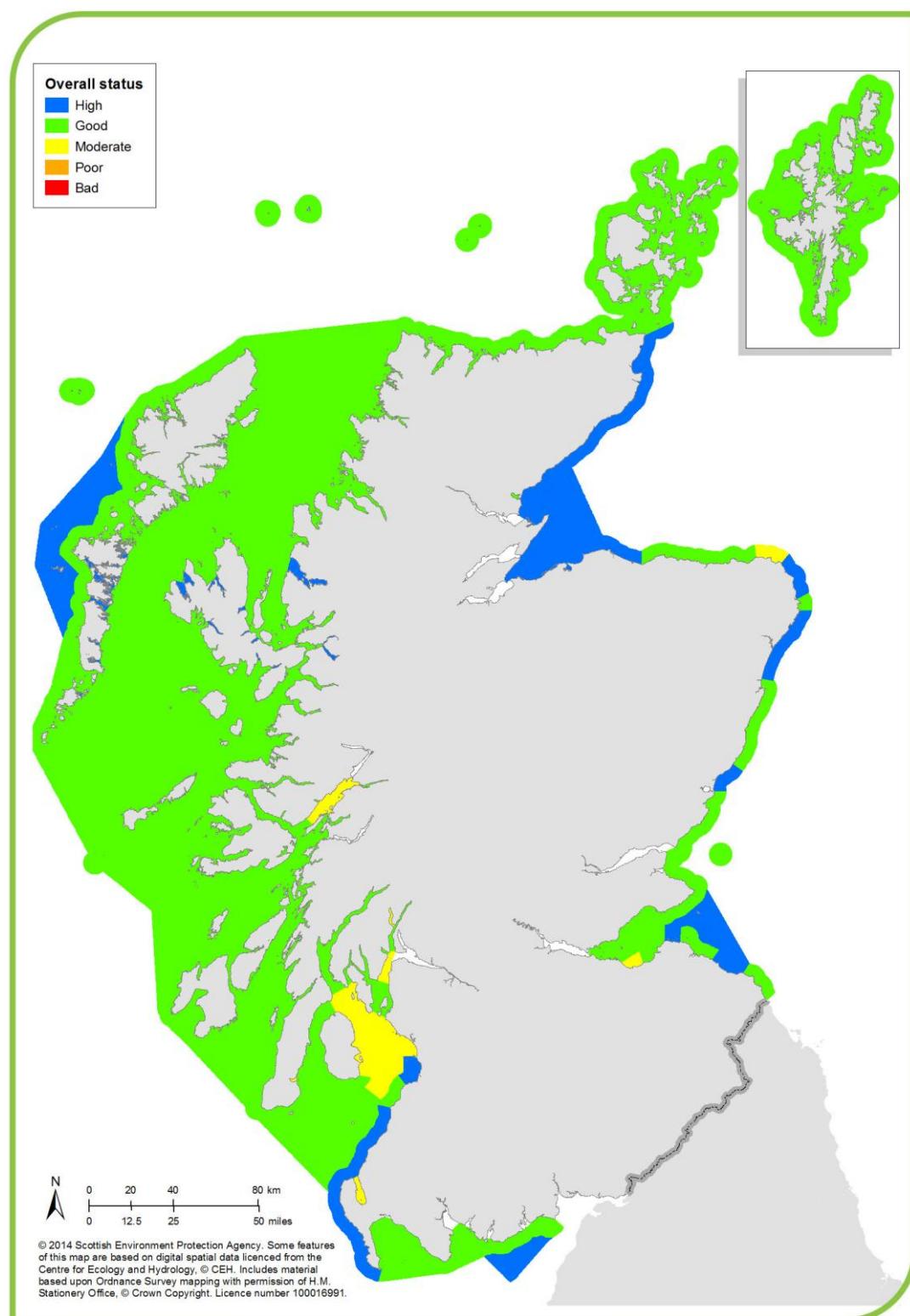
<sup>139</sup> Defra (2010) Charting Progress 2 [online] Available at: [http://chartingprogress.defra.gov.uk/feeder/Section\\_3.16\\_Waste\\_Disposal.pdf](http://chartingprogress.defra.gov.uk/feeder/Section_3.16_Waste_Disposal.pdf) (accessed 12/09/2014)

<sup>140</sup> Marine Scotland (2008) Scotland's Seas: Towards Understanding their State [online] Available at: <http://www.gov.scot/Publications/2008/04/03093608/15> (accessed 02/02/2015)

<sup>141</sup> OSPAR (2010) Quality Status Report 2010: Assessment of the impact of dumped conventional and chemical munitions [online] Available at: [http://qsr2010.ospar.org/media/assessments/p00365\\_supplements/p00365\\_suppl\\_1\\_concerns.pdf](http://qsr2010.ospar.org/media/assessments/p00365_supplements/p00365_suppl_1_concerns.pdf) (accessed 02/02/2015)

<sup>142</sup> DEFRA (2012) UK Climate Change Risk Assessment (CCRA) [online] Available at: <https://www.gov.uk/government/publications/uk-climate-change-risk-assessment-government-report> (accessed 12/09/2014)

Figure 7.13 Coastal and Transitional Waters Classification 2012<sup>143</sup>



<sup>143</sup> Scotland's Environment (2014) State of Coastal Waters [online] Available at: [http://www.environment.scotland.gov.uk/our\\_environment/water/coastal\\_waters/description.aspx](http://www.environment.scotland.gov.uk/our_environment/water/coastal_waters/description.aspx) [accessed 12/09/2014]

**Figure 7.14 Location of Shellfish Waters and Active Aquaculture Sites in the PFWOW Area<sup>144</sup>**

## Shellfish Waters and Aquaculture in the PFWOW area

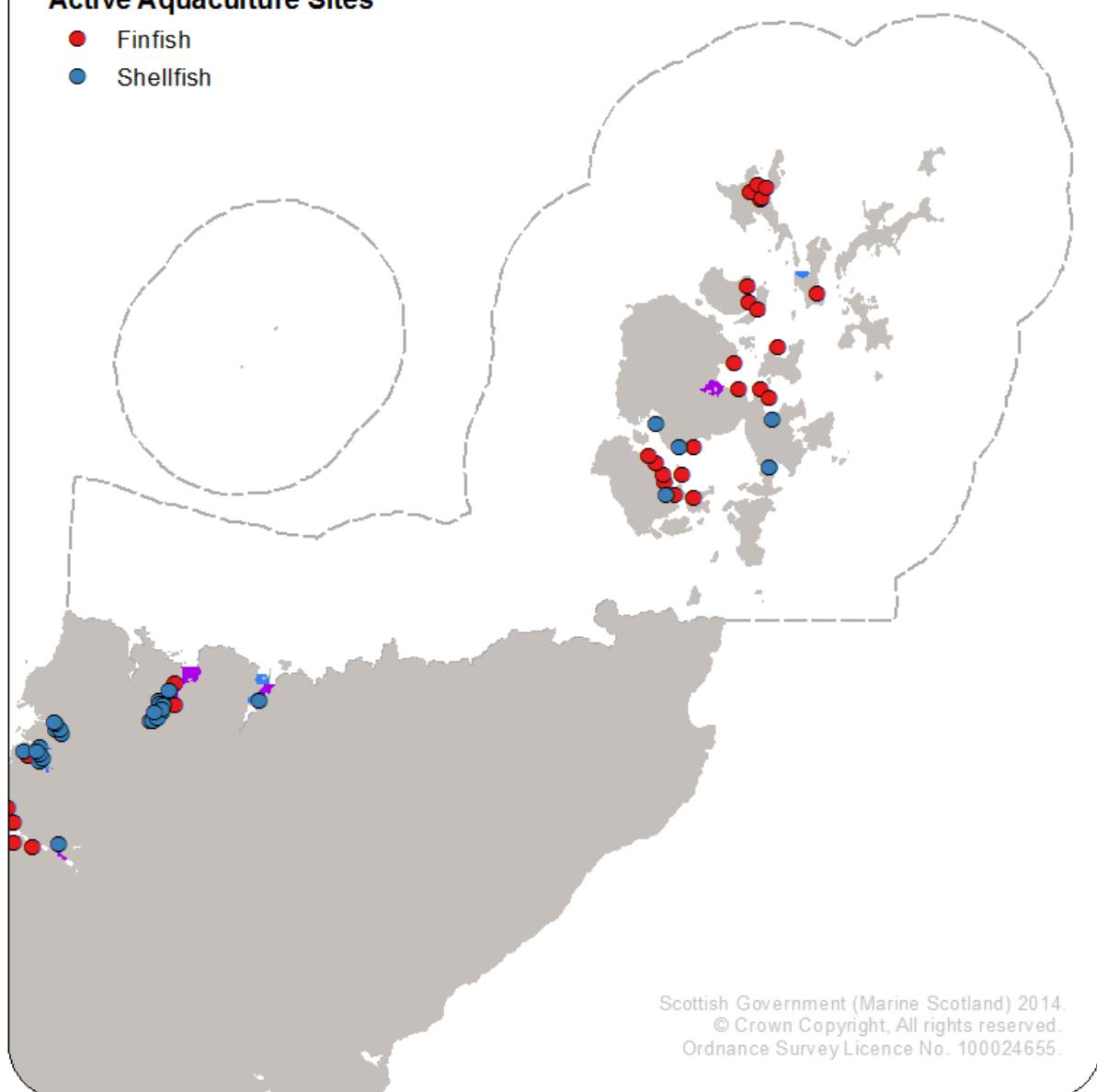
Projection: British National Grid

### Key

- Plan Area
- Shellfish Harvesting Waters
- Shellfish Waters Protected Areas

### Active Aquaculture Sites

- Finfish
- Shellfish



Scottish Government (Marine Scotland) 2014.  
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Ordnance Survey Licence No. 100024655.

<sup>144</sup> National Marine Plan Interactive [online] Available at:  
<http://marinescotland.atkinsgeospatial.com/nmpi/#>

## 7.11 Material assets

7.11.1 The coastal and marine environment of the PFW is a key resource for the region and for Scotland as a whole, demonstrated by the many varied sectors and industries that use these waters and the surrounding coastlines. The Socio-economic Baseline and the RLGs are presented in stand-alone reports, and these documents present spatial information on the specific activities and industries operating in the PFW area.

7.11.2 This information is not duplicated in this SA Report, but rather an overview of the information discussed in the Socio-economic Baseline Report and the RLGs, and key issues of relevance are provided in the following sections.

### Aggregates and Dredging

7.11.3 No marine aggregate extraction currently takes place in Scottish waters and there is currently no identified development pressure for the extraction of marine aggregates in the PFW area. However, dredging has been undertaken in the PFW area to maintain safe port operations and keep waterways navigable.

7.11.4 Some 11 disposal sites in the PFW have received dredged material between 2001 and 2013 including two sites at Scrabster, three at Stromness, and one each at Dounreay, Thurso, Kirkwall, Orkney, Gills Bay and Scapa<sup>145</sup>.

### Aquaculture

7.11.5 Orkney in particular has a strong aquaculture presence, and according to the Scottish Shellfish Farm Production Survey, some 29 aquaculture sites (22 finfish and 7 shellfish) are located within the PFW area. As illustrated in the Socio-economic Baseline Report and in Figure 7.14, these sites are scattered through the sheltered bays around the Orkney Isles<sup>146</sup> and also in lochs such as the Kyle of Tongue and Loch Eriboll on the north Caithness and Sutherland coast<sup>147</sup>. As noted in Section 0, three Shellfish Water Designations are located within the PFW area including the Bay of Firth on Orkney Mainland, and Loch Eriboll and Kyle of Tongue in the North Sutherland Coast.

7.11.6 The annual production of Atlantic salmon from Orkney sites accounted for around 7.0% of total Scottish production in 2013. In the same year, there

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<sup>145</sup> Marine Scotland (2015) Socio-economic Baseline Report for the Draft Pilot PFW Marine Spatial Plan.

<sup>146</sup> Scottish Government (2011) Scotland's Marine Atlas, Information for the national marine plan, Scottish Government, pg. 144-145.

<sup>147</sup> National Marine Plan Interactive [online] Available at: <http://marinescotland.atkinsgeospatial.com/nmpi/#>

was no production from Orkney shellfish sites (i.e. no harvesting of shellfish for market). While data is available for shellfish sites in the Highlands, this data is collated so as to avoid being able to identify individual farms or people and the data, as presented in the Production Survey, therefore cannot provide detailed spatial information for this area<sup>148</sup>.

7.11.7 Sustainable growth targets have been set for the Scotland's aquaculture industry, with the support of the Scottish Government and with due regard to the marine environment by 2020. The national targets are to increase marine finfish production sustainably to 210,000 tonnes (in 2013, production was 165,256 tonnes) and shellfish production to 13,000 tonnes (in 2013, production was 6,757 tonnes)<sup>149</sup>.

### Commercial Fisheries

7.11.8 The PFOW forms a major base for Scotland's fishing sector, with Scrabster and Orkney vessels having employed 429 fishermen on a regular basis and 164 fishermen on an irregular (or part-time) basis in 2013. Some 16,378 tonnes (worth around £17.2 million) of fish on average between 2009 and 2013 landed from within the PFOW defined rectangles. In 2013, landings by Scottish vessels into Scrabster district ports weighed some 12,724 tonnes (worth around £19.9 million) and those in Orkney were some 3,836 tonnes (worth around £7.2 million)<sup>27</sup>.

7.11.9 Landings into Scrabster district ports in 2013 were predominantly demersal species making up almost 75% of landings into Scabster district ports, with 25% being shellfish species and a small quantity of pelagic species. Almost 99% of landings by quantity into Orkney district ports in the same year were made up of shellfish species (i.e. nephrops), with minor quantities of pelagic and demersal species also recorded<sup>150</sup>.

7.11.10 The PFOW region and surrounding areas contain numerous salmon rivers, most notably the River Borgie and River Thurso SACs<sup>151</sup> on the north Caithness and Sutherland coast. Many of these rivers attract recreational rod and line fisheries, typically within these rivers above tidal limits<sup>152</sup>. Many retained and 'catch and release' fisheries operate in Scotland, including numerous operations along the north Caithness and Sutherland

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<sup>148</sup> Marine Scotland (2015) Socio-economic Baseline Report for the Draft Pilot PFOW Marine Spatial Plan.

<sup>149</sup> The Scottish Government (2014) Aquaculture [online] Available at: <http://www.gov.scot/Topics/marine/Fish-Shellfish> (accessed 02/02/2015)

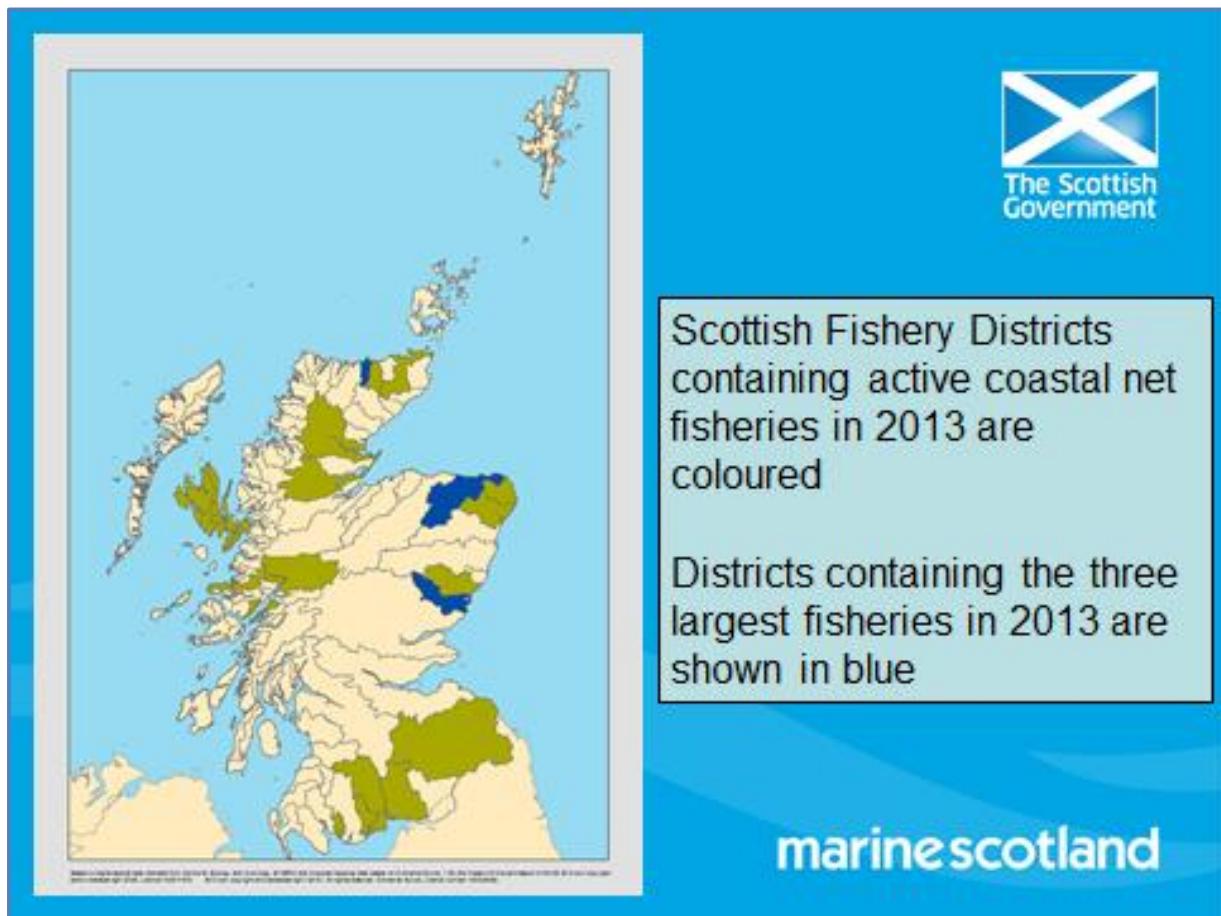
<sup>150</sup> Marine Scotland (2015) Socio-economic Baseline Report for the Draft Pilot PFOW Marine Spatial Plan.

<sup>151</sup> JNCC (undated) Vertebrate Species: Fish, 1106 Atlantic salmon, *Salmo salar* [online] Available at: <http://jncc.defra.gov.uk/ProtectedSites/SACselection/species.asp?FeatureIntCode=S1106> (accessed 02/02/2015)

<sup>152</sup> Scottish Government (2011) Scotland's Marine Atlas, Information for the national marine plan, Scottish Government, pg. 146-149.

coast, targeting recreational anglers for both Atlantic salmon and sea trout species<sup>153</sup>. As shown in Figure 7.15, active coastal net fisheries also operate along the north Caithness and Sutherland coast targeting Atlantic salmon and sea trout species. Over the last five years, the three largest coastal net fisheries in any given year accounted for between 65 – 80% of the total Scottish coastal net catch, including one operating off the north Caithness and Sutherland coast<sup>154</sup>.

**Figure 7.15 Scottish fishery districts containing active coastal net fisheries in 2013<sup>155</sup>**



<sup>153</sup> Scottish Government (2014) Salmon and sea trout catches 2013 [online] Available at: <http://www.gov.scot/Topics/marine/Publications/stats/SalmonSeaTroutCatches/Final2013> (accessed 02/02/2015)

<sup>154</sup> Marine Scotland (2014) Scottish Salmon and Sea Trout Fishery Statistics [online] Available at: <http://www.gov.scot/Topics/marine/Publications/stats/SalmonSeaTroutCatches> (accessed 02/02/2015)

<sup>155</sup> Marine Scotland (2014) Scottish Salmon and Sea Trout Fishery Statistics [online] Available at: <http://www.gov.scot/Topics/marine/Publications/stats/SalmonSeaTroutCatches> (accessed 02/02/2015)

## Defence

7.11.11 Ministry of Defence (MoD) Military exercise areas are located in the PFOW area, including danger areas located to the east of Orkney and the Pentland Firth and exercise area located immediately west of the Pentland Firth from Loch Eriboll to Cape Wrath. These include the Cape Wrath official gunnery and bombing range, mainly used for live gunnery practice by the Royal Navy and allied navies and for live bombing practice by the Royal Air Force (RAF) and the Fleet Air Arm (FAA); a 'firing danger' and 'other' exercise area to the East of Orkney<sup>156</sup>.

7.11.12 MoD Danger Areas have also been identified at Cape Wrath and in the western part of south west portion of the Orkney Mainland near to Stenness. The Orkney site, called Ramsdale, is located inland<sup>157</sup>. The Vulcan Naval Reactor Test Establishment, operated by the MoD is located next to the Dounreay site in Caithness<sup>158</sup>.

## Renewable Energy Generation

7.11.13 The strong tidal currents in the Pentland Firth and in channels amongst many of Orkney's Islands, and the strong wind and wave features off the north and north-west coasts of Orkney have been identified as having the potential for further exploration for renewable energy<sup>159</sup>. This is reflected in the development of Plan Options for wind energy (one area to the north and north-west of Orkney), wave energy (one area to the north and north-west of Orkney) and tidal energy (four areas including the Pentland Firth, Stronsay, off Papa Westray and North Ronaldsay) in the PFOW area through the development of the Sectoral Plans for Renewable Energy by Marine Scotland in 2013<sup>160</sup>.

7.11.14 The vast energy potential of the wind, wave and tidal resources in the PFOW region is the focus of much research and work in the renewables sector at present. Demonstrator and research sites such as the European Marine Energy Centre (EMEC) facilities at Billia Croo and Scapa Flow (wave), and Fall of Warness and Shapinsay Sound (tidal), amongst

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<sup>156</sup> Marine Scotland (2015) Socio-economic Baseline Report for the Draft Pilot PFOW Marine Spatial Plan.

<sup>157</sup> National Marine Plan Interactive [online] Available at: <http://marinescotland.atkinsgeospatial.com/nmpi/> (accessed 03/02/2015)

<sup>158</sup> Marine Scotland (2015) Socio-economic Baseline Report for the Draft Pilot PFOW Marine Spatial Plan.

<sup>159</sup> Marine Scotland (2013) Planning Scotland's Seas: Draft Sectoral Marine Plans for Offshore Renewable Energy in Scottish Waters: Consultation Paper [online] Available at: <http://www.gov.scot/Publications/2013/07/8702> (accessed 03/02/2015)

<sup>160</sup> Marine Scotland (2013) Planning Scotland's Seas: Draft Sectoral Marine Plans for Offshore Renewable Energy in Scottish Waters: Consultation Paper [online] Available at: <http://www.gov.scot/Publications/2013/07/8702> (accessed 03/02/2015)

numerous smaller planned or operational sites<sup>161</sup>, are currently in use in the PFOW to test and investigate a range of wave and tidal technologies. A range of sites have been leased for wave and tidal development, including Inner Sound and Ness of Duncansby on the north Caithness and Sutherland coast, and the west Orkney South, Brough Ness and Lashy Sound sites in Orkney, amongst others<sup>162</sup>.

7.11.15 The Scottish Islands Renewable Project identified employment opportunities based around the wind, wave and tidal renewables sector in Orkney. Full details of this and further discussion on existing lease and demonstrator sites is discussed in detail in the Socio-economic Baseline Report<sup>163</sup>.

### Pipelines, Electricity and Telecommunications Cables

7.11.16 A number of subsea power cables have been laid within the PFOW area including two 33 kilovolt (kV) cables connecting Orkney with mainland Scotland. Due to the increasing volume of renewable generation which has been connected or contracted to be connected, the connection has now reached full capacity.

7.11.17 In the PFOW area, Scottish and Southern Energy Power Distribution (SSEPD) has been undertaking work in relation to the 'Orkney Caithness' 132 kV reinforcement connection since the Crown Estate Leasing Round in 2010. The existing cable between Orkney and Caithness is at full capacity and SSEPD are looking at options to develop a new connection to allow marine renewable developers to connect to the transmission network on Caithness. This will provide grid access for marine renewable projects, and potentially onshore wind projects across the whole of Orkney.

7.11.18 There are four international telecom cables intersecting the PFOW area. The Northern Lights telecom cable, owned by BT was installed in June 2008, and connects Orkney to the Scottish mainland, and intersects West Orkney South and Brough Head wave renewables sites. While the cable has sections which are buried, it has others which are laid on the seabed, including those sections intersecting with these sites<sup>164</sup>.

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<sup>161</sup> The Scottish Government (2013) Marine Licensing, Current Projects [online] Available at: <http://www.gov.scot/Topics/marine/Licensing/marine/scoping> (accessed 03/02/2015)

<sup>162</sup> National Marine Plan Interactive [online] Available at: <http://marinescotland.atkinsgeospatial.com/nmpil/> (accessed 03/02/2015)

<sup>163</sup> Marine Scotland (2015) Socio-economic Baseline Report for the Draft Pilot PFOW Marine Spatial Plan.

<sup>164</sup> Marine Scotland (2015) Socio-economic Baseline Report for the Draft Pilot PFOW Marine Spatial Plan.

## Leisure, tourism and recreation

7.11.19 The importance of the PFOW to activities such as tourism and recreational operations is well established (e.g. diving, sailing and boating, angling). Tourism in particular is estimated to contribute greatly to the local economy in the region, with much interest centred on historic, cultural and natural heritage attractions such as the United Nations Educational, Scientific and Cultural Organization (UNESCO) WHS in Orkney, scuba diving at designated wreck sites, wildlife tourism utilising many of the natural assets that the PFOW area is known for (e.g. seabird populations, marine fauna and flora), and regular cruise ship visits to Orkney, amongst others.

7.11.20 Recreational activities such as surfing, sailing, cruising, rock climbing on coastal cliffs, sea angling, sea kayaking, coastal walking and cruise ship visits, amongst others, combine to make this an important sector in the PFOW area<sup>165</sup>. As a consequence, tourism and recreation plays an important role in providing economic opportunities for many sectors, including employment opportunities either directly (e.g. tour operators, employment at cultural heritage sites) and indirectly through the provision of related services (e.g. accommodation and hospitality)<sup>166</sup>.

## Marine Transport, Ports and Harbours

7.11.21 The Pentland Firth is recognised as a route of international importance for navigation and is considered to be crucial for shipping and navigation, despite being one prone to strong tides, heavy seas and poor weather conditions. The range of shipping in the PFOW region is diverse, broadly including ferry services between the Scottish mainland and the Northern Isles, ferry services between isles in Orkney, freight vessels including important shipping routes between Orkney and Shetland and through the Pentland Firth, cruise ships, supply vessels, heavy lifting and positioning vessels, dive boats, fishing vessels and recreational craft<sup>167</sup>. The area is used extensively by commercial cargo vessels as a major route from the North Atlantic to the North Sea, and as such, the PFOW often contains a high density of vessel traffic, particularly in the vicinity of Scapa Flow and near Kirkwall Harbour<sup>168</sup>.

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<sup>165</sup> Scottish Government (2011) Scotland's Marine Atlas, Information for the national marine plan, Scottish Government, pg. 152-155.

<sup>166</sup> Scottish Government (2011) Scotland's Marine Atlas, Information for the national marine plan, Scottish Government, pg. 172-175.

<sup>167</sup> Scottish Government (2011) Scotland's Marine Atlas, Information for the national marine plan, Scottish Government, pg. 172-175

<sup>168</sup> Marine Scotland (2015) Socio-economic Baseline Report for the Draft Pilot PFOW Marine Spatial Plan.

7.11.22 In all, Orkney contains 29 piers and harbours<sup>169</sup>, and port facilities of varying sizes are present throughout the PFOW. Many are local authority-owned, the largest being Kirkwall Harbour which services a range of fishing vessels, ferries and recreational craft, amongst others. Dredging has been undertaken at several of these harbours to allow for expansion of port facilities at sites such as Hatston, Stromness and in Scapa Flow, and is still undertaken to maintain harbour access for large vessels at some locations.

7.11.23 Many ports and harbours are also dotted along the north Caithness and Sutherland coast, ranging from small piers that service fishing and recreational craft, to others such as Thurso, Scrabster and Gills Bay, that are used by larger vessels such as roll-on roll-off (RORO) ferries, servicing a range of marine sectors and providing important connections between the Scottish mainland and the Northern Isles, as well as servicing many of the smaller islands spread throughout the Orkney archipelago. As well as transporting passengers, many of these ferries are also used in the transport of commercial goods and freight and as such, provide important connections for many more remote communities in the PFOW area<sup>170</sup>.

7.11.24 Some of these ports have been identified as having the potential to play important roles in the growth of the offshore renewables sector in the region; including having the potential to support manufacturing, assembly/construction and installation, operations and maintenance activities, and/or having the potential to support sector through the wet storage of infrastructure. The National Renewables Infrastructure Plan (NRIP) and Marine Renewables Infrastructure Plan (MRIP) sought to provide an early assessment of the emerging industry needs of the offshore renewables sector, and in the identification of the suitability of current infrastructure provision throughout Scotland in meeting these needs. To this end, ports at Stromness, Hatston/Kirkwall, Lyness, St Margaret's Hope, Scrabster, Gills Bay and Burwick were identified in the MRIP published in August 2014. Further sites located near to the PFOW area, such as Wick, were also identified<sup>171</sup>.

7.11.25 The importance of the ports and harbours in the PFOW area is demonstrated both in social terms through the supporting services that they provide to communities throughout the Orkney Archipelago, and also in

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<sup>169</sup> Orkney Islands Council Marine Services (2014) [online] Available at: <http://www.orkneyharbours.com/> (accessed 25/09/2014)

<sup>170</sup> Marine Scotland (2015) Socio-economic Baseline Report for the Draft Pilot PFOW Marine Spatial Plan.

<sup>171</sup> Highlands and Islands Enterprise (2014) Marine Renewables Infrastructure Plan (M-RIP), the Highlands and Islands [online] Available at: <http://blog.hi-energy.org.uk/pdf/M-RIP%20Report%202014.pdf> (accessed 02/02/2015)

terms of employment and economic benefits. This is discussed in further detail in the Socio-economic Baseline Report<sup>172</sup>.

7.11.26 The Safer Ships, Cleaner Seas report published in 1994<sup>173</sup> recommended that “that a comparatively limited number of areas of high environmental sensitivity, which are also at risk from shipping, should be identified and established around the UK coast”. These areas were identified as Marine Environmental High Risk Areas (MEHRAs), and one such area was identified along the south west coastline of Hoy at Torness, adjoining the Pentland Firth<sup>174</sup>.

### Oil and Gas

7.11.27 While there are no hydrocarbon fields within the PFOW area, the Flotta Oil and Gas Terminal in Scapa Flow is of prime importance to the oil and gas sector, particularly as it receives crude oil via a 30 inch pipeline running via Water Sound between Burray and South Ronaldsay from several offshore facilities located in the North sea. Transhipment by tankers also takes place at the Terminal and ship transfers are undertaken within the sheltered anchorage provided by Scapa Flow. Surface installations for the sector are located in Scapa Flow and to the north west of Orkney Mainland.

7.11.28 Scrabster Harbour is the nearest port of call on the Scottish mainland for oil fields located to the west of Shetland. A range of businesses located along the north Caithness and Sutherland coast support the sector and operate in the oil and gas supply chain, and as a consequence, also provide employment opportunities in the region<sup>175</sup>.

7.11.29 While no known oil or gas exploration is currently planned for the PFOW area, the West of Orkney Phase 2 blocks licensed for hydrocarbon extraction are located to the west the PFOW area<sup>176,177</sup>.

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<sup>172</sup> Marine Scotland (2015) Socio-economic Baseline Report for the Draft Pilot PFOW Marine Spatial Plan.

<sup>173</sup> Safer Ships, Cleaner Seas. London: HMSO, 1994. Cm 2560. ISBN 0-10-125602-7.

<sup>174</sup> Department for Transport, Department for Environment, Food and Rural Affairs (1994) Establishment of Marine Environmental High Risk Areas (MEHRAs): Protection of United Kingdom Waters from Pollution from Ships [online] Available at: [http://webarchive.nationalarchives.gov.uk/+/http://www.dft.gov.uk/pgr/shippingports/shipping/elc/sec\\_mehras/pdfmehras](http://webarchive.nationalarchives.gov.uk/+/http://www.dft.gov.uk/pgr/shippingports/shipping/elc/sec_mehras/pdfmehras) (accessed 02/02/2015)

<sup>175</sup> Marine Scotland (2015) Socio-economic Baseline Report for the Draft Pilot PFOW Marine Spatial Plan.

<sup>176</sup> Scottish Government (2011) Scotland's Marine Atlas, Information for the national marine plan, Scottish Government, pg. 168-169.

<sup>177</sup> DECC (2010) Offshore Oil & Gas Licensing, 25th Seaward Round, West of Orkney and Wyville Thomson Ridge/Darwin Mounds area, Blocks 164/4, 164/5, 165/1, 174/28, 174/29, 174/30, 175/26, 201/5, 202/24, 202/25, 202/29, 202/30, 203/16, 203/21, 203/26, Phase 2 Screening/Appropriate Assessment, February 2010 [online] Available at: [https://www.gov.uk/government/uploads/system/uploads/attachment\\_data/file/198551/25th\\_Round\\_AA\\_-\\_WTR-DM\\_WofOrkney.pdf](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/198551/25th_Round_AA_-_WTR-DM_WofOrkney.pdf) (accessed 02/02/2015)

**Key pressures for material assets:**

- Increased use of coastal and marine resources within the PFOW and the increased potential for cumulative effects associated with activities in these sectors.
- While many activities have the potential to be compatible and co-exist in the PFOW area, there may be the potential for displacement of some marine users from increased activity and the placement of infrastructure in marine or coastal areas.

## 7.12 Likely Evolution of the Baseline in the Absence of the Plan

### Trends and Pressures

7.12.1 Many of the pressures and trends identified in the socio-economic and environmental baselines are likely to be independent of the both the Pilot Plan and development and use of the PFOW area in general. For example, climatic change is likely to be largely unaffected by the growth of coastal and marine use in the PFOW, and in the global context in particular, the predicted effects of climate change are expected to continue with current trends irrespective of the Pilot Plan. However, seeking opportunities to improve adaptation and resilience in coastal and marine use to these predicted effects, and reduction in GHG emissions are ambitions of the both the draft Pilot Plan and of wider programmes (e.g. those outlined in RPP and RPP2, the NMP).

7.12.2 Other trends and pressures, such as those related to biodiversity (e.g. seabird and seal population trends), water quality (e.g. acidification, diffuse pollution) and seabed and marine geology (e.g. loss of habitat and changes to coastal processes from offshore development and some fishing practices) amongst others, are the product of complex interactions and relationships. Many of these largely relate to a variety of man-made factors including inappropriate development and unsustainable use of resources, and existing pressures on the coastal and marine environments (e.g. onshore activities contributing to reduced water quality and litter/waste in rivers, estuaries and coastal waters). In the future, increased development and use of the PFOW is likely to further exacerbate existing pressures on resources and the natural environment, particularly the over-use of resources or if the region is over-developed. As the use of the coastal and marine environments progressively change, it is likely that new or additional pressures on its resources will be identified and the environmental baseline would change accordingly.

7.12.3 Work is already being undertaken to investigate and address many of these trends and pressures. For example, research studies undertaken in academia, by various industries including those undertaken as part of or as a condition of consenting processes, and by the Scottish Government and/or Marine Scotland is likely to continue to develop to identify and address data gaps on a needs basis (e.g. the Scottish Offshore Renewables Research Framework (SpORRAn), Offshore Renewables Joint Industry Programme (ORJIP)). This work includes research and monitoring of seabird populations, investigations into reasons behind declines in seal populations (e.g. research into 'corkscrew' injuries) and sectoral work to reduce the influx of diffuse pollutants into waterways have become important areas of work to address specific concerns.

7.12.4 Further work on the assessment and mitigation of pressures, such as the evolving field of coastal classification and development of methodologies for the assessment of landscape/seascape effects, would also likely continue to be developed as required by the industries involved. Similarly, project specific assessments through processes such as Environmental Impact Assessment (EIA) and HRA are well-established for many types of development and marine uses; all of which would be expected to continue under current mechanisms regardless of the adoption of the Pilot Plan.

7.12.5 Wider work on the preservation of the natural environment and improving socio-economic factors in the PFOW and Scotland is likely to continue regardless of adoption of the Pilot Plan. For example, work in improving the management of our rivers and seas (e.g. River Basin Planning and establishment of River Basin Districts), improving water quality and biodiversity (e.g. the National Litter<sup>178</sup> and Marine Litter Strategies<sup>179</sup>, 2020 Challenge for Scotland's Biodiversity<sup>180</sup>), and reducing the potential for adverse effects on these environments (e.g. via the Marine (Scotland) Act 2010, research and studies into potential impacts of marine activities on the natural environment, existing consenting processes), amongst many others. Further, a range of programmes for improving health and wellbeing in Scotland involving reducing poverty, improving health and mental wellbeing, maintaining connectivity (e.g. Scottish Ferry Services: Ferries Plan (2013-2022)<sup>181</sup>), fostering community empowerment (e.g. Community Empowerment Bill 2014<sup>182</sup>) and improving economic growth in the national and regional contexts (e.g. the Government Economic Strategy<sup>183</sup>), amongst many others in the socio-economic context, will continue to work to improve current concerns and reverse current negative trends, in the absence of the Pilot Plan.

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<sup>178</sup> Scottish Government (2014) Zero Waste Towards A Litter-Free Scotland: A Strategic Approach to Higher Quality Local Environments [online] Available at: <http://www.gov.scot/Resource/0045/00452542.pdf> (accessed 03/02/2015)

<sup>179</sup> Scottish government (2014) A Marine Litter Strategy for Scotland [online] Available at: <http://www.gov.scot/Publications/2014/09/4891> (accessed 03/02/2015)

<sup>180</sup> Scottish Government (2013) 2020 Challenge for Scotland's Biodiversity [online] Available at: <http://www.gov.scot/Resource/0042/00425276.pdf> (accessed 03/02/2015)

<sup>181</sup> Transport Scotland (2013) Scottish Ferry Services: Ferries Plan (2013-2022) [online] Available at: <http://www.transportscotland.gov.uk/report/j254579-00.htm> (accessed 03/02/2015)

<sup>182</sup> The Community Empowerment (Scotland) Bill 2014 [online] Available at: <http://www.gov.scot/Topics/People/engage> (accessed 03/02/2015)

<sup>183</sup> Scottish Government (2014) Economic Strategy [online] Available at: <http://www.gov.scot/Topics/Economy/EconomicStrategy> (accessed 03/02/2015)

## Growth of use and development

7.12.6 The growth of development and use of the PFOW has historically been largely market driven, whilst also being influenced by a range of strategic and policy factors (e.g. offshore renewables planning, inshore fisheries planning). Even with the adoption of the Pilot Plan, further development and use of the PFOW would likely continue to be largely market-led in the future with any future development/marine use continuing to be within the existing consenting processes detailed under current legislation.

7.12.7 Similarly, current trends and impacts to biodiversity, soil and marine geology, cultural heritage and water quality, in particular, would likely continue to be influenced in this way if not addressed in other avenues (see Section 7.12.3. For example, through the role of the existing regulatory framework in identifying and reducing the likelihood of adverse environmental effects from development in the region (e.g. cumulative effects, risk of soil or water contamination from discharges, protection for the historic environment, protection for designated species and habitats).

## **7.13 Difficulties encountered in compiling the information**

7.13.1 Given the strategic nature of the Pilot Plan, there is a degree of uncertainty surrounding the potential impacts in adopting some policies, particularly as many are likely to be influenced by a range of site and project-specific locational factors. For example, while methodologies have been established for the assessment of landscape/visual impacts and landscape character assessment (see Section 7.7), the nature and significance of visual and landscape/seascape issues depends largely on locational factors and can also differ greatly with an individual's perception. As a consequence, both can introduce a degree of uncertainty in considering the significance of any environmental effects. Based upon this, the potential and general effects have been identified and discussed within this assessment in the context of the various sectors and their coastal and marine operations, and with spatial consideration where possible.

7.13.2 Much of the uncertainty encountered also relates to the relatively new and continually evolving nature of marine planning. This is reflected in the development of Scotland's NMP in particular, and also the relationship with others such as the Sectoral Plans for Offshore Renewables and the development of Scottish MPAs.

7.13.3 Further, whilst new information on the marine environment continues to emerge, uncertainty remains around many of the interactions between marine features and our use of the marine environment. Although a great deal of research has been undertaken on Scotland's marine and coastal environments through public bodies such as MSS and SNH, in academia, by non-government organisations (NGOs) and within the many industries with coastal and/or marine interests, it is widely acknowledged that

significant data gaps remain. Such gaps in knowledge have introduced further uncertainty in undertaking environmental assessment, largely via the compilation of a meaningful environmental baseline, and in the evaluation of the likelihood and extent of potential effects that may be associated with potential future developments (e.g. offshore renewable energy development). This has enabled the development of strategies to fill these gaps, including through the work of formal groups such as the SpORRAn, amongst many others.

7.13.4 In many instances, more comprehensive information on a wide range of issues could have added greater detail and precision to the assessment, even at this high-level, and may also have provided greater certainty moving forward with marine planning in the PFWOW. For example, additional information on the movement of migratory species (i.e. cetaceans, salmon and lamprey, seabirds and elasmobranchs) and greater certainty of effects associated with marine infrastructure (e.g. the precise effects of electromagnetic forces (EMF), collision and entanglement risk, sedimentation issues) are just two examples where it may be beneficial in identifying potential interactions and could help to avoid/mitigate potential adverse effects. Many of these gaps, limitations and difficulties have fed into the generation of the recommendations and monitoring set out in Section 10.3 of this report, as well as being identified as important outcomes of other planning processes.

# 8 Findings of Assessment of Policies

## 8.1 Overview

- 8.1.1 As outlined in Section 6.3, the first tier of assessment involved an analysis of the 17 general policies and 10 sectoral policies detailed within the draft Pilot Plan to identify the likelihood of environmental and socio-economic impacts. The findings of this process are presented in the tables in Appendices B and C.
- 8.1.2 Table 8.1 and Table 8.2 provide an overview of the likelihood of effects for each set of policies and a summary of the findings of this analysis is provided in the following sections of this Report.

## 8.2 General Policies

General Policy 1A (Sustainable Development)

General Policy 1B (Supporting Sustainable Social and Economic Benefits)

General Policy 1C (Safeguarding the Marine Ecosystem)

General Policy 2 (Supporting the Well-being, Quality of Life and Amenity of Coastal Communities)

- 8.2.1 The SA found that together, the four overarching policies are likely to have overall positive effects for many of the socio-economic and environmental topic areas, largely through the promotion of a broad and region-wide focus on 'sustainable development', 'sustainable benefits' and the consideration of economic, environmental and social aspects in decision-making. The SA considered that the draft Pilot Plan also presents an opportunity to reduce the risk of adverse social, economic and environmental impacts that may be associated with future growth in the PFOW area. In particular, the promotion of sustainable development and the efficient management and sharing of existing resources and infrastructure were identified as having the potential to avoid negative impacts (i.e. adverse impacts that may be associated with the construction of new or additional infrastructure, promoting appropriate development and activities).
- 8.2.2 Potential benefits for population and human health were also identified with the promotion of the long-term sustainability objectives of the group of policies, and through supporting social and economic benefits and promotion of economic and wellbeing considerations. The potential for enhanced involvement of communities in the future growth of the use of the PFOW area was seen as a key positive effect, particularly in relation to the consideration of potential social and economic impacts and opportunities for fostering further community involvement in the decision-making process.

8.2.3 However, the SA also identified the potential for negative effects associated with balancing social, environmental and economic ambitions in the future, particularly in the identification of the likely potential for trade-offs between these ambitions in the future growth of use of the PFOW area. Further, having developers, marine users and local communities themselves 'buy in' to the draft Pilot Plan was seen as being an essential part of implementing the ambitions of the Pilot Plan and ensuring the delivery of any potential benefits.

### General Policy 3A: Climate Change

8.2.4 The SA identified opportunities for positive effects through improving the resilience of developments to the expected effects of climate change and promoting climate change adaptation across the full spectrum of marine users in the PFOW area. Providing additional guidance for marine users through this policy, particularly developers and consenting authorities, could aid in the identification of opportunities to improve adaptation and aid the future protection of vulnerable coastlines (e.g. future-proofing coastal and marine infrastructure, infusing coastal protection measures and resilience into coastal development).

8.2.5 Whilst likely benefits for climate change adaptation and sustainability of marine sectors was identified as a key potential outcome, the potential for associated benefits such as making further contributions to wider adaptation ambitions were also noted (e.g. reducing GHG emissions). The potential for positive secondary and indirect environmental effects for a number of topic areas associated with greater consideration of likely climate change impacts in undertaking coastal development works and coastal use was also considered likely. For example, the potential for improved protection of coastal ecosystems and species, reduced coastal erosion/accretion, improved protection for cultural heritage in the coastal environment, and reduced turbidity in coastal areas, amongst others.

8.2.6 Whilst the potential for mixed effects was also identified, principally through inappropriate development or coastal use (e.g. impacting coastal processes, shifting erosion/accretion), it was considered that existing mechanisms such as current consenting processes, generally underpinned by environmental assessment, are likely to remain a primary means of identifying and mitigating any such impacts at the project level. As such, the ability of the policy to significantly influence change amongst developers and marine users is likely to be closely linked to the requirements of these existing processes. This is also likely to depend upon achieving 'buy in' from stakeholders (i.e. developers, marine users, government agencies (i.e. SNH), consenting authorities and local communities) and this was identified as a key challenge for the Pilot Plan and for future marine regional planning in the PFOW.

## General Policies 4A – 4C: Nature Conservation Designations, Protected Species and Wider Biodiversity

8.2.7 While existing mechanisms and methodologies are currently in place to consider the potential for impacts to biodiversity features in the PFOW area, the SA identified the potential for overall positive effects associated with the inclusion of these policies in the draft Pilot Plan, and also through the development of the RLG. While it was also noted that the consideration and protection of designated sites and species is currently a legal requirement and is a key consideration of existing consenting processes (e.g. Marine Licensing, Town and Country Planning and supporting environmental assessments such as EIA and HRA), the SA identified the potential for positive effects in improving the awareness of existing environmental protection requirements and the likelihood of future considerations (i.e. the identification of draft marine SPAs covering much of the Pentland Firth and Orkney) amongst developers, marine users and consenting authorities. The SA found that this could help to promote greater consistency in the consideration of the marine environment at an early stage in the development process, particularly for the preservation and/or enhancement of protected and otherwise recognised biodiversity features.. The potential for the policies to help to facilitate early monitoring (e.g. seabird surveys, seal counts) and early consideration of options for avoidance or mitigation of potential impacts was also noted (e.g. by starting the HRA process early, alternative siting).

8.2.8 If implemented with the 'buy in' of stakeholders, there is the potential for significant positive effects for biodiversity, water quality (e.g. improving the ecological status of the water environment) and soil and marine geodiversity (i.e. preserving the character and diversity of the seabed). However, the SA also identified that delivery of any such benefits would likely be dependent on having the 'buy in' of these stakeholders (i.e. developers, marine users, Government agencies (i.e. SNH), consenting authorities, environmental bodies).

8.2.9 Associated benefits for a range of marine sectors associated with the protection of the marine environment were also identified, particularly alongside the promotion of sustainable development, and for those industries with a close relationship with biodiversity (e.g. fishing, wildlife tourism). The potential for associated benefits for local communities relating to further contributions in preserving the integrity of the marine environment and supporting sustainable industries was also identified.

## General Policy 4D: Landscape and Seascapes

8.2.10 The SA found that while existing consenting processes currently include the consideration of impacts to visual amenity, landscape and seascapes, and a number of methodologies have been developed to consider these, there is the potential for overall positive effects associated with this policy. The

potential for the policy to promote greater consistency in the consideration of visual impacts in the development process, and in the early stages of consenting processes was identified as one such example. As a consequence, the potential for significant benefits for the many recognised landscape/seascape areas in the PFOW area were identified in the SA.

8.2.11 Close links between landscape/seascape and the setting of cultural heritage features was also noted in the assessment, particularly as many of the valued landscape and seascape areas are also recognised for their cultural importance (e.g. west Mainland Orkney and Northern Hoy). The potential for positive effects for communities, population and human health was identified, largely in relation to enjoyment and use of the natural environment and its visual assets. The potential for positive indirect effects for many coastal and/or marine industries was also noted (e.g. recreation and tourism).

8.2.12 However, the SA also identified the importance that this policy and the Pilot Plan be supported by stakeholders including developers, marine users, Government agencies such as SNH and local communities themselves, for any such benefits to be realised. This was considered to be a key area of opportunity for the policy, with the SA also noting that this could aid in improving engagement between different stakeholders in the future consultation processes both at the strategic level (e.g. future regional marine planning) and in the engagement over the consideration of visual issues at the project level (e.g. developer-led consultation).

**General Policy 4E: Geodiversity**

8.2.13 The SA found that with the support of developers and marine users, the policy would have the potential to strengthen geodiversity considerations in the development process and within existing consenting processes (e.g. Marine Licensing, Town and Country Planning development applications), in future regional marine planning and also in associated assessment work (e.g. EIA, HRA and SEA). Primarily, increased awareness of geodiversity value in the PFOW area has the potential to contribute to the recognition and preservation of coastal and marine geodiversity at the project level (e.g. identify need for seabed surveys, early consideration of options for avoidance or mitigation of potential impacts).

8.2.14 The implementation of the Policy and ambitions of the Pilot Plan, particularly around ensuring a consistent approach is taken to the consideration of environmental concerns and their assessment, was seen as a priority in working towards sustainable development. In this context, the policy is seen to sit alongside those promoting the protection of the rich biodiversity, and the wide and varied landscapes and seascapes in the PFOW area. As a consequence, the potential for secondary and indirect benefits for biodiversity (e.g. associated benefits for benthic and coastal

habitats), landscape/seascape, and communities, population and human health (e.g. access and appreciation of geodiversity) were also identified.

8.2.15 As for other policy areas, the SA identified that working with stakeholders (i.e. developers, marine users, Government agencies (i.e. SNH), consenting authorities, local communities) was likely to be a crucial component in ensuring that any potential benefits of the policy are both realised and maximised.

**General Policy 5A: Water Environment**

8.2.16 The SA identified the potential for overall positive effects associated with the policy, largely through increased awareness of the importance of water quality and support for existing water quality obligations under current planning and consenting processes. The potential for improved consistency and efficiency in addressing water quality issues by marine users and developers was identified as a key positive effect. For example, the inclusion of “sufficient information to enable a full assessment of the likely effects, including cumulative effects, on the water environment [for a proposed development]” aligns with similar findings identified in the assessment of other general policy areas. While the potential for benefits to water quality were clearly identified, the potential for secondary or indirect positive effects for biodiversity, soil, marine geodiversity and coastal processes were also considered likely from adoption of the Pilot Plan.

8.2.17 The assessment found that the policy also presents an opportunity to further engage with developers and marine users, and in working with them to contribute to meeting Scotland’s water quality objectives (i.e. under the WFD and MSFD). It may also present a good opportunity to engage with those out with existing consenting processes (e.g. recreational users, fishing vessels, shipping) in addition to those under existing consenting regimes (e.g. aquaculture, renewables). As a consequence, communication and engagement with stakeholders (e.g. developers, marine users, Government agencies (i.e. SNH and SEPA), consenting authorities, environmental bodies, and local communities) was considered to be a key recommendation of the SA, particularly in ensuring that ‘buy in’ of stakeholders can contribute to efforts to meet the established water quality objectives, and in the realisation of other potential benefits.

**General Policy 5B: Coastal Processes and Flooding**

8.2.18 The SA identified the potential for overall positive effects for the Policy, principally through its ambition to increase awareness of potential coastal erosion and flooding issues, and obligations under the Flood Risk Management Act. In particular, it identified the potential for benefits in the development process or in proposing undertaking new coastal and marine activities, if considered at an early stage.

8.2.19 The SA identified close links between the ambitions of this policy and that of General Policy 3 (Climate Change), particularly in ensuring that any future development or new coastal or marine activities are 'future-proof'. Given the predicted effects of climate change, the SA considered that there is likely the potential for significant benefits for both developers and marine users in considering how these issues could aid in improving adaptation and resilience at the project level. However, the SA also recognised that current consenting processes underpinned by assessment work (e.g. EIA, socio-economic assessment, flood-risk assessment) will remain the primary mechanisms for identifying, assessing, and where appropriate, avoiding/mitigating any potential adverse effects.

8.2.20 While the potential for positive effects were identified through protecting water quality and promoting climate change resilience, adaptation and reducing the risk of exacerbating flood and erosion issues, the assessment also noted the potential for positive secondary or indirect effects. Positive effects for all environmental topic areas were noted in the assessment (i.e. biodiversity through reduced risk to coastal or flood-prone habitats, and reduced risk of adverse impacts on soil, marine geodiversity and coastal processes, in particular). However, the potential for mixed effects for Material Assets was noted in the SA. In particular, the potential for additional costs associated with future developers to demonstrate adaptation and resilience to climate change were identified. However, in many instances, such costs may be offset at the project and regional levels in ensuring the sustainability and future-proofing of the relevant marine sectors.

8.2.21 The SA considered that the ability of the Policy to significantly influence developers and marine users in increasing their consideration of these issues is likely to be linked to the requirements of existing consenting processes. Obtaining the 'buy in' of stakeholders in these ambitions (i.e. developers, marine users, Government agencies (i.e. SEPA), consenting authorities, environmental bodies, and local communities), is likely to be a critical factor of the delivery of any potential benefits.

#### General Policy 6: Historic Environment

8.2.22 The SA recognised the importance of cultural heritage in the PFW and for the many communities in the area. It also noted the range of existing legislative mechanisms and processes that are in place for the protection of cultural heritage and historic environment features in both the terrestrial and marine environments.

8.2.23 The SA found that the policy likely presents an opportunity to further promote the importance of cultural heritage sites, both designated and undesignated, and raise awareness for future developers and marine users in their obligations for the preservation of these valued features. The potential for positive effects for the preservation of heritage assets was

noted and the potential for secondary and indirect environmental effects for a number of topic areas was also identified (e.g. landscape/seascape and visual amenity, and communities, population and human health).

8.2.24 The SA considered that current consenting processes underpinned by specific assessments (e.g. EIA incorporating an assessment of cultural heritage/historic environment in relation to a proposal) are likely to continue to be the primary mechanism for identifying and mitigating any such impacts at the project level. The implementation of the Policy and the ambitions of the Pilot Plan, particularly around ensuring a consistent approach is taken to the consideration of these concerns and their assessment, are likely to support these processes. However, the SA also identified a need to engage with stakeholders, including developers, marine users, Government agencies (e.g. Historic Environment Scotland), consenting authorities and local communities, and nominated this as a key recommendation in ensuring that the potential benefits identified in the SA are realised, and where possible, maximised.

**General Policy 7: Integrating Coastal and Marine Development**

8.2.25 The SA identified the potential for positive effects through promoting greater efficiency and streamlining in the development process through seeking opportunities to combine aspects of these processes for the consideration of its onshore and offshore elements. The likelihood of benefits for developers, stakeholders and licensing/consenting bodies alike was identified, and the potential for more consistent and transparent engagement between these and other stakeholders was also seen as a key potential benefit. While efficiencies for each were noted, the SA also noted that any such benefits or opportunities for streamlining should not outweigh the requirements of specific consenting processes. As a consequence, working with stakeholders and obtaining their 'buy in' was noted as an essential aspect of this policy. The engagement of developers and marine users with consenting authorities and local communities in particular was considered likely to be a determining factor in achieving any potential benefits and also in opportunities for co-ordinating consenting requirements.

8.2.26 The potential for further benefits through the consideration of direct and cumulative environmental effects through an integrated process were considered to be of particular note where there are potential interactions between coastal and marine environments (e.g. coastal and marine geology, coastal processes, biodiversity, landscape/seascape and the setting of cultural heritage features). Similarly, potential opportunities for early identification of synergies and mutual benefits for marine users and local communities were also identified as key findings of the SA (e.g. sharing infrastructure with other marine sectors and coastal/marine users, community benefits, sharing monitoring strategies, linking construction works with other development activities).

### General Policy 8A: Noise

8.2.27 Whilst recognising the role of existing processes in the identification and mitigation of potential noise issues (e.g. through Development and Marine Licence Applications underpinned by EIA and HRA), the SA identified the potential for the policy to have positive effects for biodiversity and communities, population and human health. In particular, the provision of guidance for developers and marine users for the consideration of potential noise and vibration impacts on receptors was identified a likely to contribute to positive effects. The potential for wider benefits was also noted, particularly in relation to the potential for the consistent and transparent consideration of receptors susceptible to both terrestrial and marine noise (e.g. seabirds feeding at sea and breeding in coastal or inland locations, seals utilising both marine and coastal environments), including those that can travel past different noise sources (e.g. migrating seabirds, seals, cetaceans, elasmobranchs). Benefits for material assets were also identified, largely in the potential for improved consistency and efficiency in the early identification of potential concerns and in managing potential noise and vibration issues (e.g. production of a noise impact assessment, receptor surveys).

8.2.28 Effective communication between stakeholders (i.e. developers, marine users, consenting authorities, Government agencies (e.g. SNH), environmental bodies and local communities), was a key recommendation in ensuring the early identification of any potential issues. However, the ability of the policy to deliver these potential benefits is likely to be closely linked to the requirements of current consenting processes and conditions of any consent given. As such, the SA identified a need for further engagement between stakeholders including developers, marine users and local communities in ensuring the realisation of any potential benefits.

### General Policy 8B: Waste Management and Marine Litter

8.2.29 Whilst recognising that existing consenting processes in the coastal and marine environment currently consider waste and litter generation and can outline conditions for its appropriate management (e.g. development of Waste Management Plans), the SA identified the potential for overall positive effects associated with this policy. In particular, the potential for improved management of waste amongst marine users was identified, and especially for coastal and marine users out with these consenting processes.

8.2.30 However, the SA also noted the potential for mixed effects for some marine users. While reduced marine litter is likely to have benefits for many, through a reduced risk of adverse impacts to water quality, damage to coastal and marine infrastructure and vessel collision risk from larger items, there is the potential for additional cost implications associated with implementing further waste management measures for some marine users;

particularly for small operators (e.g. in the recovery of waste or litter after storm events).

8.2.31 The potential for secondary or indirect benefits for a number of topic areas associated from the promotion of ambitions to reduce litter and improve the recovery of unavoidable litter (e.g. from storm events) were also identified. This included the potential for a reduced risk of interactions between marine flora and fauna with marine litter (e.g. ingestion, entanglements, benthic smothering), reduced collision risk between vessels and marine/coastal infrastructure, and reduced risk of impacts to visual amenity, landscape/seascape and the setting of cultural heritage features, amongst others.

8.2.32 The SA found that the realisation of any such benefits associated with the implementation of the Policy are likely to be closely linked to the requirements of current consenting processes and conditions of any consents given be contingent, and contingent on achieving the 'buy in' of stakeholders (i.e. developers, marine users, consenting authorities and local communities). However, it also considered that with the support of stakeholders, any actions undertaken by developers and/or marine users are also likely to contribute to wider waste reduction and management ambitions, including Scotland's zero waste targets.

**General Policy 9: Invasive Non-native Species**

8.2.33 The SA identified the potential for overall positive effects associated with greater awareness of risks from invasive non-native species. It found that the Policy is also likely to strengthen and promote overarching ambitions of informing a wide range of marine users on existing guidance and on their legal requirements in relation to this issue (e.g. SNH Guidance on Marine Biosecurity Planning, Codes of Practice, NMP, regulations, Orkney Islands Council Harbour Authority Ballast Water Management Policy for Scapa Flow).

8.2.34 In all, the SA identified the potential for positive effects for biodiversity, and marine ecosystems, water, geodiversity and communities, population and human health. The potential for mixed effects for a number of marine sectors was also noted; principally that compliance with biosecurity measures by some sectors has the potential to increase operating costs. However, the potential for reducing the risk of adverse impacts on marine biodiversity and marine and coastal ecosystems are also likely to be beneficial in helping to preserve those sectors dependant on biodiversity in the area (e.g. fishing, wildlife tourism) and the local communities they help to support. As a consequence, the SA found that there is the potential for any such costs to be offset, at least in part, by overarching benefits for the marine environment and the sectors that utilise its resources.

8.2.35 However, it also found that consistency across all marine sectors is likely to be needed to minimise these risks and deliver these potential benefits. The

SA noted identified that achieving 'buy in' of all marine stakeholders was likely to be a key factor in realising the ambitions of the Policy. As a consequence, the SA considered the policy and the Pilot Plan may present an opportunity to facilitate further engagement with a wide spectrum of marine sectors in the PFOW area (e.g. fishing sector, recreational sailing and boating, shipping and marine transport) and work towards the consistent use of biosecurity measures across all marine sectors in the PFOW by building upon those measures already in place.

**Table 8.1 Summary of the potential socio-economic and environmental effects of the General Policies.**

Legend:		Biodiversity	Climate Change	Cultural Heritage	Landscape/ Seascape	Soil, marine geodiversity and coastal processes	Communities, Population and Human Health	Water	Material Assets
+	Positive effects								
+/-	Mixed effects								
-	Negative effects								
0	No significant effects								
?	Uncertain								
1A	Sustainable Development								
1B	Supporting Sustainable Social and Economic Benefits	+	0	+	+	+	+	+	+/-
1C	Safeguarding the Marine Ecosystem								
2	Wellbeing, Quality of Life and Amenity of Coastal Communities								
3	Climate Change	+	+	+	+	+	+	+	+/-
4A	Nature Conservation Designations								
4B	Protected Species	+	0	0	0	+	+	+	+
4C	Wider Biodiversity								
4D	Landscape and Seascape	0	0	+	+	0	+	0	+
4E	Geodiversity	+	0	0	+	+	+	0	+/-
5A	Water Environment	+	0	0	0	+	+	+	+
5B	Coastal Processes and Flooding	+	+	+	+	+	+	+	+/-
6	Historic Environment	0	0	+	+	0	+	0	+
7	Integrating Coastal and Marine Development	+	+	+	+	+	+	+	+
8A	Noise	+	0	0	0	0	+	0	+/-
8B	Waste and Marine Litter	+	0	+	+	+	+	+	+/-
9	Invasive Non-native Species	+	0	0	0	+	+	+	+/-

## 8.3 Sectoral Policies

### Sectoral Policy 1: Commercial Fisheries

8.3.1 The SA identified the potential for largely positive effects associated with the policy through the promotion of the consideration of interactions with the fisheries sector by potential developers and other marine users in the PFOW area. In setting out expectations for developers and marine users, and outlining support for the safeguarding of existing fishing practices where possible, preserving the potential for opportunities for future sustainable activities, and supporting the safeguarding of environmental factors upon which the sector relies (e.g. fish stocks, spawning and nursery areas), the policy has the potential for contributing overall positive effects for the sector. However, the potential for conflicts and trade-offs between the fishing sector and other sectors was noted in the SA (e.g. particularly in terms of displacement due factors such as the location and timing/design of development, amongst others), and hence the potential for both positive and negative effects for Material Assets and Communities, Population and Human Health.

8.3.2 The SA considered that the policy may help in streamlining the development process; principally through promoting the co-existence of marine users and in early and effective management of any potential conflicts. For example, in setting out expectations for developers for working with fisheries stakeholders (i.e. Inshore Fisheries Groups, local communities) there is the potential for benefits in having early and effective discussions on the management of the available marine space. This could also aid in resolving potential conflicts between developers and fisheries, and where possible, help to seek opportunities for synergistic benefits for a wide range of marine users.

8.3.3 With the 'buy in' of stakeholders, the potential for associated positive effects for biodiversity and the ecological status of water quality and soil and marine geodiversity were also identified (e.g. protection of benthic habitats important to juveniles). Positive effects for safeguarding fishing stocks and nursery/spawning areas, managing potential conflicts between the fishing sector and other marine users, and reducing displacement and collision risk were also identified. However, it was considered unlikely that the Policy itself would have significant effects on climate change, cultural heritage, landscape and coastal processes.

8.3.4 The SA also noted that delivery of any such benefits is likely to be contingent on the achieving the 'buy in' of key stakeholders (e.g. future developers, the fishing sector, other marine users, consenting authorities, environmental bodies and government bodies such as SNH).

## Sectoral Policy 2: Aquaculture

8.3.5 The SA found that while aquaculture and seaweed cultivation activities have the potential to result in significant environmental effects, development within these sectors in the future will continue to be managed through existing consenting processes (e.g. potentially including planning permission under the Town and Country Planning (Scotland) Act 1997, obtaining seabed leases from TCE and landowners, Controlled Activity Regulations (CAR) Licenses from SEPA, Marine Licensing from Marine Scotland). The policy will provide support to these processes by providing awareness for future developers and stakeholders on these requirements, and could result in benefits for Material Assets and Communities, Population and Human Health topic areas (i.e. potential for improved efficiency in the consenting process, enhanced consultation between developers and stakeholders, early identification of interactions and potential constraints to development/marine use). As a consequence, there is likely the potential for positive effects for the aquaculture sector and associated benefits for the communities that these activities can help to support. It was also noted that Marine Scotland is undertaking work to identify areas of opportunity and constraint for both finfish and shellfish aquaculture, referred to in the NMP, and the SA noted that that future regional marine planning work should be linked to this work.

8.3.6 The SA considered that the 'buy in' of a range of stakeholders is likely to be an important factor in the delivery of any positive effects identified in this assessment (e.g. prospective developers, aquaculture sector, other marine users, consenting authorities and Government bodies (e.g. TCE, SEPA, Marine Scotland) in particular).

## Sectoral Policy 3: Oil and Gas

8.3.7 The SA found that the ambition and potential effect of this policy is likely to be limited by current responsibilities for oil and gas exploration and production activities. It noted that the responsibility for offshore oil and gas exploration and production lies largely within existing UK legislation and regulations within the remit of the Department of Energy and Climate Change (DECC). As such, while the potential for positive effects associated with several provisions of the policy were noted in the assessment in general terms (e.g. use of approved Oil Pollution Emergency Plans, that connections to shore base and associated infrastructure taking into account environmental and socio-economic constraints, appropriate monitoring programmes and detailed restoration and maintenance proposals based on standard best practice are in place), it was considered that these ambitions were already requirements at the UK level and are largely outside the influence of the Pilot Plan. As such, in the context of this policy and the current oil and gas sector, the SA considered that it is unlikely that the policy would result in significant environmental effects.

8.3.8 However, the SA did note the potential for the publication of the accompanying RLG to aid in informing prospective developers on relevant issues and constraints within the PFOW area. For example, it noted that the RLG could help prospective developers in the sector to identify potential constraints to development, including those looking to progress exploration and production activities within and near to the plan area and associated landfall or shore-based activities, and may aid in guiding developers into areas of lesser constraint (e.g. avoidance of environmental designations for landfall sites). The SA also recommended that any policies relating to oil and gas activities in future Regional Marine Plans in the PFOW area be periodically reviewed to consider the potential for future activities in and near to the PFOW area.

8.3.9 This is discussed in greater detail in Section 9.2.

#### Sectoral Policy 4: Renewable Energy Generation

8.3.10 The SA identified the potential for largely positive environmental and socio-economic effects associated with the inclusion of this policy in the draft Pilot Plan. As for other sectoral policies, the potential for improved efficiencies in existing consenting processes, awareness of the ambitions of the Sectoral Plans, informing prospective developers of key socio-economic and environmental issues and constraints via the RLG, and the promotion of early, effective and continuous communication with stakeholders are likely to provide benefits for a range of topic areas (e.g. biodiversity, water, soil, marine geodiversity, landscape/seascape, cultural heritage, communities, population and human health and material assets). However, the SA also noted that current consenting processes underpinned by project-specific socio-economic and environmental assessments will remain the primary mechanism for the consideration of future development within this sector. It is anticipated that together the draft Pilot Plan, the RLG and the Sectoral Plans for Offshore Wind, Wave and Tidal energy are likely to provide support for these processes.

8.3.11 While the net effect of the policy is likely to be positive, the potential for mixed effects for the Communities, Population and Human Health and Material Assets topic areas was noted in the assessment. This finding reflects the potential for some marine sectors to conflict with renewables development and its related activities if inappropriately designed and sited; notably displacement of fishing activities and steaming routes, displacement of shipping and some recreational users, amongst others. The potential for associated effects at the community level were also identified, particularly for those with a close reliance on these sectors. However, the reference to the RLG, Sectoral Plans and inclusion of provisions for early and effective communication with affected stakeholders in the Policy was identified as having the potential to aid in the early identification and resolution of any such interactions.

8.3.12 The SA noted that the ‘buy in’ of stakeholders (e.g. developers, other marine users, communities, environmental bodies and Government bodies (e.g. SNH, SEPA), TCE, Marine Scotland and Local Authorities), and promoting early, effective and continuous communication between them, is likely to be an important factor in the delivery of any potential positive effects of the Plan. With the ‘buy in’ of stakeholders, the SA noted the potential for the policy to aid in the management of any potential adverse effects associated with further development of offshore renewables in the PFOW area, whether within the Plan Option areas or out with them.

#### Sectoral Policy 5: Recreation, Sport, Leisure and Tourism

8.3.13 The SA identified the potential for overall positive socio-economic and environmental effects associated with the inclusion of the policy in the draft Pilot Plan. Increased awareness of potential interactions with recreational users, and setting out expectations for developers and other marine users, has the potential for a range of positive effects (e.g. potential for displacement of activities, impacts on navigational safety and human health, impacts on the natural environment). Similarly, informing prospective developers of known areas of recreational/tourism via the RLG this SA and the Socio-economic Baseline Report, and the promotion of early, effective and continuous communication with stakeholders are likely to provide particular socio-economic benefits. This could include opportunities to identify synergistic benefits for multiple sectors, marine users and local communities. The potential for further socio-economic benefits through the promotion of sustainable development and support for the existing recreation, sport, leisure and tourism sectors at the community level were also noted.

8.3.14 The SA identified that the inclusion of provisions to “minimise or mitigate any disruption and/or disturbance to coastal and marine recreation, sport, leisure and tourism activities, including the natural environment as a resource that these activities rely upon” may have the potential to constrain development in other sectors within the Pilot Plan area. However, it was also considered that undertaking early consultation and engagement between users of the coastal and marine environments could help to ensure the co-operation and co-existence of these users, to seek opportunities for the shared use of space and infrastructure, and help to balance the needs of all users in the sustainable development of the PFOW area.

8.3.15 The potential for a number of environmental benefits was also identified, notably through the likely contribution of the policy to the preservation of biodiversity, water and geodiversity from increased awareness of codes of practice and guidance relating to biosecurity and non-native species (e.g. protection of existing biodiversity, particularly for vulnerable habitats and species, reduced risk of impacts on ecological status of water). The potential for positive effects for cultural heritage and landscape/seascape

were also identified through more consistent consideration of sectors based around the appreciation and enjoyment of these assets. As a consequence, the potential benefits for communities, population and human health associated with support for the existing recreation, sport, leisure and tourism sectors were also identified. For example, reduced risks associated with navigational safety and human health, and the preservation of outdoor recreation sites and activities, amongst others.

8.3.16 While the net environmental effect of the policy is likely to be positive, the SA considered that the 'buy in' of stakeholders would likely be required for the delivery of any such positive effects (e.g. recreation, leisure and tourism sector, other marine users and developers, environmental bodies and Government bodies, consenting authorities and local communities). In particular, the SA found that this is likely to be a key challenge in ensuring co-operation between different sectors, the shared use of space and in sharing infrastructure and facilities, and in the management of potential concerns such as invasive non-native species.

### Sectoral Policy 6: Marine Transport

8.3.17 The SA found that there is the potential for socio-economic and environmental benefits associated with the safeguarding of shipping routes, ferry routes and access to ports, harbours and other anchorages. The potential for positive effects from setting out expectations for developers and marine users in maintaining navigational safety, including greater awareness and consideration of existing shipping and ferry routes, was also noted. For example, in addition to the likelihood of benefits for the marine transport sector (e.g. safeguarding access and travel routes for the sector), the potential for positive effects for communities, population and human health through reducing the risk of vessel-development collisions (i.e. tanker and shipping vessels in Scapa Flow, through the Pentland Firth and off the north Caithness and Sutherland coast) and maintaining accessibility, particularly between remote islands were considered likely (e.g. serviced by commercial vessels, recreational craft and ferries). Similarly, with the 'buy in' of stakeholders, the potential for associated benefits for biodiversity, water quality, soil and marine geodiversity through reduced collision and pollution incident risk were also noted.

8.3.18 However, in some instances, the potential for mixed effects was identified. For example, maintaining safe access to ports and harbours and safeguarding important shipping and ferry routes may also negatively impact on the potential growth of other sectors, particularly those that are not compatible (i.e. offshore renewables, aquaculture). Further, the SA noted that marine safety is currently underpinned by international safety conventions, regulations and codes issued by the IMO. Navigational safety is also currently a consideration of existing consenting processes. As a consequence, the 'buy in' of stakeholders and the promotion of early communication and engagement between them was identified as being a

likely key factor in the realisation of positive effects associated with this policy.

### Sectoral Policy 7: Ports and Harbours

8.3.19 The SA identified the potential for overall positive environmental and socio-economic effects associated with the Policy. However, as for Sectoral Policy 6 (Marine Transport), there is the potential for these effects to be mixed in some instances. Potential socio-economic benefits through promoting the safeguarding and sustainable growth of existing port and harbour facilities, the potential safeguarding of jobs and recreational/leisure activities that rely on these facilities, and setting out support for the communities that rely economically on them, were all noted.

8.3.20 In general, protecting access to ports and harbours in the PFOW area was considered likely to be beneficial for many marine users, particularly if the use of these facilities is shared (e.g. marine transport sector, recreational users, fishing sector, renewables sector, vessels servicing oil and gas). Further benefits for sectors such as the aquaculture sector were also identified through the maintenance of important links in the supply chain and connectivity. The potential for associated positive effects for biodiversity, water quality, soil and marine geodiversity was also identified in the SA, due largely to the potential for a reduction in collision and pollution risk associated with promoting navigational safety and the safeguarding of port and harbour access.

8.3.21 However, the SA noted that in some instances, there may be the potential for conflicts between different industries in the use of port and harbour facilities. Further, any future growth is likely to be subject to demand and market forces. Thus, the ambitions set out in the policy could aid the growth of some sectors and/or activities more than others; for example, while this may benefit sectors reliant on safe navigation, it may create potential siting constraints for growth of aquaculture and offshore renewables. However, the SA noted that there is also the potential for the sustainable growth and adaptability of port and harbour facilities to service a wide range of sectors; potentially including those for aquaculture and renewables. This should help in improving the efficient use of marine space and could potentially help to offset any potential adverse effects (e.g. siting limitations). While the potential for an increase in GHG emissions from the growth of ports and harbours was also noted, the SA found that such growth in vessel numbers would likely be out with the influence of the policy. In particular, while the Pilot Plan and this policy may promote sustainability in sectoral growth, any such growth would likely be influenced by market forces and demand.

8.3.22 The SA considered that the delivery of any benefits, and the identification and mitigation of any potential adverse effects, is likely to rely heavily on

having the 'buy in' of stakeholders; in particular, the support of port and harbour owners and operators, marine users and local communities.

### **Sectoral Policy 8: Pipelines, Electricity and Telecommunications Infrastructure**

8.3.23 The SA identified the potential for overall positive effects associated with this policy. The promotion of a 'joined up' approach to cabling from developers, appropriate burial of cables where possible, and suitable routing of cables and pipelines are likely to have predominantly positive environmental effects (e.g. reduced risk of disturbance to benthic habitats and biodiversity, cultural heritage and seabed/marine geology). The potential for reduced impacts and conflicts with other marine users were also identified (e.g. limiting the potential for interactions on bottom-contact fishing activities and known anchoring sites). While the SA considered that cabling activities are likely to result in damage to the seabed and the many features that it may contain (e.g. benthic habitats, submerged historic assets), the Policy has the potential to be beneficial in promoting suitable routing of cables and pipelines to avoid sensitive or designated features, and in reducing the potential for adverse impacts by taking a 'joined up' and co-ordinated approach to their installation.

8.3.24 The potential for positive socio-economic effects was also identified including the potential for a reduced risk of damage to infrastructure and impacts from outages to communities (i.e. particularly those in remote islands due to damage to telecommunications, electricity and pipeline infrastructure). Likely benefits such as the avoidance of costs to repair and/or lay replacements for damaged cables were also identified, and the potential for reduced costs for the sector in co-ordinating operations involving laying cables and pipelines. However, the SA also noted the potential for negative impacts in relation to the Material Assets topic area, particularly associated with increased costs for longer cable runs associated with suitable routing.

8.3.25 While the net environmental effect of the Policy is likely to be positive, it is noted that the 'buy in' of stakeholders is likely to be essential in the delivery of any such positive effects; in particular, pipeline and cable owners, marine users and those sectors involved in the placement and repair of cables and pipelines.

### **Sectoral Policy 9: Marine Aggregates**

8.3.26 The SA identified the potential for largely positive environmental and socio-economic effects associated with the policy. Promoting the consideration of existing marine aggregate resources in the PFOW area, current activities and the potential for future opportunities for the sector amongst developers and decision-makers may have positive effects in the preserving the potential for growth of this sector in the future. The potential for positive environmental effects in setting out expectations that wider environmental

issues be considered and appropriately safeguarded by decision-makers was also noted as being likely to result in positive effects at the project level (e.g. promotion of preservation of marine biodiversity, cultural heritage features, geodiversity and water quality).

8.3.27 The potential for conflicts with other marine sectors through the safeguarding of existing and potential marine aggregate resources was identified in the assessment. For sectors and activities likely to involve geological operations (e.g. offshore wind renewables, some fishing operations), there may be the potential significant conflict and could result in displacement of operations or addition of constraints in the siting of developments. As such, the effects of the policy in relation to the Material Assets topic area has the potential to be mixed.

8.3.28 The SA noted that environmental issues are also likely to continue to be a consideration of the current consenting process for marine aggregate extraction (e.g. Marine Licensing, TCE seabed lease) and that such activities currently fall under the EIA Directive. However, it found that reinforcement of these issues in the policy and the Pilot Plan could be beneficial for the sector and its resources overall, particularly if the Pilot Plan is adopted as a material consideration of current consenting processes.

8.3.29 However, while the overall effects of the policy are expected to be largely positive, the SA found that the 'buy in' of prospective developers and other stakeholders is likely to be an important factor in the delivery of any such benefits (e.g. the sector, other developers and marine users, consenting authorities, TCE, environmental bodies, and local communities).

### Sectoral Policy 10: Defence

8.3.30 The SA identified the potential for positive effects in promoting awareness amongst potential developers and marine users of existing requirements that the potential for interactions with defence interests be a key consideration. With the buy in of stakeholders including the MoD, the opportunity for reducing the potential for conflicts through early engagement and communication was identified as being a specific benefit. While in general, these activities are not located in areas currently subject to development or sectoral growth, the SA noted the potential for increased interactions between marine users and defence activities in the future (e.g. with further exploration of offshore oil and gas, exploration of aquaculture development further offshore).

8.3.31 As with other Policies, the realisation of any such benefits are likely to be largely dependent on achieving the 'buy in' of stakeholders, particularly of prospective developers, marine users, consenting authorities and the MoD itself.

**Table 8.2 Summary of the potential socio-economic and environmental effects of the Sectoral Policies.**

Legend:

+	Positive effects
+-	Mixed effects
-	Negative effects
0	No significant effects
?	Uncertain

		Biodiversity	Climate Change	Cultural Heritage	Landscape/ Seascape	Soil, marine geodiversity and coastal processes	Communities, Population and Human Health	Water	Material Assets
1	Commercial Fisheries	+	0	0	0	+	+-	+	+-
2	Aquaculture	0	0	0	0	0	+	0	+
3	Oil and Gas	0	0	0	0	0	0	0	0
4	Renewable Energy Generation	+	+	+	+	+	+-	+	+-
5	Recreation, Sport, Leisure and Tourism	+	0	+	+	+	+	+	+-
6	Marine Transport	+	0	0	0	+	+-	+	+-
7	Ports and Harbours	+	0	0	0	+	+-	+	+-
8	Pipelines, Electricity and Telecommunications Infrastructure	+	0	+	0	+	+	+	+-
9	Marine Aggregates	+	0	+	0	+	0	+	+-
10	Defence	0	0	0	0	0	+	0	+

# 9 Findings of the Assessment and Overall Effects of the Pilot Plan

## 9.1 Introduction

- 9.1.1 This section of the Report sets out the findings of the second tier of assessment and builds upon the analysis of the individual policies detailed in the previous section (Section 8). It explores the likelihood of significant socio-economic and environmental effects in the context of the draft Pilot Plan and its collective group of policies by considering the assessment objectives and the key SA questions listed in Table 6.1.
- 9.1.2 The 2005 Act requires that the cumulative environmental effects of the draft Pilot Plan are identified and evaluated. This tier of assessment also draws on the relationships between the draft Pilot Plan and other Directives, PPS, legislation and existing mechanisms (e.g. consenting processes); many of which also consider and address issues raised in the assessment, and are likely to work alongside and/or be complemented by the draft Pilot Plan upon its adoption. As such, this section of the SA and the summary provided in Section 10 discuss the potential for cumulative and in-combination effects in accordance with the 2005 Act.
- 9.1.3 The findings of the assessment of the reasonable alternatives to the proposed Pilot Plan and the findings of the Draft HRA Record (Appendix F) are presented in Section 9.4.

## 9.2 Key SA Questions

### Biodiversity

**1(a) How will the draft Pilot Plan and its policies contribute to meeting the aspirations and goals of the EU and Scottish Biodiversity Strategies, and the core aims of protection and enhancement of biodiversity and natural heritage?**

- 9.2.1 The ambitions and policies of the draft Pilot Plan are closely aligned with those of the Scottish Biodiversity Strategy (e.g. contributing to preserving the value of natural capital in the PFOW area, contributing to stronger sustainable economic growth, improving health and quality of life, and supporting ambitions that Scotland's marine and coastal environments are clean, healthy, safe, productive and biologically diverse, amongst others) and those of the EU Convention on Biological Diversity (i.e. mainstreaming biodiversity, promoting sustainable use, safeguarding ecosystems, amongst others). Through the development of policies to promote sustainable development ambitions and guide stakeholders in opportunities for benefits in the future, the draft Pilot Plan seeks to contribute towards

meeting these ambitions, and with them, those of the overarching Aichi targets and the EU Strategy. Promoting the preservation of habitat and biodiversity features, both designated and undesignated, through the development of biodiversity policies (General Policies 4A – 4C) and overarching policy for safeguarding of the marine ecosystem (General policy 1C) is also likely to contribute to these ambitions by contributing to the protection and enhancement of biodiversity and natural heritage.

9.2.2 However, the SA found that stakeholder engagement is likely to be a key factor in the delivery of any such outcomes, particularly in guiding future developers and marine users in seeking opportunities for protection and enhancement of the natural environment. For example, ambitions for promoting the enhancement of biodiversity, and improving the ecological status of coastal water bodies and the environmental status of marine waters in the PFOW area, will likely require the 'buy in' of coastal and marine stakeholders to realise any potential significant benefits.

**1(b) Will the development of these policies:**

- **Help to preserve, and where possible, enhance biodiversity, habitat and geodiversity features in coastal and marine areas in the PFOW?**
- **Generate significant impacts on key marine, coastal and terrestrial habitats and species, or on the networks of designated biodiversity sites within the UK?**

9.2.3 In general terms, the SA noted that increased development and use of the PFOW area in the future has the potential to have environmental effects. Together, the sustainability ambitions set out in the draft Pilot Plan and the development of its general policies for biodiversity and geodiversity have the potential for positive effects for both topic areas described in Question 1(b).

9.2.4 The SA considered that the safeguarding ambitions outlined in the general policies and the sustainability themes running through the draft Pilot Plan are likely to aid in reducing the potential for adverse effects associated with development and marine use in the future. Increased awareness of existing requirements for developers and marine users, further promotion of the consideration of relevant issues in the development process, and setting out regional ambitions for the preservation of biodiversity and geodiversity features through the Pilot Plan will provide a regional focus for the ambitions set out in wider policy (e.g. in the NMP). The inclusion of regional information on key issues in the accompanying RLG and this SA, including recognising potentially sensitive sites (e.g. protected habitats including SACs, SPAs, draft marine SPAs, MPAs) and species of interest or concern in the PFOW is also likely to improve awareness of potential issues amongst stakeholders and consenting authorities (e.g. seabirds,

seals, cetaceans).

9.2.5 In some instances, this may aid in the early identification of potential constraints and could help to guide development and marine users to areas of lesser constraint (e.g. shifting proposed development away from important seabird feeding areas and seal haul out sites, undertaking construction works out with breeding season for sensitive species). Further, the promotion of early engagement with stakeholders could aid in the early identification of potential issues via monitoring and the development of appropriate mitigation for potential adverse impacts. In all, the potential for improved and more consistent consideration of biodiversity and geodiversity in the development and consenting processes was identified, and the potential for the Pilot Plan to help in reducing the risk of adverse effects of development or marine use on the natural environment.

9.2.6 The SA noted that current consenting processes are likely to remain the primary mechanism for the consideration of development proposals, and the identification, and where appropriate, mitigation of any potential adverse effects on both designated biodiversity features and wider biodiversity. As a consequence, the consideration of the draft Pilot Plan and its supporting documents (i.e. the SEA and RLG) as material considerations for these processes have the potential to help inform these decision-making processes. While the Pilot Plan outlined ambitions for enhancement in addition to environmental protection, the likelihood of realising this ambition will likely depend on achieving the 'buy in' of developers, marine users and planning and consenting authorities operating within existing legislation and processes. As a consequence, the SA identified engagement with these stakeholders in seeking the potential for benefits and contributions to protection and enhancement measures as a key aim of the Consultation, and also an ambition of engagement for upcoming regional marine planning.

### **1(c) How will the draft Pilot Plan and its policies contribute to the management of invasive non-native species?**

9.2.7 The inclusion of a specific policy in the draft Pilot Plan for the management of invasive non-native species has the potential to improve awareness of existing and predicted pressures associated with the potential introduction and spread of these species amongst a wide range of coastal and marine users in the Pilot Plan area. The SA identified this to be an opportunity for reducing the potential risk that the introduction and/or spreading of invasive non-native species could pose, and as a consequence, the potential for a reduction in the risk of associated impacts on the unique and valued marine biodiversity and ecosystems in the PFW. The potential for secondary benefits including helping to protect marine industries dependent on biodiversity in the area were also identified (e.g. commercial and

recreational fishing, wildlife tourism).

9.2.8 While some sectors and regional authorities in the PFOW area have developed Codes of Practice and Control Agreements to manage potential biosecurity issues (e.g. shipping and aquaculture sectors, Scapa Flow Ballast Water Management Policy), there is the potential for greater consideration and management of these risks amongst a wide range of marine stakeholders. The assessment considered that the inclusion of this policy in the draft Pilot Plan to be an opportunity for engaging with stakeholders and working towards consistent use of biosecurity measures across all marine sectors in the PFOW, and the potential for particular benefits through engaging with those sectors without measures currently in place.

### Climate Change

#### **2(a) How will the draft Pilot Plan and its policies contribute to climate change mitigation and adaptation?**

9.2.9 The inclusion of policies General Policies 3 (Climate Change) and 5B (Coastal Processes and Flooding) in the draft Pilot Plan will provide additional guidance for developers and marine users on the consideration of climate change issues in the region, and help to set out expectations for their consideration in the development process. With the support and 'buy in' of stakeholders including future developers, the potential for overall positive effects in promoting sustainability amongst all marine sectors and coastal communities was identified. The SA identified opportunities for 'future-proofing' coastal and marine infrastructure against the predicted effects of climate change (e.g. sea level rises, exacerbated effects of extreme waves and storm surges), and the avoidance of potential flooding and erosion risks in coastal areas associated with future developments through adoption of the policies of the draft Pilot Plan (e.g. appropriate design and siting of infrastructure, installation of flood prevention/coastal stability measures).

9.2.10 The promotion of sustainable development in the offshore renewables sector is also likely to contribute towards Scotland's low carbon energy generation ambitions and contribute to meeting Scotland's GHG emission reduction targets. There is the potential for renewables development in the PFOW area to significantly contribute to adaptation to climate change at the regional and national levels through contributing to the decarbonisation of energy generation in Scotland. Similarly, the promotion of ambitions for the minimisation of GHG emissions amongst marine users outlined in the draft Pilot Plan, including the promotion of overarching ambitions and targets at the regional level, also has the potential for positive effects.

9.2.11 However, the 'buy in' of marine users and sectoral industry groups was identified as a likely key factor in the degree to which these ambitions will

contribute to emissions reductions and in meeting these targets.

**2(b) Will the draft Pilot Plan and its policies generate significant direct, indirect or secondary impacts that may exacerbate or contribute to the anticipated effects of climate change?**

9.2.12 The potential for largely positive indirect or secondary environmental effects for a number of topic areas was identified in the SA. The draft Pilot Plan and the process for the development of the upcoming Regional Marine Plans is likely to provide opportunities for engagement with developers and marine users in working towards improving the protection of coastal ecosystems and reducing the potential for adverse impacts from development and future marine use on them. In particular, the potential for improved protection of habitats known to be vulnerable to coastal erosion (e.g. parts of Sanday, mainland Orkney, Shapinsay, Hoy, South Ronaldsay, Loch Eriboll, Kyle of Tongue), reduced coastal erosion/accretion at the local level, improved protection for cultural heritage in the coastal environment, and reduced turbidity in coastal areas, were identified.

9.2.13 In some instances, the potential for mixed effects was also noted; primarily as a consequence of inappropriate design and siting of development and/or marine use (e.g. shifting or creation of coastal erosion/accretion issues in nearby areas as a consequence of development works, changes to coastal processes and sediment dynamics). However, it is considered that current planning and consenting processes (i.e. Marine Licensing, Town and Country planning where applicable) are likely to remain the primary mechanisms for the consideration of development proposals. It is via these existing processes that the identification, and where appropriate, mitigation of any potential adverse effects on coastal and marine habitats will continue to be addressed. The SA considered that through these processes, alongside an increased awareness of potential issues and areas of particular concern through the publication of the Pilot Plan, its RLG and this SA, there is the potential opportunity to reduce the risk of adverse effects on coastal ecosystems as a consequence of such development/marine use. The inclusion of general policies such as General Policies 1C (Safeguarding the Marine Ecosystem) and 5B (Coastal Processes and Flooding) are also likely to advocate the consideration of potential impacts on socio-economic and environmental receptors, including the potential for adverse impacts on coastal ecosystems and communities.

9.2.14 As discussed in the previous question, the potential for increased GHG emissions was identified as a potential outcome of increased development within the PFW area. However, it is considered that with the 'buy in' of marine users and developers, the inclusion of an aspiration in the Pilot Plan for the minimisation of GHG emissions could help to make a positive contribution in minimising any increases in emissions as a consequence of increased use of the PFW. However, it is not known at present whether

there is the potential for reductions in GHG emissions, as this is likely to be dependent on the scale of future development and future demand for marine space in the PFOW area.

9.2.15 It is also considered unlikely that the Pilot Plan will significantly change the current predicted effects of climate change in regional or global context.

### Cultural Heritage and the Historic Environment

**3(a) How will the draft Pilot Plan and its policies contribute to protecting the historic environment and its setting in both the marine environment and for terrestrial features with coastal components, including both known and unknown features?**

9.2.16 The preservation of the historic environment and its setting in the PFOW area is currently governed by a suite of existing legislation and guidance, and is a consideration of current marine and terrestrial consenting processes. The development of the draft Pilot Plan and accompanying RLG seeks to provide support to these processes as material considerations, particularly through the inclusion of policies such as General Policies 1A (Sustainable Development) and 6 (Cultural Heritage). Together, these policies have the potential to contribute to the protection of the historic environment by raising awareness of the potential for interactions with known heritage assets at the regional level, and should also the potential for new discoveries within the coastal and marine areas in the PFOW. Coupled with the overarching sustainable development ambitions of the draft Pilot Plan, this approach is likely to be positive and should aid potential developers and consenting bodies in the early consideration of the potential for adverse effects on such features in the development process.

9.2.17 The accompanying RLG will provide a further information source and guidance on key areas of cultural and historic value and concern within the region (i.e. Heart of Neolithic Orkney WHS, designated wreck sites located in Scapa Flow, Scheduled Monuments and Listed Buildings in coastal areas, Military Remains). The development of the RLG has the potential to alert developers and consenting bodies to potential issues from the outset, and in some instances, may help to steer development into areas with lesser potential for adverse effects. It could also help to guide them towards exploring alternative design options or other options for mitigation at an early stage.

**3(b) Will the draft Pilot Plan and its policies generate significant impacts on cultural heritage and the historic environment in the PFOW coastal and marine regions?**

9.2.18 The draft Pilot Plan and its policies have the potential to make a positive contribution to the preservation of cultural heritage and the historic environment in the PFOW area. The inclusion of a policy specifically relating to cultural heritage (i.e. General Policy 6) will build upon the ambitions expressed in wider Scottish policy (i.e. NMP, SPP and Local Development Plans (LDPs)) and international conventions. The inclusion of information on historic features in the accompanying RLG also has the potential to increase awareness of cultural heritage issues in the PFOW and could promote greater consistency in the consideration of potential heritage impacts in the development and consenting processes.

9.2.19 The sustainability focus set out in the draft Pilot Plan and many of its policies has the potential to improve awareness and identify opportunities to enhance the management of any potential significant impacts from developments and marine/coastal use in the future. Given the many recognised historic and heritage features in the PFOW area, and the many undiscovered sites awaiting discovery in its coastal and marine areas, there is the potential for significant positive effects in aiding the identification and preservation of these features into the future.

9.2.20 Given the strong links between visual amenity and the setting of historic features, the potential for significant positive secondary or indirect effects was also identified in the SA; particularly in relation to landscape/seascape. Similar opportunities for benefits for communities, population and human health (e.g. enjoyment of heritage assets, preservation of sense of place, improved transparency and engagement in the development process) and coastal and marine sectors based around the cultural heritage and history in the PFOW area (e.g. cultural heritage tourism, coastal and marine recreation activities) were also identified.

## Landscape and Seascapes

**4(a) How will the draft Pilot Plan and its policies contribute to the preservation of recognised and protected areas (i.e. NSAs) and other levels of recognition (i.e. the identification of areas of wild land, national nature reserves, landscapes that contribute to sense of place more generally, and areas that would benefit from enhancement, amongst others)?**

9.2.21 The preservation of Scotland's landscapes and seascapes, including the recognition of areas for their landscape value (i.e. NSAs, areas of wild land, National Parks, WHS, SLAs) is currently governed by a suite of existing legislation, Scottish policies and international conventions (e.g. European Landscape Convention, Historic Environment (Amendment) Scotland Act 2011, National Planning Framework 3 (NPF3), SPP, NMP, LDPs). The potential for visual impacts to landscape and seascapes is also a consideration of current terrestrial and marine consenting processes. The draft Pilot Plan and its policies have been developed, in part, to support these existing processes and to set out expectations for the consideration of these issues in the future use of the PFOW area.

9.2.22 As a consequence, through the inclusion of policies such as General Policies 1A (Sustainable Development), 4D (Landscape and Seascapes) and 4E (Geodiversity) in particular, there is the potential for the Pilot Plan to make a positive contribution to the protection of landscape and seascapes. The SA noted this to be an opportunity to raise awareness of the potential for visual interactions associated with development and a wide range of marine uses, and also to promote their consideration by developers, consenting authorities and other stakeholders within the PFOW coastal and marine areas.

9.2.23 The accompanying RLG and this SA will also provide an additional information source for potential developers and marine users, and offer guidance on identifying recognised areas of visual value and potential areas of concern within the PFOW area (e.g. West Mainland and Hoy NSA, SLAs along the north Caithness and Sutherland coast). This has the potential to aid in identifying areas of possible constraint in relation to visual impacts, and in some instances, may help to steer developers away from recognised and protected areas and towards areas with lesser potential for adverse visual effects.

9.2.24 As a material consideration in the current consenting process, these documents could also assist developers and consenting bodies in identifying potential interactions between landscape/seascapes and the setting of cultural heritage assets. This could be of particular benefit in locations such as West Mainland Orkney and Hoy where the two are known

to be closely related.

#### **4(b) Will the draft Pilot Plan and its policies generate adverse impacts on landscape, seascape and visual amenity?**

9.2.25 The draft Pilot Plan has the potential for positive effects for visual amenity by building upon the ambitions and requirements expressed in overarching and wider policy (i.e. NMP, LDPs). Through the focus on sustainability set out in its general policies, the draft Pilot Plan will likely provide support for developers and consenting bodies in the management of potential visual impacts from development and use of the PFOW marine and coastal area. Similarly, the provision of data in the accompanying RLG should provide additional information for developers, marine users and consenting authorities. With their 'buy in', the SA identified the potential for the Pilot Plan to contribute to achieving greater consistency in the consideration of visual impacts in the existing development and consenting processes.

9.2.26 Other policies in the Draft Plan are also likely to contribute to the consideration of the landscape/seascape value in the region, albeit from a different perspective. For example, General Policy GEN 2 (Wellbeing and Quality of Life of Coastal Communities) advocates the consideration of the local community interests and promotes the consideration of potential impacts at the project and community level. Given the close relationship between communities and the surrounding environment across the PFOW, the assessment identified the potential for additional influence in the consideration of visual issues from the perspective of communities (e.g. the role that landscape/seascape and cultural heritage can play in the enjoyment and use of coastal and marine areas, preservation of sense of place, improved transparency in development process). Given the many recognised landscape/seascape and areas within the PFOW area, and as many are also recognised for their cultural importance (e.g. west Mainland Orkney and Northern Hoy), the potential for significant positive effects for cultural heritage was also identified as a likely positive outcome. As a consequence, the potential for a range of benefits through the promotion of early and effective engagement with local communities in the draft Pilot Plan was identified. This is discussed further in Question 5.

9.2.27 The potential for positive effects for coastal and marine sectors with strong links to landscape/seascape was also noted in the assessment (e.g. the recreation and tourism sector) and the potential enjoyment of coastal recreation sites.

## Communities, Population and Human Health

### **5(a) How will the draft Pilot Plan and its policies contribute to the delivery of sustainable economic development including employment benefits and opportunities for local communities?**

9.2.28 The focus on sustainable development at the heart of the draft Pilot Plan, and support for the promotion of wellbeing and quality of life and sustainable economic benefits for coastal communities largely reflects wider Scottish ambitions outlined in the overarching NMP and in wider Scottish and regional policy (e.g. Government Economic Strategy, the emergence of Community Planning Partnerships in Orkney and the North Coast regions, amongst others). The Pilot Plan is expected to translate these aspirations to the PFOW area and through informing the development of the Orkney and North Coast Regional Marine Plans, help to contribute to their overall ambitions.

9.2.29 The potential for overall positive effects was identified in the SA through promoting support for sustainable growth and development in the region, focusing on supporting local sustainable industries and delivering benefits for local communities. Together, the draft Pilot Plan and its general and sectoral policies provide a framework for safeguarding the marine environment, and with it, the resources that support many of these industries and communities. This could also contribute to the safeguarding of existing employment opportunities in sectors reliant on these resources (e.g. fishing, aquaculture, coastal and marine recreation and tourism), and highlight a need to balance this with promoting the development of new and sustainable opportunities in the future. The potential for further strengthening of these ambitions ties in with the inclusion of support for the improving the wellbeing and quality of life in local communities in the draft Pilot Plan.

9.2.30 The SA also identified that while further development in the PFOW area will likely continue to provide economic and employment opportunities, the area-wide focus on sustainable development has the potential to lead to the growth of some sectors at the expense of others. As a consequence, the potential for associated adverse impacts on communities was also noted, highlighting a need for flexibility and adaptability in both communities themselves and in wider development within the PFOW area to ensure that any such impacts are minimised. This is discussed further in Question 8.

**5(b) Will the draft Pilot Plan and its policies contribute to improving the wellbeing of local communities and the population in the PFOW, including the management of noise impacts and disturbance from coastal and marine activities?**

9.2.31 The inclusion of General Policies 1B (Supporting Sustainable Social and Economic Benefits) and 2 (Wellbeing, Quality of Life and Amenity of Coastal Communities) has the potential to improve the consideration of community impacts in the PFOW area. With the 'buy in' of prospective developers, marine users, consenting authorities and local communities themselves, the sustainability ambitions of the Pilot Plan have the potential to provide opportunities for engagement with local communities, including employment opportunities and improved involvement in decision-making.

9.2.32 The SA also noted the potential for improved awareness in the community and improved transparency in the consideration of community issues may be a significant outcome of the Pilot Plan and of the upcoming Regional Marine Plans. Helping to foster improved engagement amongst stakeholders in the future and starting the engagement process for the Regional Marine Plans was also identified as likely benefits, particularly if undertaken with those communities likely to have interactions with development of coastal/marine operations. The SA considered that this engagement, if taken forward into the regional marine planning and in the consideration of development or Marine License applications, could also contribute to the identification and realisation of further community benefits (e.g. synergistic benefits such as sharing of ports, harbours and boat ramps, employment opportunities, creation/improvement of coastal recreation facilities).

9.2.33 The inclusion of policies relating to landscape and seascape, the historic environment, geodiversity and the water environment also have the potential to contribute to the preservation of the natural environment. Together, they are aimed at safeguarding the marine ecosystem and promoting the sustainable use of natural resources, and are likely to provide benefits for a wide range of marine sectors (i.e. fishing, wildlife recreation/tourism, amongst others). Indirectly, they have the potential for associated benefits for communities with strong links to these sectors, including helping to contribute to preserving the way of life in many parts of the PFOW (e.g. enjoyment of the natural environment, the preservation of history and cultural heritage, sense of place and visual amenity in the region).

9.2.34 While noise and disturbance from development is currently a consideration under existing consenting processes at the project level, the promotion of these considerations through their inclusion in the Pilot Plan (i.e. through General Policy 8A) has the potential for positive effects for both residents and communities in the PFOW area. The SA identified that while some

activities have the potential for more effects than others (e.g. piling operations, onshore or coastal works such as port and harbour developments), any such impacts are likely to be development and location specific. Even so, the potential for greater and more consistent consideration of the disturbance impacts on human receptors from marine activities at the project level was identified as a likely benefit of the draft Pilot Plan.

9.2.35 Whilst disturbance issues are currently a consideration of consenting processes for terrestrial and marine development, the SA found that the potential for improved engagement between developers/ marine users and communities could aid in the early identification and resolution of any such issues.

**5(c) Will the draft Pilot Plan and its policies generate significant impacts on the wellbeing and connectivity of local communities and the population in the PFOW, or generate other environmental effects?**

**5(d) How will the draft Pilot Plan and its policies contribute to the resilience and cohesion of coastal and island communities in the PFOW?**

9.2.36 As discussed under Questions 5(a) and 5(b), the focus of the draft Pilot Plan in supporting sustainable development and economic benefits, the wellbeing and quality of life of coastal communities, and safeguarding of the marine environment, is likely to contribute positively to the contributing to the sustainability and resilience of communities in the PFOW area. Setting out support for sustainable development in the draft Pilot Plan, particularly for community involvement in the growth of marine industries, has the potential to contribute to improving wellbeing in these communities (e.g. employment opportunities, new or upgraded facilities and infrastructure, improved connectivity in servicing these sectors).

9.2.37 As noted in Question 5(a), the potential for adverse impacts on communities was also identified, particularly with the potential for growth of some industries at the expense of others. While these are likely to be largely influenced by market forces, it also highlights a need for flexibility and adaptability in communities themselves, and also in wider development and marine use within the PFOW area to ensure that any such impacts are minimised.

9.2.38 The aspirations expressed in the draft Pilot Plan for the sustainable use of natural resources may also yield positive effects in contributing to the long-term security of not just these resources, but also the communities and the marine sectors that rely on them. In particular, the preservation of the natural environment in the region and a reduction in the risk of adverse effects from future development and marine use could also help to maintain quality of life for those in areas which have close links to the natural

environment (e.g. associated benefits through supporting the preservation of history and cultural heritage, security for sense of place, reduced risk of impacts to visual amenity, amongst others).

9.2.39 The inclusion of policies in the draft Pilot Plan to promote the safeguarding of existing shipping and ferry routes and maintaining safe navigation and access for accessing ports, harbours and anchoring sites has the potential to help maintain connectivity for communities across the PFOW area. Particular benefits were identified in maintaining important services between remote coastal and island communities, where there is a clear reliance on services such as inter-island ferries and airports to maintain connections to Mainland Orkney and Caithness.

### Water Quality

**6 (a) How will the draft Pilot Plan and its policies contribute to meeting the water quality targets such as those set by the WFD, Scotland's RBMPs and Bathing Waters Directive, amongst others?**

9.2.40 Setting out expectations for developers in the Pilot Plan and its policies, particularly in relation to maintaining water quality standards and the avoidance of deterioration of water quality, has the potential to contribute to wider overarching water quality objectives. With the 'buy in' of developers, marine users and consenting authorities, the SA identified an opportunity through the Pilot Plan in reducing the risk of adverse impacts on water quality in the future. Through the promotion of sustainable development, the Plan also seeks to provide opportunities for developers and marine users to maintaining good water quality, and to remove potential barriers to improving water quality and meeting water quality objectives; both of which may be affected through inappropriate development.

9.2.41 However, the likelihood of developers and marine users in contributing to improving the ecological status of coastal waters and environmental status of marine waters is currently unclear. The SA considered that the development process of the draft Pilot Plan presents an opportunity to engage further with developers and marine users on this issue. For example, the consultation process may help to open dialogue for working with stakeholders in identifying opportunities for improving water quality, and also in contributing to meeting the established objectives; and this could also be further explored in the development of the upcoming Regional Marine Plans.

**6 (b) Will the draft Pilot Plan and its policies generate any significant environmental impacts on water quality in coastal and marine environments?**

9.2.42 In general terms, increased development and use of coastal and marine areas in the PFOW area has the potential to create a range of significant effects on water quality, either temporarily (e.g. associated with construction and decommissioning operations, minor pollution events) or potentially permanent (e.g. cumulative effects of activities, major pollution events). The development of the draft Pilot Plan and its policies seek to reduce the potential for adverse impacts to water quality, primarily through setting out expectations for developers and marine users in relation to water quality, and promoting appropriate consideration of water quality by future users of the PFOW area.

9.2.43 The promotion of sustainable development in the draft Pilot Plan seeks to provide opportunities for developers and marine users to maintain good water quality. It should also aid in removing potential barriers to improving water quality, which may otherwise be affected through inappropriate development. While the draft Pilot Plan is non-statutory, it should also support the consideration of the potential for adverse water quality effects in the consenting process, and could help in improving the efficiency of existing consenting processes. In particular, the inclusion of provisions such as proposals being “accompanied by sufficient information to enable a full assessment of the likely effects, including cumulative effects, on the water environment” in General Policy 5A (Water Environment) has the potential for improving the consistency in how the water environment is considered and addressed by developers and other marine users in the relevant consenting processes.

9.2.44 The promotion of efficiency and shared/multiple use of marine space and infrastructure was identified as having the potential to reduce the risk of adverse effects in the future. For example, the avoidance of adverse effects through sharing the use of port and harbour infrastructure, expansion of existing facilities in preference to the construction of new sites, and a reduced risk of pollution events from collisions (e.g. ensuring safe navigation, access to ports and harbours) were identified as positive effects. However, it is noted that this is likely to depend on a range of factors, including the type of development, siting, proximity to other activities or developments, amongst others.

9.2.45 With the ‘buy in’ and support of stakeholders, the potential for secondary or indirect benefits for water quality was also noted in the SA. For example, promoting adaptation and resilience amongst marine users to the effects of climate change (e.g. reduced risk of water quality impacts from flooding and coastal erosion), biodiversity (e.g. improvements in the ecological status of water quality, improved conditions for marine flora and fauna, reduced

potential for impacts on fauna from marine litter), soil marine geology and coastal processes, and for communities, population and human health (e.g. reduced risk of health effects from recreational use), were identified amongst others. Similarly, the potential for indirect positive effects on some marine sectors with a reliance on water quality for their operations were also noted in the SA, including the aquaculture, fishing, and recreation, sport, leisure and tourism sectors, amongst others.

### Soil, marine geology and coastal processes

#### **7(a) How will the draft Pilot Plan and its policies contribute to the preservation of Scotland's geodiversity?**

9.2.46 Through the inclusion of General Policy 4E (Geodiversity), the Pilot Plan will provide guidance for stakeholders on the importance and value attributed to geodiversity in the PFOW area. With the 'buy in' of developers, coastal/marine users and consenting bodies, more transparent and consistent consideration of geodiversity in planning for the future use of the PFOW marine area is likely; particularly in existing consenting processes for coastal and marine development and in any underlying assessments (e.g. EIA). The inclusion of General Policy 7 promoting the integrated management of coastal and marine development also has the potential for positive effects in the promotion of a joined-up approach to managing developments with both coastal and marine interests (e.g. offshore renewables with landfall infrastructure).

9.2.47 With much of Orkney and the north Caithness and Sutherland coast recognised for its unique geodiversity, the SA identified the potential for greater consideration of potential adverse effects on coastal and marine geodiversity, and in the development of integrated mitigation. Similarly, the potential for benefits was also identified through promotion of the preservation of these unique features and the habitats they support through the publication of the RLG and the SA. Together, the RLG and the Pilot Plan have been developed to act as material considerations for current consenting processes, and will provide additional source of information for developers, marine users and consenting bodies.

9.2.48 They should also provide further guidance on potential geodiversity issues in the development and consenting processes. For example, in some instances, there may be the potential for the RLG to inform prospective developers or marine users and help to steer activities towards sites of lesser concern. Similarly, the SA identified the potential for guidance to also aid in steering developments with the potential to create adverse impacts away from more sensitive or valued locations.

9.2.49 The assessment identified the potential for positive secondary or indirect effects for communities, population and human health (e.g. preservation of sense of place, use and appreciation of coastal geodiversity) and for

coastal and marine industries with interactions with marine and/or coastal geodiversity interests (e.g. recreation, leisure and tourism sectors, commercial fishing, amongst others).

**7(b) Will the draft Pilot Plan and its policies present opportunities to improve the resilience of the PFOW coastline, including contributing to the management of the effects of climate change on coastlines within the PFOW such as flooding or coastal erosion?**

9.2.50 As discussed for Questions 2(a) and 2 (b), adaptation and resilience to the effects of climate change are important ambitions of the draft Pilot Plan, both in its focus on sustainable development and sustainable use of the natural environment, and also in working towards ‘future-proofing’ marine sectors and coastal communities in the PFOW area. The promotion of these ambitions at the regional level was identified as an opportunity to improve the adaptation and resilience of future developments and coastal/marine activities, and in preserving, and where possible, improving the resilience of coastlines and coastal communities in the PFOW area. However, the SA also noted the importance of achieving the ‘buy in’ of stakeholders, particularly of developers and marine users undertaking activities with the potential to affect coastal areas (e.g. involving the placement of offshore infrastructure, dredging activities).

9.2.51 Discussion of the potential implications of offshore activities to contribute to coastal erosion/accretion and flooding in the Environmental Baseline and in the RLG should help to promote awareness of these issues and provide guidance for potential developers and consenting bodies on areas of known or potential erosion/accretion concern. Similarly, for the inclusion of policies in the draft Pilot Plan in setting out expectations for developers and marine users should strengthen awareness of these issues. In some instances, this may aid developers and marine users in the identification of concerns at an early stage in the development process, and could potentially steer coastal/marine activities away from areas of potential concern, and steer them in the early exploration of options for mitigation.

**7(c) Will the draft Pilot Plan and its policies generate any significant environmental impacts on coastal and marine geodiversity or coastal processes?**

9.2.52 In general terms, development in the coastal or marine environment has the potential to result in adverse environmental effects, particularly for impacts on geodiversity and changes to coastal processes if a development or activity is not appropriately sited or designed. As outlined in the Questions 7(a) and 7(b), the promotion of sustainable development in the draft Pilot Plan seeks to reduce the potential for adverse effects such as these, and could provide opportunities for developers and marine users to actively avoid or otherwise reduce the potential for impacts from their activities.

9.2.53 However, the potential for any impacts is likely to be project and location-specific. As such, for many marine development proposals and activities, the potential for adverse impacts to geodiversity and coastal processes would likely be considered under existing consenting processes (i.e. Marine Licensing and Town and Country Planning) and supported by project-level environmental assessment processes where applicable (i.e. EIA involving coastal studies where appropriate). The draft Pilot Plan and its RLG have been identified as a material consideration for current consenting processes, and as a consequence, may aid in informing decision-making under these processes.

9.2.54 If implemented with the 'buy in' of stakeholders, there is the potential for more consistent consideration of geodiversity, coastal processes, and climate change adaptation and resilience by marine users and developers through increased awareness of these environmental concerns and outlining expectations for their management. As a consequence, the potential for the early avoidance or mitigation of possible adverse effects on a wide range of environmental receptors was identified in the SA, including that for coastal impacts (e.g. offshore works exacerbating existing or creating new erosion/accretion issues at the coastline, risk of shifting erosion or flooding into nearby areas, installation of inappropriate coastal protection measures, amongst others).

## Material Assets

### **8(a) Will the draft Pilot Plan support the development of a sustainable marine economy and safeguard and/or create jobs that support new or existing communities?**

9.2.55 Together, the draft Pilot Plan and its sectoral and general policies seek to balance the needs of marine users in the PFOW area, while promoting sustainable management ambitions and the preservation of the natural environment on which many industries depend (i.e. fishing, wildlife tourism). In general terms, the promotion of these ambitions, particularly the preservation of the marine environment and sustainable management of the use of resources, is likely to have overall benefits for many marine users and industries. With the 'buy in' of stakeholders, there is also the potential for positive effects in supporting existing industries and through setting a regional framework for the sustainable growth and development of new opportunities. The potential for associated benefits for local communities, including maintaining existing and creating new employment opportunities, and maintaining the quality of life was also noted. However, the SA considered that the Pilot Plan by itself would be unlikely to promote sectoral growth in the Pilot Plan area, but rather that future growth would likely be primarily influenced by economic drivers and demand.

9.2.56 The assessment identified the likelihood of increased interactions between marine sectors in the Pilot Plan area, associated with increased use of marine space in the future. While aspirations promoting sustainable development, demonstrating opportunities to support synergistic benefits, promoting efficiency and shared/multiple use of space, and supporting consultation and engagement between users of the marine environment, all seek to reduce the potential for adverse impacts and promote synergistic opportunities, some sectors are unlikely to be compatible in some areas (e.g. types of fishing and some offshore renewable technologies, shipping/recreational sailing and some offshore renewable technologies). As a consequence, the potential for both temporary and permanent displacement of activities has been noted in this SA. The potential for any such effects are likely to be sector and location specific, and as such, will remain subject to consideration at the project level in current consenting processes within which the requirement for consultation between developers and other stakeholders (e.g. communities, other marine users) is well established.

9.2.57 Further, the potential for some sectors to grow at the expense of others was also identified. The assessment considered that fairness was at the heart of the Pilot Plan development, and that no sector should be favoured over another. Even so, the inclusion of the sectoral policies in the draft Pilot Plan will likely further emphasise the need for future developers and marine users to consider other sectors and promote opportunities for co-

existence. For example, the inclusion of policy provisions setting out support for the minimisation of disruption to existing industries, protection of aggregate resources, protection of existing shipping lanes and port and harbour access, and consideration of community benefits, amongst others, should help to support the continuation of existing sustainable industries within the PFW area.

### **8(b) Will the draft Pilot Plan contribute to the growth of marine industries?**

9.2.58 The growth of many marine industries, both in the PFW area and in other parts of Scotland, is likely to be predominantly influenced by economic drivers. While support for the sustainable development and sustainable economic benefits is promoted in the draft Pilot Plan, the SA considered that the Pilot Plan will likely contribute to reducing the risk of adverse effects associated with further development and use of the PFW marine area, rather than directly contribute to the growth of marine industries. In seeking to promote sustainability in the growth of these industries in a fair and transparent manner, the Plan will likely lay the groundwork for the upcoming Regional Marine Plans by helping to balance the needs of existing industries, the communities they support and the natural resources that comprise the long-term future for the region.

9.2.59 By setting out expectations for potential developers and marine users, and providing additional guidance through the inclusion of specific safeguarding policies and the accompanying RLG, the draft Pilot Plan has the potential for a range of indirect effects. For example, with the 'buy in' of stakeholders, there is the potential for positive effects for developers and consenting authorities (e.g. more consistent and efficient applications, early and improved engagement with relevant stakeholders, early identification of potential conflicts or barriers) and also for other stakeholders (i.e. improved engagement, opportunities for synergistic benefits). This is discussed further in Question 8(c).

9.2.60 However, the SA also noted that current consenting processes such as Marine Licensing, TCE leasing rounds and Town and Country Planning will remain the primary means of progressing future development and marine use. The Pilot Plan and its accompanying documents are intended to become material considerations under these processes.

9.2.61 Setting out expectations for future development and activities in the PFOW area was identified as having the potential for improving the efficiency of existing consenting processes and also informing both applicants and consenting authorities on issues that may require consideration. If implemented by future developers and marine users, the promotion of early pre-application engagement with relevant stakeholders has the potential for a range of positive effects (e.g. early identification of potential conflicts and barriers including the potential for delays, opportunities for synergistic benefits and opportunities for cost savings, improved knowledge of expectations of consenting authorities, amongst others). Similar benefits were identified with the publication of the RLG, which is likely to provide additional guidance for prospective developers and other marine users on the constraints and opportunities within the PFOW area. The potential for further benefits in the future was also noted through the possible revision of the RLG as part of the development of the upcoming Orkney and North Coast Regional Marine Plans (e.g. building upon the work undertaken on the draft Pilot Plan, progressive identification and filling of data gaps).

9.2.62 The inclusion of General Policy 7 relating to integrated marine and coastal development was also seen as having the potential to remove barriers for developers and consenting authorities in considering proposals for development with both terrestrial and marine components. For example, promoting early engagement with consenting authorities and other relevant stakeholders, and where possible, linking the consideration of these processes were identified as particular opportunities (e.g. Environmental Management Plans covering both terrestrial and marine environments, exploring opportunities for submission of a single EIA).

9.2.63 However, the SA also noted that the likelihood of any such benefits are likely to depend on a range of site and development-specific factors (e.g. location, potential receptors, nature of activities) and that the realisation of any benefits would largely be subject to achieving the 'buy in' of developers and consenting authorities. However, the SA found that the potential for any such efficiencies should not preclude or outweigh existing consenting and/or legislative requirements.

**8(d) How will the draft Pilot Plan and its policies contribute to improved management of wastes, including reduced waste generation in the coastal and marine environments in the PFOW?**

**8(e) How will the draft Pilot Plan help to meet wider waste management ambitions (e.g. marine litter, contamination, pollutants, emissions)?**

9.2.64 The inclusion of aspirations for waste management in General Policy 8B (Waste and Marine Litter) of the draft Pilot Plan takes forward ambitions for the reduction of marine litter detailed in the Marine Litter Strategy for Scotland<sup>184</sup>. It will likely provide a regional focus for the management of waste and marine litter, taking forward these wider ambitions and work alongside a range of regional and community plans and initiatives (e.g. Royal Yachting Association Scotland (RYAS) Green Blue project, local beach cleans, Orkney and Highlands Council LDPs).

9.2.65 Setting out expectations for developers and marine users in the management of waste in the draft Pilot Plan has the potential for positive effects in the reduction of waste and litter, particularly if undertaken in combination with other local programmes. As a consequence, the assessment considered that the Plan has the potential to make a positive contribution to wider ambitions, including meeting targets detailed in the MSFD and Zero Waste Scotland. As noted in previous questions, the potential for positive effects in the reduction of risk of contamination and pollution in the coastal and marine environments was also identified, particularly as a result maintaining navigational safety, safe access to ports and harbours, and maintaining shipping lanes and ferry services. Similarly, as noted in Question 2(a), the potential for the draft Pilot Plan to contribute to a reduction in GHG emissions and meeting Scottish emissions targets was also noted in the SA.

9.2.66 However, the delivery of any such benefits are likely to depend on having the 'buy in' of stakeholders both in the marine environment and also of other known generators of marine waste and litter (e.g. terrestrial sources including farming, agriculture, aquaculture). Given the reliance on parties largely out with the PFOW coastal and marine area, the SA noted the importance that linkages between the future Regional Marine Plans and terrestrial and marine waste/litter initiatives be explored to take these ambitions forward.

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<sup>184</sup> Marine Scotland (2014) A Marine Litter Strategy for Scotland [online] Available at: <http://www.gov.scot/Publications/2014/09/4891> (accessed 16/01/2015)

## 9.3 Assessment of Alternatives

9.3.1 As noted in Section 6.6, three alternatives to the draft Pilot Plan were identified as the planning process progressed, and these alternatives were assessed against the SA topic areas. The detailed findings are set out in Appendix D, and a summary of the findings and the rationale behind the development of the preferred approach is presented in the following sections of this report.

### Reasonable Alternative: Do not develop a Pilot Plan

9.3.2 The SA found that undertaking the development of a co-ordinated draft Pilot Plan for the PFOW area offered several opportunities over that of not preparing one. Of particular note, the opportunity to encourage co-operation between the separate plan-making bodies in the region (e.g. Orkney Islands and Highland Councils, Marine Scotland) and establishment of relationships with stakeholders through the creation of the working group and advisory group, and engaging with key sectoral stakeholders during the Plan's development and via the public consultation process, would be missed under this alternative. Further opportunities such as the early identification of potential issues or concerns held by stakeholders, using this period of engagement to encourage stakeholders to 'buy' into ambitions of the draft Pilot Plan and its policies, and the opportunity try different approaches, learn lessons and apply this knowledge directly into the upcoming regional planning process, were also considered to be important.

9.3.3 Whilst it is likely that many of these issues and actions could be addressed at the regional level in the development of the upcoming Regional Marine Plans, it was considered that the development of the Pilot Plan presented an opportunity to add value to this process. It is believed that this could help in laying the foundation and had the potential to directly inform and streamline the development of the upcoming regional plans, particularly through the development of supporting information such as the RLG and the Environmental and Socio-economic Baselines. As a consequence, the SA found that many of these opportunities would likely be missed if the Pilot Plan were not produced.

### Reasonable Alternative: Adopting a 'Zoned Approach' in the development of the Pilot Plan

9.3.4 The SA identified the potential for overall positive effects in adopting a 'zoned approach' to the management of marine use in the PFOW, particularly in relation to the environmental impacts. The potential for greater certainty in identifying potential environmental effects for designated and protected features in particular (e.g. SACs, SPAs, dSPAs, MPAs, Historic MPAs), focusing monitoring programmes, and improving the existing knowledge-base in relation to the PFOW marine environment and

interactions with developments and marine use were identified under this alternative. However, the SA also noted that development and marine use would continue to be subject to existing consenting processes, where applicable, and the potential for adverse effects would continue to be managed via these processes and through supporting mechanisms such as EIA and HRA.

9.3.5 The potential for both positive and negative effects for marine users were also identified under this alternative. For example, the establishment of zones for types of development or for 'low level' interactions may help to promote development within these zones, and the SA considered that this could provide a greater certainty for developers, marine users, consenting authorities and local communities. Opportunities for streamlining the consenting and development processes were also noted, and the potential for positive impacts for local economies and employment associated with establishment of zones and increased development/marine use in these zones was also identified. However, the SA also found that there may be the potential for negative effects for some marine sectors and marine users, particularly in the likelihood that zoning could limit opportunities for growth in some sectors and opportunities for local communities/employment at certain locations, including the potential limitation of recreational and community use (i.e. socio-economic effects).

9.3.6 The SA noted the potential for the introduction of greater spatial data in regional marine planning, and the staged approach offered by the development of the draft Pilot Plan indicates steps are being taken in this direction (i.e. the identification of data gaps and ongoing work to fill these gaps, preparation of the RLGs, and Environmental and Socio-economic Baseline information). It is anticipated that further work in the development of the two Regional Marine Plans will build upon this work and the collated information, and will continue to explore the potential for adoption of a greater spatial focus on management of the PFW area in the future. It is also anticipated that the public consultation on the draft Pilot Plan, and the inclusion of this as an alternative in this SA, will seek the views of stakeholders on this alternative, and could explore the appetite amongst marine users and local communities in the area for this in the future.

### Reasonable Alternative: Limitation of Pilot Plan to an Overview of Existing Requirements

9.3.7 The SA identified the potential for positive effects in the development of an alternative Plan prepared under this option for many of the environmental topic areas. It considered that these were likely to be predominantly associated with improving the awareness of existing requirements and current processes amongst stakeholders (e.g. help in streamlining these processes for developers and consenting authorities alike).

9.3.8 The SA found that while this alternative could help to inform stakeholders on their current obligations, it also introduced limitations in what could be delivered and how this could be done. Of particular note, the SA considered that the Pilot Plan would likely benefit from clear and demonstrable links between overarching ambitions for the region, including that of the NMP and wider overarching policy, and that an opportunity to promote these ambitions in the regional context would likely be missed by limiting the scope of the draft Pilot Plan.

9.3.9 Further ambitions such as promoting sustainable development ambitions, socio-economic benefits, the preservation of the coastal and marine environment at the regional level, the promotion of consideration of other marine users and working towards improving early and effective engagement between stakeholders in the process, were seen as key opportunities that the alternative Plan would be unlikely to contribute to. Similarly, the process for including information in the RLG to further inform stakeholders of potential constraints and opportunities, to work towards filling identified data gaps during the development of the draft Pilot Plan, and to usefully inform the development of the Regional Marine Plans for Orkney and North Coast areas, would also be missed.

9.3.10 As a consequence, the draft Pilot Plan acknowledged the potential outcomes of this alternative and built upon these in the development of the preferred alternative detailed in the Consultation Paper.

### Overview of the Preferred Option (the draft Pilot Plan)

9.3.11 The preferred option for the draft Pilot Plan has not taken a spatial approach, but has set out a broad policy direction for the future management and use of the PFOW area. It represents a step in a 'staged approach' for the development of Regional Marine Plans for the PFOW area, and was principally intended to raise the awareness of key issues and expectations through the inclusion of policies in the Plan and engagement with stakeholders. The Plan was intended as a key link between the regional and national level planning (see Sections 2, 9 and 10).

## Other Comments and Suggestions

9.3.12 In engaging with relevant stakeholders during the development of the draft Pilot Plan, a wide range of options and alternatives were considered by the working group, including those listed above. Many of these ideas and suggestions were subsequently used to refine the approach taken in the development of the draft Pilot Plan, and the iterative process adopted in the development of specific policies (e.g. development of General Policies for Biodiversity and Nature Designations, sectoral policies for Commercial Fishing and Pipelines, Electricity and Telecommunications Infrastructure, amongst others).

9.3.13 As the Pilot Planning process evolved, many of these views were incorporated into the draft Pilot Plan, either through the inclusion of provisions in specific policy areas or the refinement of the overall approach of the process. For example, the inclusion of general comments supporting a 'balanced approach' to consider all types of marine use and development without priority, support for co-existence and multiple use of marine space, setting out of existing requirements, and demonstrating clear links between the Pilot Plan and the overarching NMP, all demonstrate that the views of stakeholders have been taken on board in the development of the draft Pilot Plan.

## 9.4 Summary of Current Findings of the HRA

### Overview

9.4.1 The Draft HRA Record is presented in Appendix F of this Report and its findings are summarised below.

### Summary of Interim Findings

9.4.2 The general policies included in the draft Pilot Plan are safeguarding or mitigating policies. They are general in direction and apply to all activities and development in the PFOW marine environment. In consequence, no connectivity or direct pathway for impact has been identified between these policies and specific European sites; and as such, none of the general policies are considered to have a likely significant effect (LSE) on a specific European site.

9.4.3 The majority of the sectoral policies in the draft Pilot Plan are also general in direction, and do not direct development or activities to a particular location, nor do they promote an action that clearly has a link or pathway to potential effects on specific European sites. As such, at this initial stage, these policies have been screened out of the process. Two of the sectoral policies (relating to aquaculture and renewable energy) were considered to reiterate existing policy and contained proposals that have been generated and assessed under other plans. As a consequence, both policies were also screened out of the assessment in accordance with the screening

stage in Appendix C of SNH Guidance.

9.4.4 In conclusion, the initial review of both the general and sectoral policies found that the policies in the draft Pilot Plan will have no LSE on the integrity of any European sites.

### Next Steps as the Pilot Plan Progresses

9.4.5 At this stage of the Plan development process, the draft Pilot Plan and its policies are to be published as a draft for public consultation. Upon completion of the consultation period, the draft Pilot Plan and its policies will be subject to review. Based upon the outcomes of the consultation process, both may be subject to revision. Further, there is the potential for the development of new policies for inclusion in the final Plan.

9.4.6 Alongside the process of reviewing and finalising the Pilot Plan, the HRA process will remain open and the findings of the Draft HRA Record will be regularly reviewed and revised where necessary to consider subsequent changes in the Pilot Plan and its policies. Should the findings outlined in this Draft HRA Record change, particularly if a decision is taken that an 'Appropriate Assessment' is required, the HRA will be progressed as set out in the attached Draft HRA Record (see Appendix F).

9.4.7 Upon completion of the HRA process, a Final HRA Record will be prepared and agreed based upon the consideration of the finalised Pilot Plan and its policies. This will be issued alongside the publication of the final Pilot Plan.

# 10 Conclusion And Recommendations

## 10.1 Summary of Cumulative and In-combination Effects

- 10.1.1 Whilst the draft Pilot Plan is not statutory, the assessment identified the potential for largely positive environmental and socio-economic effects from its development. However, this is likely to be contingent on the support and 'buy in' of coastal and marine stakeholders.
- 10.1.2 The fundamental focus of the Plan in supporting sustainable development in the Plan area has the potential to make a significant contribution to the protection of the coastal and marine resources in the PFOW area, with likely benefits for coastal and marine environments themselves and those that use them. It also presents an opportunity to help in the delivery of overall benefits for the many varied sectors operating in the PFOW area and also the communities that they support, whilst supporting wider objectives of the Scottish Government, and Orkney Islands and Highland Councils.
- 10.1.3 Alongside these overarching ambitions, the inclusion of general policies in the draft Pilot Plan aims to promote the safeguarding of important environmental and social features (e.g. biodiversity, landscape/seascape, cultural heritage and historic archaeology). It should also contribute by reducing the risk of adverse effects that could be generated through increased use of these coastal and marine environments, and support the work of existing mechanisms such as current consenting processes supported by protection legislation, HRA and EIA, etc. The other messages they promote, particularly the efficient use of the marine area, co-existence and shared used of space and facilities, were also identified as key potential outcomes.
- 10.1.4 Opportunities to improve engagement between future developers, marine users and other stakeholders were also identified, including the potential to manage interactions and conflicts at an early stage. Whilst dependent on achieving the 'buy in' of these stakeholders, this could also help to identify opportunities for synergistic benefits amongst them (e.g. safe navigation, reduced risk of flooding and coastal erosion/accretion, shared/multiple use of marine space and infrastructure, preservation of natural and cultural heritage). The inclusion of the sectoral policies in the draft Pilot Plan will likely provide further support for these ambitions at the sectoral level by setting out expectations for these sectors and providing guidance for developers, marine users, consenting authorities and other stakeholders for future growth centred on appropriate development and co-existence.
- 10.1.5 In general terms, many of the themes and ambitions contained within the draft Pilot Plan and its policies are also key threads running through wider policy both at the UK and national levels; most notably in supporting

sustainable development, sustainable social and economic benefits, and the need for balancing this with a wide array of environmental considerations. The assessment considered that many seek to safeguard socio-economic opportunities and environmental features; again reflecting wider ambitions, and in the case of many general policies, offering built-in mitigation against the potential for adverse effects that can be associated with inappropriate development or coastal/marine use.

10.1.6 Their inclusion in the draft Pilot Plan will complement and add weight to the positions of existing policy and planning in the context of the future management of the PFOW area. Through supporting the ambitions set out in other PPS (e.g. NMP, LDPs, Sectoral Marine Plans for Offshore Renewables), working towards established objectives and targets (e.g. WFD, MSFD, Scottish Biodiversity Strategy), and working in-combination with existing consenting processes (e.g. Marine Licensing, Town and Country Planning), the SA identified the potential for the draft Pilot Plan to positively contribute to promoting the sustainable management of activities in the PFOW area. The identification of potential adverse socio-economic and environmental effects through the iterative development of the Pilot Plan and this SA, will likely add further weight to their consideration by prospective developers, marine users and consenting authorities in the future. An opportunity for the Pilot Plan to improve efficiencies, for example in streamlining of current consenting processes around which applicant-lead engagement with stakeholders is considered to be key, was also identified. As a consequence, there is the potential for overall positive effects.

10.1.7 However, having the 'buy in' of future developers, marine users, local communities and consenting authorities was identified as an essential factor in the realisation of any potential benefits associated with the Pilot Plan. This was also considered to be a key factor in the role of the Pilot Plan in shaping the development of the two upcoming Regional Marine Plans, particularly in fostering engagement with stakeholders ahead of their development.

## 10.2 Challenges and Recommendations for Mitigation and Enhancement

10.2.1 While the drive for sustainable development and growth within the PFOW area was seen as a key ambition of the Pilot Plan, the growth of marine industry in the region is also likely to present a number of challenges in the future.

10.2.2 While the SA identified the potential for the Pilot Plan and its policies to have significant positive effects, this is likely to depend on achieving the 'buy in' of stakeholders to the ambitions set out in the Pilot Plan. Without the support of developers, marine users, consenting authorities and local

communities, the SA considered that many of the potential positive effects identified in the assessment would be unlikely to materialise. As such, the formal public consultation process supported by ongoing engagement with stakeholders is likely to play an important role in obtaining feedback on the draft Pilot Plan and in identifying possible improvements, opportunities and limitations. In particular, the stakeholder engagement undertaken in the development of the Pilot Plan and the lessons learned through its development is also likely to lay the foundation for future discussions and stakeholder involvement in the development of Regional Marine Plans for Orkney and the North Coast. The documentation of lessons learned was identified as a means of ensuring that the development of the Pilot Plan usefully informs the development of regional plans, both in terms of the PFOW area and in other parts of Scotland.

10.2.3 The staged approach taken in the development of the draft Pilot Plan was specifically adopted to help identify and fill data gaps and uncertainties in relation to the marine environment; in particular, the inclusion of a stage for studies for the Plan's development and the subsequent preparation of RLG and the Environmental and Socio-economic Baselines. Building upon this knowledge-base is likely to be a critical aspect in progressing regional marine planning in the PFOW area, and particularly in further developing the required spatial information likely to be needed to inform the development of relevant and useful Regional Marine Plans. The consultation process and ongoing engagement with stakeholders may also provide opportunities to seek input on the information outlined in the Pilot Plan, the SA and the RLG, and for identifying opportunities to enhance this data.

10.2.4 The SA identified the potential for conflicts between some coastal and marine users, and the potential for some sectors to grow or develop at the expense of others. The potential for associated impacts on existing sectors and marine users through the emergence of new or evolving sectors was also identified (e.g. offshore renewables, offshore aquaculture). This is likely to be an important consideration in future iterations of marine planning in the PFOW area, particularly if developed with a more spatial approach. The resilience of coastal communities to change, particularly those reliant on specific industries (e.g. fishing, recreation and tourism), was also identified as a concern, particularly as sectoral growth is likely to be driven by market forces. In addition, ensuring any environmental, social or economic risks associated with sectoral growth are minimized while growth itself is optimized was also seen as a likely challenge.

10.2.5 As areas of pressure or opportunity become more apparent, the regional plans and their future iterations could be used to rebalance regional ambitions, including the identification and management of adverse impacts. Maintaining links with wider policies such as the NPF3, NMP, Sectoral Marine Plans for Offshore Renewables and existing consenting processes

should also help to ensure that the scale of development in different areas is recognised and addressed through strategic level mitigation, as well as that at the project level. Further, this could be used to guide future monitoring programmes, ensuring that they are appropriately targeted towards priority data gaps and produce relevant and useful outcomes that inform future decision-making. This is discussed in further detail in Section 10.3.

## 10.3 Monitoring Recommendations

- 10.3.1 The growth of the various sectors operating in the PFOW area and changes to the mix of coastal and marine use are likely to continue to change over time. As a consequence, the assessment identified monitoring to be an important component in assessing the potential impacts of sectoral growth in the area, as well as the influence of the Pilot Plan and future statutory Regional Marine Plans. This was found to be an important aspect of informing future decision-making in the PFOW area.
- 10.3.2 A range of existing monitoring programmes for socio-economic and health and well-being factors has been established, including sectoral information presented in the Socio-Economic Baseline Report and overarching monitoring programmes (e.g. Scottish Health and Wellbeing Monitoring, Economic and Employment Monitoring, SIMD<sup>185</sup>).
- 10.3.3 The potential for environmental impacts of development in each of the sectors discussed in this Report could also be better understood and this was identified as a key data gap in the SA. Existing monitoring programmes for some sectors including offshore renewables sector (e.g. SpORRAn), the fisheries sector (e.g. the work of the Fisheries Industry Science Alliance (FISA)<sup>186</sup>) and ongoing work in the aquaculture sector (e.g. Locational Guidelines on the Authorisation of Marine Fish Farms in Scottish Waters and the research behind this), amongst many others, are likely to address some of these gaps.
- 10.3.4 While much of the research is currently targeting the potential for environmental effects of offshore renewables, the potential for benefits in project or development-specific studies or monitoring information was noted (e.g. studies undertaken in preparing consent applications, compliance monitoring undertaken as a condition of consent, renewables test and demonstration monitoring). The availability of information from these sources, particularly given the number of test and demonstrator sites for offshore renewables and aquaculture developments within the PFOW area

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<sup>185</sup> Scottish Government (2012) Publications[online] Available at: <http://www.gov.scot/Topics/Statistics/SIMD/Publications> (28/01/2015)

<sup>186</sup> Scottish Government (2014) Fisheries Industry Science Alliance [online] Available at: <http://www.gov.scot/Topics/marine/science/FISA> (accessed 28/01/2015)

in particular, has the potential to play an important role in informing future decision-making at the local and regional levels, and identifying environmental impacts.

10.3.5 Other sources, such as national environmental monitoring programmes (e.g. water quality monitoring undertaken by SEPA, climate change research conducted by SNH), local or regional programmes (e.g. coastal classifications) and targeted monitoring of biodiversity features conducted by the Scottish Government, Marine Scotland Science, academic and environmental groups (e.g. monitoring of seabird and seal populations, basking shark monitoring, Atlantic salmon migration research, collision impacts with onshore and offshore wind, wave and tidal infrastructure) are also likely to contribute to filling data gaps. This data could also help to refine the potential for sectoral growth in line with sustainable objectives.

10.3.6 However, greater co-ordination of data gathering, monitoring and research would likely prove beneficial to the development of the upcoming Regional Marine Plans for the PFOW area (e.g. General Policy 9 (Invasive Non-native Species) notes that such an approach would likely be the most efficient when setting up a biodiversity plan). Encouraging this approach at the regional level could enable the identification of relevant data and the use of it to effectively plan the use of space in the region.

10.3.7 In summary, the monitoring of sectoral growth and environmental and socio-economic parameters will continue to be undertaken on an ongoing basis, alongside the filling of data gaps through targeted research and studies. Together, the information obtained from this wide range of sources, complemented by targeted monitoring and research on specific sectoral and environmental effects, would likely help to further inform the development of the upcoming Regional Marine Plans, and potentially, to allow ongoing revision of the RLG. In a similar way, this data could also inform the requirements for further environmental assessment at the strategic or project levels.

# 11 Next steps

## 11.1 Consultation Timescales

11.1.1 Public views and comments are invited on both this Sustainability Appraisal and the draft policies outlined in the Draft Marine Spatial Plan to which it relates.

11.1.2 Comments should be made to the following address:

Tracy McCollin

Marine Laboratory

375 Victoria Road

Aberdeen AB11 9DB

E-mail – PFOWmarinespatialplan@scotland.gsi.gov.uk

Telephone – 0122 429 5573

## 11.2 Questions for Consultees

11.2.1 Consultees may find the following questions helpful to provide a focus for their responses on the Sustainability Appraisal Report.

11.2.2 Please note that responses do not need to be confined to these questions, and more general comments on the Sustainability Appraisal Report, Socio-economic Baseline Report, RLG and the draft Pilot Plan are also invited.

### **Consultation Questions on the Sustainability Appraisal:**

1. To what extent does the Sustainability Appraisal set out an accurate description of the current baseline, including that in the separate Socio-economic Baseline Report (Please give details of additional relevant sources)?
2. Do you agree with the predicted socio-economic and environmental effects as set out in the Sustainability Appraisal?
3. Do you agree with the recommendations and proposals for mitigation of the socio-economic and environmental effects set out in the Sustainability Appraisal?
4. Are you aware of any further information that will help to inform the findings of the assessment (Please give details of additional relevant sources)?
5. Are you aware of other 'reasonable alternatives' to the proposed policies that should be considered as part of the Strategic Environmental Assessment process conducted for the draft Pilot Plan?

## 11.3 Analysis and Use of Responses

- 11.3.1 Following the conclusion of the consultation period, the responses received on both the draft Pilot Plan and its supporting documents will be analysed and reported. Key messages from respondents, including those of the various stakeholder groups, will be highlighted and the findings of the analysis will be taken into account in the preparation of the final Pilot Plan anticipated for publication in early 2016.
- 11.3.2 Upon adoption of the Pilot Plan, a Post-adoption SEA Statement will be prepared. This Statement will reflect on the findings of the SEA assessment and the views expressed in the consultation, and outline how the issues raised have been considered in the finalisation of the Pilot Plan.

## APPENDIX A:

### Assessment Tables for General Policies

<u>Legend:</u>	
+	Positive effects
+-	Mixed effects
-	Negative effects
0	No significant effects
?	Uncertain

## General Policies 1A – 1C and 2: Sustainable Development, Supporting Sustainable Economic Benefits, Safeguarding the marine ecosystem, and Supporting the Well-being and Quality of Life for Coastal Communities

General Policies	
1A: Sustainable Development	<p>Development and/or activities will be supported by this Plan when it can be demonstrated that: It will not have significant adverse direct or cumulative social, environmental or economic effects; it will maintain and, where possible, enhance, existing built, natural and culture heritage resources; it will make efficient use of marine space, maximise opportunities for co-existence between marine users and, where appropriate, support the multiple use of marine space; it will not create an unacceptable burden on existing infrastructure and services that cannot be resolved.</p> <p>Public authorities should adhere to the following sustainable development principles in the determination of any authorisation or enforcement decision: Maximise opportunities for lasting social, environmental and economic benefits balancing these considerations through the consenting process; maximise the efficient use of existing infrastructure and services (e.g. port and harbour infrastructure); support the efficient use of marine space and co-existence between marine users.</p>
1B: Supporting Sustainable Social and Economic Benefits	<p>Development and/or activities will be supported by this Plan when the proposal can demonstrate: Sustainable employment benefits; that opportunities to support local supply chains and create skilled employment in local communities have been maximised; that any adverse social, economic and operational effects on existing activities have been avoided, or where avoidance is not possible, adverse effects have been appropriately mitigated; that opportunities to support synergistic benefits between development and activities have been maximised.</p> <p>Developers should undertake early engagement with the local authority, and any other relevant bodies, if there are likely to be significant impacts on local infrastructure or services.</p>
1C: Safeguarding the Marine Ecosystem	<p>The integrity of coastal and marine ecosystems should be safeguarded. The Plan will support proposed development and activities when they: Contribute towards the MSFD objectives to promote enhancement or improvement of the environmental status of the marine environment; demonstrate how any significant disturbance and degradation of coastal and marine ecosystems has been avoided or appropriately mitigated.</p>
2: The Well-being, Quality of Life and Amenity of Coastal Communities	<p>Development and/or activities will be supported by this Plan when it can be demonstrated that: Significant adverse effects on the well-being, quality of life and amenity of local communities have been avoided, and where appropriate, mitigation measures to address any adverse effects have been incorporated as part of the development and activity proposals and agreed with the consenting authority; Local stakeholders, relevant Community Councils and interested community groups have been engaged at an early stage in the development process when assessing any potential impacts on the well-being, quality of life and amenity of local communities.</p>
Topic Area	
Assessment Summary	
Biodiversity	<p>+</p> <p>In general terms, further development and increased use of resources in the PFOW has the potential to result in a range of environmental effects. Amongst others, these may include:</p> <ul style="list-style-type: none"> <li>• Biodiversity impacts (i.e. the loss of additional coastal and seabed habitat, disturbance and displacement of marine fauna and seabirds, spread of invasive species and disease, creation of barriers to movement for key marine species, creation of reef effects, etc.).</li> </ul>
Climate change	<p>0</p> <ul style="list-style-type: none"> <li>• Population and human health impacts (i.e. increased vessel and collision risk, disturbance, etc.).</li> <li>• Climatic factors impacts (e.g. increased GHG emissions, etc.).</li> <li>• Cultural heritage and landscape/seascape impacts (i.e. increased likelihood of visual and setting impacts, etc.).</li> <li>• Impacts to water quality (i.e. localised turbidity from some activities, pollution/contamination, etc.).</li> <li>• Impacts to Soil, marine geodiversity and coastal processes (i.e. changes to sediment dynamics, coastal erosion/accretion, etc.).</li> </ul>
Cultural heritage	<p>+</p> <p>However, the adoption of the Pilot Plan is unlikely to promote further development in the PFOW, but rather promote the sustainable management of any future development and activities. It is also noted that existing processes and mechanisms are in place to manage the potential for effects associated with planned developments and activities, including, where appropriate, their management through the use of appropriate mitigation (e.g. identified in consenting processes underpinned by environmental assessment, etc.). Thus, in the context of the Pilot Plan, no adverse environmental effects are considered likely from these four policies.</p>
Landscape/Seascape	<p>+</p> <p>General Policies 1A, 1B, 1C and 2 provide the overarching theme for the Pilot Plan, and set the broad aims for 'sustainable development and use' of the PFOW area. They also set out ambitions for safeguarding its many resources and provide support for local communities through the promotion of the consideration of the social, economic and environmental aspects. In general terms, the focus on 'sustainability' and 'safeguarding' is likely to have positive effects for many environmental and socio-economic topic areas; principally through promoting greater awareness of these important considerations in the future development and use of the PFOW marine area. It should also provide guidance for the delivery of these ambitions at the project/local levels.</p>
Soil, marine geodiversity and coastal processes	<p>+</p> <p>In the environmental context, the focus on 'safeguarding' the marine environment, promoting co-existence in marine space and shared use of infrastructure, and more efficient management of existing resources (i.e. port facilities, cable runs, etc.) could reduce the need for new infrastructure. This has the potential to enable the avoidance of adverse environmental impacts that may be associated with new infrastructure development (e.g. direct, indirect and secondary impacts on biodiversity features; effects on the setting of cultural heritage features and landscape/seascape; noise disturbance to nearby human receptors; and adverse impacts on soil and marine geodiversity impacts and water quality, etc.).</p>
Communities, Population and Human Health	<p>+</p> <p>The potential for economic benefits has also been identified; particularly associated with General Policy 1B. The promotion of 'sustainable development' has the potential to contribute to the growth of new industries in the region, which may in some instances have the potential to lead to conflicts between different industries (i.e. those that are not compatible, potential for displacement effects, etc.). This is reflected in the grading to the left for material assets. However, the focus on the development of sustainable industries and maximising opportunities for communities will likely have overall positive effects, provided that these are not at the expense of existing sustainable activities; many of which are known to be important in supporting local communities (e.g. fishing, tourism, etc.). The potential for conflicts between the policies was also noted, particularly the potential for 'trade-offs' in balancing social, environmental and economic considerations in the future use of the</p>
Water	<p>+</p>

Material Assets	+-	<p>region.</p> <p>The potential for the policies to contribute to the promotion of early community engagement and involvement in the development process, and potentially increasing the involvement of communities themselves in the growth of the region was also noted. Further, the policies may also promote the consideration and involvement of these stakeholders, most notably in relation to existing processes such as the consideration of development and marine license applications.</p>		
The following general policies and their supporting text would also apply:		4A: Nature Conservation Designations 4B: Protected Species 4C: Wider Biodiversity	4D: Landscape and Seascape 4E: Geodiversity 5A: Water Environment	6: Historic Environment 7: Integrating Coastal and Marine Development
<b>Outcomes and recommendations</b> <p>The SA found that together, the four overarching policies are likely to have overall positive effects for many of the socio-economic and environmental topic areas, largely through the promotion of a broad and region-wide focus on 'sustainable development', 'sustainable benefits' and the consideration of economic, environmental and social aspects in decision-making. The SA considered that the draft Pilot Plan also presents an opportunity to reduce the risk of adverse social, economic and environmental impacts that may be associated with future growth in the PFOW area. In particular, the promotion of sustainable development and the efficient management and sharing of existing resources and infrastructure were identified as having the potential to avoid negative impacts (i.e. adverse impacts that may be associated with the construction of new or additional infrastructure, promoting appropriate development and activities). Potential benefits for population and human health were also identified with the promotion of the long-term sustainability objectives of the group of policies, and through supporting social and economic benefits and promotion of economic and wellbeing considerations. The potential for enhanced involvement of communities in the future growth of the use of the PFOW area was seen as a key positive effect, particularly in relation to the consideration of potential social and economic impacts and opportunities for fostering further community involvement in the decision-making process.</p> <p>However, the SA also identified the potential for negative effects associated with balancing social, environmental and economic ambitions in the future, particularly in the identification of the likely potential for trade-offs between these ambitions in the future growth of use of the PFOW area. Further, having developers, marine users and local communities themselves 'buy in' to the draft Pilot Plan was seen as being an essential part of implementing the ambitions of the Pilot Plan and ensuring the delivery of any potential benefits.</p>				

## General Policy 3A: Climate Change

General Policies								
3A: Climate Change		<p>The Plan will support development proposals that demonstrate:</p> <ul style="list-style-type: none"> <li>• The mitigation measures taken to adapt to effects of climate change.</li> <li>• How they may impact upon climate change adaptation measures elsewhere.</li> <li>• How resilience has been built into the project over its lifetime.</li> </ul> <p>All proposals for development must minimise, as far as practicable, emissions of greenhouse gases and clearly demonstrate mitigation measures taken.</p>						
Topic Area		Assessment Summary						
Biodiversity	+	<p>The policy aims to promote the consideration of climate change adaptation to developers and other marine users alike, including promoting resilience and adaptation as key components in both proposed developments and in other coastal/marine activities. It is likely to provide guidance for developers and marine users in the consideration of climate change issues in the development process, and as a consequence, should have overall positive effects for the sustainability and future-proofing of marine sectors in particular. Support for developers to demonstrate climate change resilience in the application process could also help to contribute to wider adaptation ambitions, and promoting the reduction of GHG emissions is likely to have positive effects and contribute to Scotland's emissions reduction targets and low carbon energy ambitions.</p>						
Climate change	+	<p>The potential for indirect or secondary effects was also identified in the SA, particularly as a consequence of improved consideration of climate change adaptation at the project level. For example, improvements in resilience and coastal protection may result in associated positive effects for coastal ecosystems and species (e.g. improved protection of coastal ecosystems and species that use them, etc.), soil and coastal geology (e.g. reduced coastal erosion/accretion, etc.), cultural heritage in the coastal environment, and water quality (e.g. reduced turbidity in coastal areas). In the instance of coastal development, protection works could also help to preserve coastal areas for other users, particularly those identified as being vulnerable to coastal erosion. The potential for these works to open up areas for recreational use was also noted, with the potential to provide benefits for local communities and human health. However, the assessment also considered that the realisation of any such benefits is likely to rely on having the 'buy in' of developers, coastal and marine users, and other stakeholders (e.g. communities, etc.).</p>						
Cultural heritage	+	<p>In some instances, the potential for mixed effects was also noted. For example, the potential for changing coastal processes/sediment dynamics and shifting erosion/accretion to neighbouring areas was identified as a potential impact from undertaking adaptation and protection works. However, it is anticipated that such issues are likely to be considered at the project level within existing consenting processes such as Marine Licensing and Town and Country Planning, both of which are likely to be underpinned by environmental assessment processes such as the EIA and HRA. Thus, in the context of the Pilot Plan, no adverse environmental effects are considered likely.</p>						
Landscape/Seascape	+	<p>The potential for additional costs associated with demonstrating adaptation and resilience have also been noted, and as a consequence, the potential for mixed effects have been shown in the grading for Material Assets to the left. However, in some instances these may be offset at the project and regional levels through ensuring the sustainability and future-proofing of the relevant marine sectors.</p>						
Soil, marine geodiversity and coastal processes	+	<p>It is also noted that the scale and significance of any potential benefits are likely to depend on a range of project-specific and locational factors; notably the scale and type of development, its location, and the vulnerability of the location and surrounding areas to the effects of climate change, amongst others. As a consequence, the assessment identified the potential for any such impacts as likely to be important considerations at the project level.</p>						
Communities, Population and Human Health	+							
Water	+							
Material Assets	+-							
The following general policies and their supporting text would also apply:	<p>2: Wellbeing, Quality of Life and Amenity of Coastal Communities 4E: Geodiversity 5A: Water Environment</p>		<p>5B: Coastal Processes and Flooding 6: Historic Environment 9: Invasive Non-native Species</p>					
Outcomes and recommendations								
<p>The SA identified opportunities for positive effects through improving the resilience of developments to the expected effects of climate change and promoting climate change adaptation across the full spectrum of marine users in the PFOW area. Providing additional guidance for marine users through this policy, particularly developers and consenting authorities, could aid in the identification of opportunities to improve adaptation and aid the future protection of vulnerable coastlines (e.g. future-proofing coastal and marine infrastructure, infusing coastal protection measures and resilience into coastal development).</p> <p>Whilst likely benefits for climate change adaptation and sustainability of marine sectors was identified as a key potential outcome, the potential for associated benefits such as making further contributions to wider adaptation ambitions were also noted (e.g. reducing GHG emissions). The potential for positive secondary and indirect environmental effects for a number of topic areas associated with greater consideration of likely climate change impacts in undertaking coastal development works and coastal use was also considered likely. For example, the potential for improved protection of coastal ecosystems and species, reduced coastal erosion/accretion, improved protection for cultural heritage in the coastal environment, and reduced turbidity in coastal areas, amongst others.</p> <p>Whilst the potential for mixed effects was also identified, principally through inappropriate development or coastal use (e.g. impacting coastal processes, shifting erosion/accretion), it was considered that existing mechanisms such as current consenting processes, generally underpinned by environmental assessment, are likely to remain a primary means of identifying and mitigating any such impacts at the project level. As such, the ability of the policy to significantly influence change amongst developers and marine users is likely to be closely linked to the requirements of these existing processes. This is also likely to depend upon achieving 'buy in' from stakeholders (i.e. developers, marine users, government agencies (i.e. SNH), consenting authorities and local communities) and this was identified as a key challenge for the Pilot Plan and for future marine regional planning in the PFOW.</p>								

## General Policies 4A – 4C: Nature Conservation Designations, Protected Species and Wider Biodiversity

General Policies	
4A: Nature Conservation Designations	<p>The Plan will support development and activities where due regard is given to the importance of international, national and locally-designated nature conservation sites:</p> <p><b>Internationally designated sites</b> – Development likely to have a significant effect on a site designated or proposed to be designated as a SPA, SAC (collectively known as Natura 2000 sites) or a Ramsar site, alone or in combination and not directly connected with, or necessary to the conservation management of that site, must be subject to an Appropriate Assessment in order to assess the implications for the site's conservation objectives.</p> <p>The development will only be permitted in circumstances where the assessment ascertains that: It would not adversely affect the objectives of the designation or the integrity of the site; or there is no alternative solution; and there are imperative reasons of over-riding public interest, including those of a social or economic nature.</p> <p><b>Nationally designated sites</b> – Development that affects a Nature Conservation Marine Protected Area (NC MPA) will only be permitted where it can be demonstrated to the satisfaction of the relevant public authority that the proposal will not significantly hinder the achievement of the conservation objectives of the NC MPA. Where there is no alternative that would have a lesser impact on the conservation objectives of the NC MPA and the public benefit outweighs the environmental impact, the applicant will arrange for measures of equivalent environmental benefit to offset the anticipated damage.</p> <p>Development that affects a SSSI or GCR site will only be permitted where (for SSSIs) the objectives of designation and overall integrity of the area, or (for GCR sites) the reasons for selection, will not be compromised, or where significant adverse effects on the qualities for which the area has been designated/selected are clearly outweighed by social, environmental or economic benefits of national importance.</p> <p><b>Locally designated sites</b> – Development that affects a Local Nature Conservation Site (LNCS) or Local Nature Reserve (LNR) will only be permitted where can be demonstrated to the satisfaction of the consenting authority that any significant adverse impact on the integrity of the site, or the qualities for which it has been designated, have been appropriately addressed or mitigated or any such impact is clearly outweighed by social, environmental or economic benefits and there is no satisfactory alternative.</p> <p>In addition, in all cases where development affecting a nature conservation sites can be consented, satisfactory mitigation measures will be required to minimise any potential adverse impacts during the construction, lifetime and decommissioning of the development.</p> <p>Where the impact of a development on an international, national or local natural heritage resource are uncertain, but there are good scientific grounds that significant irreversible damage could occur, the precautionary principle will apply.</p>
4B: Protected Species	<p>The Plan will not support development or activities that would likely have an adverse effect on a European Protected Species unless the relevant consenting or planning authority is satisfied there is no satisfactory alternative; the development is required for preserving public health or public safety or there are other imperative reasons of overriding public interest; the development would not be detrimental to the maintenance of the population of a European Protected Species concerned at a favourable conservation status in its natural range.</p> <p>Where the impacts of a development or activities on an internationally or nationally protected species are uncertain, but there are good scientific grounds that significant irreversible damage could occur, the precautionary principle will apply.</p> <p>Development and activities will only be permitted where they comply with any licence granted by the appropriate authority required for the purpose of species protection.</p> <p>Development likely to have an adverse effect on other species protected under current wildlife legislation, individually and/or cumulatively will only be permitted if those effects can be mitigated to the satisfaction of the relevant consenting or planning authority, or if they are satisfied that legislative requirements to proceed can be met.</p>
4C: Wider Biodiversity	<p>The Plan will not support development and activities that result in a significant adverse effect on the status of Priority Marine Features.</p> <p>Where development or activities are likely to have an adverse impact on species of regional or local importance to biodiversity, proposals should demonstrate: The public benefits at a local level clearly outweigh the value of the habitat for biodiversity conservation; the development or activity will be sited and designed to minimise adverse impacts on environmental quality, ecological status or viability; any impact will be suitably mitigated.</p>

Topic Area		Assessment Summary	
Biodiversity	+	In general terms, further development and increased use of resources in the PFOW has the potential to have significant effects on all environmental topic areas. However, the inclusion of these three policies, alongside those of the other general and sectoral policies, will seek to safeguard the marine environment and the recognised features that contribute to the wide biodiversity in the PFOW area.	
Climate change	0	Together, the three policies build upon the ambitions of the overarching policies to increase awareness of existing mechanisms for the protection of the marine environment and also the recognition of the importance of biodiversity to the PFOW area, and the many industries and communities that support (i.e. General Policies 1A and 1C). The potential for the three policies to increase awareness and provide guidance for future developers on their responsibilities for considering biodiversity in the development process was identified as a key benefit. The Policy will reinforce the importance of biodiversity features in sustainable development for all marine users, and could potentially help to reduce the risk of adverse effects on some. The potential for overall positive effects, particularly for designated habitats and species (e.g. seabirds and seals, amongst others) in the PFOW area has been identified, alongside the potential for associated positive effects for wider biodiversity, water, and coastal and marine geodiversity. Similarly, the potential for positive indirect effects for those sectors and users with close interactions with coastal and marine ecosystems (e.g. the fishing sector, wildlife tourism, etc.) and the communities that they help to support were also noted in the SA.	
Cultural heritage	0		
Landscape/Seascape	0		
Soil, marine geodiversity and coastal processes	+	The information collated for the SA and the RLG that accompany the Pilot Plan also have the potential to increase awareness of the value and importance of biodiversity in the Pilot Plan area. For example, they identify key biodiversity sensitivities and concerns in the PFOW area, and with the buy-in of stakeholders, have the potential to improve awareness amongst marine users and local communities of biodiversity sensitivities (e.g. seabird populations, grey and harbour seal vulnerabilities, etc.). In itself, this can be seen as a positive effect.	
Communities, Population and Human Health	+	However, the SA also noted that the protection of nature conservation designations and biodiversity features are currently considered with a range of existing mechanisms (e.g. consenting processes underpinned by project level EIA and HRA, etc.). Further, it was noted that the inclusion of these Policies and the RLG will not replace existing requirements of developers and marine users in relation to these processes, but rather provide additional information and guidance as a material consideration. As such, the SA found that the potential for impacts to biodiversity will still need to be appropriately considered at the project level.	
Water	+		
Material Assets	+	The SA considered that the policies were unlikely to result in significant impacts in relation to other environmental topic areas (i.e. climate change, cultural heritage or landscape/seascape).	
The following general policies and their supporting text would also apply:		1A: Sustainable Development 1C: Safeguarding the Marine Ecosystem	5A: Water Environment 9: Invasive Non-native Species
Outcomes and recommendations			
<p>While existing mechanisms and methodologies are currently in place to consider the potential for impacts to biodiversity features in the PFOW area, the SA identified the potential for overall positive effects associated with the inclusion of these policies in the draft Pilot Plan, and also through the development of the RLG. While it was also noted that the consideration and protection of designated sites and species is currently a legal requirement and is a key consideration of existing consenting processes (e.g. Marine Licensing, Town and Country Planning and supporting environmental assessments such as EIA and HRA), the SA identified the potential for positive effects in improving the awareness of existing environmental protection requirements and the likelihood of future considerations (i.e. the identification of draft marine SPAs covering much of the Pentland Firth and Orkney) amongst developers, marine users and consenting authorities. The SA found that this could help to promote greater consistency in the consideration of the marine environment at an early stage in the development process, particularly for the preservation and/or enhancement of protected and otherwise recognised biodiversity features. The potential for the policies to help to facilitate early monitoring (e.g. seabird surveys, seal counts) and early consideration of options for avoidance or mitigation of potential impacts was also noted (e.g. by starting the HRA process early, alternative siting).</p> <p>If implemented with the 'buy in' of stakeholders, there is the potential for significant positive effects for biodiversity, water quality (e.g. improving the ecological status of the water environment) and soil and marine geodiversity (i.e. preserving the character and diversity of the seabed). However, the SA also identified that delivery of any such benefits would likely be dependent on having the 'buy in' of these stakeholders (i.e. developers, marine users, Government agencies (i.e. SNH), consenting authorities, environmental bodies).</p> <p>Associated benefits for a range of marine sectors associated with the protection of the marine environment were also identified, particularly alongside the promotion of sustainable development, and for those industries with a close relationship with biodiversity (e.g. fishing, wildlife tourism). The potential for associated benefits for local communities relating to further contributions in preserving the integrity of the marine environment and supporting sustainable industries was also identified.</p>			

## General Policy 4D: Landscape and Seascapes

General Policies					
4D: Landscape and Seascapes					
Topic Area		Assessment Summary			
Biodiversity	0	The policy aims to increase awareness and promote the consideration of visual impacts associated with future developments and activities in the PFOW coastal and marine environment. It should provide guidance for marine users and developers on the consideration of visual impacts, and strengthen existing processes and methodologies for considering landscape and seascapes character and impacts in the relevant consenting processes. In this way, it has the potential to aid in promoting greater consistency in the consideration of potential impacts, whilst also providing the potential for associated benefits on the setting of cultural heritage and historic features. Given the many recognised landscape/seascapes and areas in the PFOW area, and that many are recognised for both their visual and cultural importance (e.g. west Mainland Orkney and Northern Hoy), the policy has the potential for significant positive effects for both.			
Climate change	0				
Cultural heritage	+	The relationship between human health and the natural environment, particularly in the enjoyment of landscape/seascapes and cultural heritage assets, is well-documented. In Orkney and along the North Sutherland Coast, landscape/seascapes and cultural heritage are widely seen to play key roles in the sense of place and the lifestyles in local communities. With the 'buy in' of developers, marine users and with the support of local communities, there is the potential for realising significant positive effects for population and human health, particularly through promoting opportunities for benefits at the community level. The potential for fostering further enjoyment of these assets amongst these communities was also identified.			
Landscape/Seascape	+				
Soil, marine geodiversity and coastal processes	0	The inclusion of a requirement in the non-statutory policy that developers demonstrate the consideration of visual and landscape/seascapes impacts should provide further guidance for improving transparency in the development process. This could also help to foster future engagement with stakeholders and local communities, particularly if undertaken at an early stage of the consultation process of a proposed development.			
Communities, Population and Human Health	+	The SEA considered that the policy was unlikely to result in significant impacts on water quality, climatic factors or soil and marine geodiversity; nor is it likely to significantly contribute to the objectives in these topic areas.			
Water	0				
Material Assets	+				
The following general policies and their supporting text would also apply:	1A: Sustainable Development 2: Wellbeing, Quality of Life and Amenity of Coastal Communities		6: Historic Environment 7: Integrating Coastal and Marine Development		
Outcomes and recommendations					
<p>The SA found that while existing consenting processes currently include the consideration of impacts to visual amenity, landscape and seascapes, and a number of methodologies have been developed to consider these, there is the potential for overall positive effects associated with this policy. The potential for the policy to promote greater consistency in the consideration of visual impacts in the development process, and in the early stages of consenting processes was identified as one such example. As a consequence, the potential for significant benefits for the many recognised landscape/seascapes areas in the PFOW area were identified in the SA.</p> <p>Close links between landscape/seascapes and the setting of cultural heritage features was also noted in the assessment, particularly as many of the valued landscape and seascapes areas are also recognised for their cultural importance (e.g. west Mainland Orkney and Northern Hoy). The potential for positive effects for communities, population and human health was identified, largely in relation to enjoyment and use of the natural environment and its visual assets. The potential for positive indirect effects for many coastal and/or marine industries was also noted (e.g. recreation and tourism).</p> <p>However, the SA also identified the importance that this policy and the Pilot Plan be supported by stakeholders including developers, marine users, Government agencies such as SNH and local communities themselves, for any such benefits to be realised. This was considered to be a key area of opportunity for the policy, with the SA also noting that this could aid in improving engagement between different stakeholders in the future consultation processes both at the strategic level (e.g. future regional marine planning) and in the engagement over the consideration of visual issues at the project level (e.g. developer-led consultation).</p>					

## General Policy 4E: Geodiversity

General Policies				
4E: Geodiversity		Development and activities may only be supported by this Plan where they: <ul style="list-style-type: none"> <li>• Do not have a significant adverse effect on geodiversity interests of international, national and regional/local importance</li> <li>• Provide mitigation to minimise any adverse effects on such features.</li> </ul>		
Topic Area		Assessment Summary		
Biodiversity	+	The policy is likely to provide overarching guidance, and through this, has the potential to promote and improve the consideration of geodiversity amongst developers and marine users in the PFOW. With the 'buy in' of developers, consenting bodies and coastal/marine users, the Policy could help to improve consistency in how geodiversity is considered and addressed in current systems (i.e. Marine Licensing, Town and Country Planning, Regional Marine Planning, etc.) and in underlying assessments (e.g. EIA, HRA and SEA). As a consequence, the potential for positive effects for soil, marine geodiversity and coastal processes have been identified.		
Climate change	0	The potential for indirect or secondary effects on a number of other environmental topic areas was also identified in the SA. In particular, the potential for significant benefits to other topic areas through likely interactions between the preservation of geodiversity, habitats and biodiversity, and landscape/seascape were noted. Links between biodiversity and geodiversity are well established, particularly in the coastal and marine environments. Likewise, the dramatic landscapes and seascapes across the PFOW are framed, at least in part in coastal areas, by geological features. Further secondary effects, such as the potential for positive effects for the coastal and marine tourism sector and for communities, population and human health associated with the preservation of and ensuring continued access and enjoyment of outdoor recreation sites with geodiversity interests were also noted (e.g. North West Sutherland Geopark, much of the Caithness and North West Sutherland coastline), particularly for areas identified for their geological heritage. Landscape and seascape is widely seen as playing a key role in the sense of place and the lifestyles of local communities in both Orkney and along the north Caithness and Sutherland coasts, and the potential for indirect positive effects have also been identified. As such, the potential for benefits in improving the consideration of geodiversity features in the future could translate to associated positive effects for these topic areas.		
Cultural heritage	0	Coastal change has been identified as a key pressure to coastal geodiversity along many of the coastlines in the PFOW area. However, it is considered that the inclusion of this policy in isolation would be unlikely to significantly affect coastal resilience. This is discussed in further detail under General Policies 3 (Climate Change) and 5B (Coastal Processes and Flooding).		
Landscape/Seascape	+	The SEA also considered that the inclusion of the policy would be unlikely to result in significant impacts on water quality or cultural heritage, nor is it likely to significantly contribute to the SA objectives in these topic areas.		
Soil, marine geodiversity and coastal processes	+			
Communities, Population and Human Health	+			
Water	0			
Material Assets	+/-			
The following general policies and their supporting text would also apply:	1A: Sustainable Development 1C: Safeguarding the Marine Ecosystem 3: Climate Change 4A: Nature Conservation Designations			
	4B: Protected Species 4C: Wider Biodiversity 4D: Landscape and Seascape 5B: Coastal Processes and Flooding			
Outcomes and recommendations				
<p>The SA found that with the support of developers and marine users, the policy would have the potential to strengthen geodiversity considerations in the development process and within existing consenting processes (e.g. Marine Licensing, Town and Country Planning development applications), in future regional marine planning and also in associated assessment work (e.g. EIA, HRA and SEA). Primarily, increased awareness of geodiversity value in the PFOW area has the potential to contribute to the recognition and preservation of coastal and marine geodiversity at the project level (e.g. identify need for seabed surveys, early consideration of options for avoidance or mitigation of potential impacts).</p> <p>The implementation of the Policy and ambitions of the Pilot Plan, particularly around ensuring a consistent approach is taken to the consideration of environmental concerns and their assessment, was seen as a priority in working towards sustainable development. In this context, the policy is seen to sit alongside those promoting the protection of the rich biodiversity, and the wide and varied landscapes and seascapes in the PFOW area. As a consequence, the potential for secondary and indirect benefits for biodiversity (e.g. associated benefits for benthic and coastal habitats), landscape/seascape, and communities, population and human health (e.g. access and appreciation of geodiversity) were also identified.</p> <p>As for other policy areas, the SA identified that working with stakeholders (i.e. developers, marine users, Government agencies (i.e. SNH), consenting authorities, local communities) was likely to be a crucial component in ensuring that any potential benefits of the policy are both realised and maximised.</p>				

## General Policy 5A: Water Environment

General Policies						
5A: Water Environment		<p>The Plan will support development in the marine environment when the proposal:</p> <ul style="list-style-type: none"> <li>• Does not cause any water body to deteriorate in status nor prevent the achievement of established objectives set out in the River Basin Management Plan for the Scotland river basin district.</li> <li>• Contributes, where possible, towards objectives to improve the ecological status of coastal water bodies and the environmental status of marine waters.</li> <li>• Does not cause deterioration in the standard of waters designated under European Commission Directives such as Bathing Beaches, Shellfish Water Protected Areas or Shellfish Harvesting Waters.</li> <li>• Is accompanied by sufficient information to enable a full assessment of the likely effects, including cumulative effects, on the water environment.</li> <li>• Has taken into account existing activities in the proposed location for development and undertaken early consultation to ensure that activities that may not be compatible (e.g. development of an incompatible activity near an established legitimate activity, such as a licensed discharge) are not located together.</li> </ul>				
Topic Area		Assessment Summary				
Biodiversity	+	<p>Whilst promoting the importance of preservation of environmental and ecological water quality, the policy seeks to increase awareness amongst future developers and marine users of their obligations for the protection of the water environment in the PFOW. Improvements in efficiency in the development process are also likely outcomes, and the potential for improved consistency in the consideration of impacts to water quality, including cumulative impacts, in development and consenting applications have also been identified (i.e. support for developers to "provide sufficient information to enable a full assessment", etc.).</p>				
Climate change	0	<p>In addition to providing guidance, the policy may present an opportunity to engage with developers and marine users for contributing to meeting water quality objectives such as Scotland's water quality targets under the WFD and MSFD. At present, offshore developments and many coastal and marine activities (e.g. offshore renewables, installation of grid infrastructure, port/harbour works, aquaculture, etc.) address water quality issues via current consenting processes and through compliance with license conditions (i.e. CAR, Pollution Prevention Control (PPC), etc.); many of which are likely to be supported by environmental assessments (i.e. EIA, HRA). With the 'buy in' of developers and marine users, the SA identified the potential for both water quality improvements and for secondary or indirect benefits for other SA topic areas such as biodiversity, soil and marine geodiversity. The potential for indirect benefits for population and human health was also identified in the SA, including the potential for contributing to a reduction in risk of adverse environmental and socio-economic impacts on recreational sectors (e.g. surfing, swimming, diving, etc.). The potential for benefits in relation to human health for recreational marine users with improved water coastal and marine quality in the PFOW area was also noted.</p>				
Cultural heritage	0					
Landscape/Seascape	0					
Soil, marine geodiversity and coastal processes	+	<p>The potential for positive effects associated with increased awareness of water quality considerations and legislative requirements for coastal and marine users has also been noted in the SA; particularly amongst those lying out with existing processes (e.g. recreational users such as boating, sea angling, coastal or terrestrial land users, etc.). However, it is also noted that many of these users are unlikely to currently be significant contributors to the deterioration of water quality in the PFOW.</p>				
Communities, Population and Human Health	+	<p>It is also noted that any water quality improvements associated with specific developments or activities are likely to be localised, albeit subject to currents, flow dynamics and coastal processes. Similarly, any associated positive effects for biodiversity, soil/marine geodiversity and for population and human health are also likely to be localised; particularly for those in direct contact with the resources (e.g. swimming, diving, recreational angling, etc.).</p>				
Water	+					
Material Assets	+					
The following general policies and their supporting text would also apply:	<p>1A: Sustainable Development 1C: Safeguarding the Marine Ecosystem 2: Wellbeing, Quality of Life and Amenity of Coastal Communities 4A: Nature Conservation Designations</p>		<p>4B: Protected Species 4C: Wider Biodiversity, 4D: Landscape and Seascape 4E: Geodiversity</p>	<p>5B: Coastal Processes and Flooding 8B: Waste and Marine Litter</p>		
Outcomes and recommendations						
<p>The SA identified the potential for overall positive effects associated with the policy, largely through increased awareness of the importance of water quality and support for existing water quality obligations under current planning and consenting processes. The potential for improved consistency and efficiency in addressing water quality issues by marine users and developers was identified as a key positive effect. For example, the inclusion of "sufficient information to enable a full assessment of the likely effects, including cumulative effects, on the water environment [for a proposed development]" aligns with similar findings identified in the assessment of other general policy areas. While the potential for benefits to water quality were clearly identified, the potential for secondary or indirect positive effects for biodiversity, soil, marine geodiversity and coastal processes were also considered likely from adoption of the Pilot Plan.</p> <p>The assessment found that the policy also presents an opportunity to further engage with developers and marine users, and in working with them to contribute to meeting Scotland's water quality objectives (i.e. under the WFD and MSFD). It may also present a good opportunity to engage with those out with existing consenting processes (e.g. recreational users, fishing vessels, shipping) in addition to those under existing consenting regimes (e.g. aquaculture, renewables). As a consequence, communication and engagement with stakeholders (e.g. developers, marine users, Government agencies (i.e. SNH and SEPA), consenting authorities, environmental bodies, and local communities) was considered to be a key recommendation of the SA, particularly in ensuring that 'buy in' of stakeholders can contribute to efforts to meet the established water quality objectives, and in the realisation of other potential benefits.</p>						

## General Policy 5B: Coastal Processes and Flooding

General Policies				
5B: Coastal Processes and Flooding		<p>The Plan will support proposals for development and activities, including any linked shore-based requirements, that demonstrate, potentially by way of a flood risk assessment:</p> <ul style="list-style-type: none"> <li>• That they will not exacerbate present or future risks of flooding or erosion.</li> <li>• That sensitive uses, such as accommodation, will not be located in areas shown to be at risk of flooding.</li> <li>• How resilience and adaptation strategies have been incorporated within proposed developments over their lifetime to adapt to the effects of climate change, coastal erosion and coastal flooding.</li> </ul> <p>Any development must not compromise the objectives of the Flood Risk Management Act.</p>		
Topic Area		Assessment Summary		
Biodiversity	+	<p>The ambitions of the policy are closely linked to those for climate change adaptation and resilience outlined in General Policy 3 (Climate Change). It aims to increase awareness of flooding and coastal erosion issues for future developers and marine users, and together with the General Policy 3 and those detailed in Local Development Planning within the PFW area, seeks to promote and improve the adaptation and resilience of future developments and coastal and marine activities to the expected effects of climate change. Further, it aims to ensure that future development does not exacerbate present or future risks of flooding or coastal erosion.</p>		
Climate change	+	<p>The SA identified that existing consenting processes for coastal and marine development are in place, and that these are likely to be supported by underlying assessments (e.g. EIA, flood-risk assessment, where appropriate). These are currently the primary mechanisms for the identification, assessment and where necessary, the avoidance and/or mitigation of any potential flooding or coastal erosion impacts associated with coastal or marine development. Neither General Policy 3 nor 5B are expected to significantly change these processes, but instead are aimed at providing guidance and support for developers and coastal/marine users in the consideration of potential issues and adaptation.</p>		
Cultural heritage	+	<p>The primary effects of the Policy are likely to be positive in promoting adaptation and resilience to the effects of climate change and in contributing to reducing the risk of adverse impacts on water quality. However, the potential for secondary or indirect impacts on other topic areas were also identified, due largely to the close relationships and interactions with water quality (e.g. soil and marine geodiversity, population and human health). With the 'buy in' of developers and marine users, there is the potential for greater and more consistent consideration of coastal flooding impacts in future development in the PFW area, and in working towards ensuring climate change resilience for future activities in the coastal and marine environment. Given the predicted effects of climate change; particularly relating to the potential for an increase in storm events and flooding, sea level rise, and increased wave size, amongst others; the SA found that there is likely the potential for significant benefits for both developers and marine users in the future.</p>		
Landscape/Seascape	+	<p>The inclusion of policy that developments "will not exacerbate present or future risks of flooding or erosion" is also likely to have a positive effect through helping to reduce the risk of adverse impacts on a number of topic areas at the local level (i.e. soil and marine geodiversity and coastal biodiversity). Similarly, the potential for a reduction in the risk of creating or exacerbating the potential for adverse impacts on landscape/seascape and the setting of coastal cultural heritage features and damage from flooding events were also noted in the assessment. Further, positive effects in adaptation and resilience could have associated benefits in preserving current opportunities for Communities, Population and Human Health in the PFW area (e.g. reduced risk of loss of coastline and recreational areas, flooding impacts on accommodation, etc.). However, it is considered that any such effects are likely to be location-specific, and as such, these are still likely to require consideration at the local and project level.</p>		
Soil, marine geodiversity and coastal processes	+	<p>In some instances, the potential for mixed effects for Material Assets was also noted. For example, the potential for affecting coastal processes/sediment dynamics and shifting erosion/accretion to neighbouring areas was identified as a potential effect associated with development in some areas. However, it is anticipated that such issues are likely to be considered at the project level within existing consenting processes (e.g. Marine Licensing, Town and Country Planning where applicable) and underpinned by environmental assessment processes. Thus, in the context of the Pilot Plan, no adverse environmental effects are considered likely. However, the potential for additional costs associated with demonstrating adaptation and resilience to climate change were also identified. In many instances, any such costs may be offset at the project and regional levels through ensuring the sustainability and future-proofing in the relevant marine sectors. As a consequence, the potential for mixed effects have been shown in the grading for Material Assets to the left.</p>		
Communities, Population and Human Health	+	<p>The SA also found that the policy is unlikely to significantly alter the predicted effects of climate change.</p>		
Water	+			
Material Assets	+-			
The following general policies and their supporting text would also apply:		1A: Sustainable Development 1C: Safeguarding the Marine Ecosystem 2: Wellbeing, Quality of Life and Amenity of Coastal Communities	3: Climate Change 4D: Landscape and Seascape 4E: Geodiversity	5A: Water Environment 6: Historic Environment 7: Integrating Coastal and Marine Development

## Outcomes and recommendations

The SA identified the potential for overall positive effects for the Policy, principally through its ambition to increase awareness of potential coastal erosion and flooding issues, and obligations under the Flood Risk Management Act. In particular, it identified the potential for benefits in the development process or in proposing undertaking new coastal and marine activities, if considered at an early stage.

The SA identified close links between the ambitions of this policy and that of General Policy 3 (Climate Change), particularly in ensuring that any future development or new coastal or marine activities are 'future-proof'. Given the predicted effects of climate change, the SA considered that there is likely the potential for significant benefits for both developers and marine users in considering how these issues could aid in improving adaptation and resilience at the project level. However, the SA also recognised that current consenting processes underpinned by assessment work (e.g. EIA, socio-economic assessment, flood-risk assessment) will remain the primary mechanisms for identifying, assessing, and where appropriate, avoiding/mitigating any potential adverse effects.

While the potential for positive effects were identified through protecting water quality and promoting climate change resilience, adaptation and reducing the risk of exacerbating flood and erosion issues, the assessment also noted the potential for positive secondary or indirect effects. Positive effects for all environmental topic areas were noted in the assessment (i.e. biodiversity through reduced risk to coastal or flood-prone habitats, and reduced risk of adverse impacts on soil, marine geodiversity and coastal processes, in particular). However, the potential for mixed effects for Material Assets was noted in the SA. In particular, the potential for additional costs associated with future developers to demonstrate adaptation and resilience to climate change were identified. However, in many instances, such costs may be offset at the project and regional levels in ensuring the sustainability and future-proofing of the relevant marine sectors.

The SA considered that the ability of the Policy to significantly influence developers and marine users in increasing their consideration of these issues is likely to be linked to the requirements of existing consenting processes. Obtaining the 'buy in' of stakeholders in these ambitions (i.e. developers, marine users, Government agencies (i.e. SEPA), consenting authorities, environmental bodies, and local communities), is likely to be a critical factor of the delivery of any potential benefits.

## General Policy 6: Historic Environment

General Policies					
6: Historic Environment		<p>Development which has the potential to have an adverse effect on the archaeological, architectural, artistic or historic significance of heritage assets, including their settings, will be expected to demonstrate that all reasonable measures will be taken to mitigate any loss of significance, and that any lost significance which cannot be mitigated is outweighed by the social, economic or environmental benefits of the development.</p> <p>Preservation in situ will always be the preferred form of mitigation. The results of any mitigation measures must be published in an agreed format, and all supplementary material lodged with an agreed publicly accessible archive.</p> <p>Heritage assets of very high significance should be protected from all but minor adverse effects to their significance unless there are overwhelming social, economic or environmental benefits from the development. For these sites the highest levels of mitigation will be required. This includes all sites where there is a substantial likelihood of the survival of human remains, and all sites protected under the following Acts: Protection of Military Remains Act 1986 (as amended); Planning (Listed Buildings and Conservation Areas) (Scotland) Act 1997 (as amended); Ancient Monuments and Archaeological Areas Act 1979 (as amended); Marine (Scotland) Act 2010.</p> <p>For those sites which are designated, licences or consents are likely to be required from the relevant authority before the commencement of development. Receiving these consents may be a condition of marine licence approval. Proposals for development and use that may affect the historic environment should provide information on the significance of known heritage assets and the potential for new discoveries to arise. They should demonstrate how any adverse impacts will be avoided, or if not possible minimised and mitigated. Where it is not possible to minimise or mitigate impacts, the benefits of proceeding with the proposal should be clearly set out.</p> <p>Whilst requirements of navigation and safety take precedence over the conservation of the historic environment, they do not remove the need for development proposals to comply with this policy so far as is reasonable.</p>			
Topic Area		Assessment Summary			
Biodiversity	0	<p>The Policy seeks to increase awareness amongst future developers, marine users and consenting authorities of their obligations for the protection of the historic environment in the PFOW. It is a safeguarding policy, and will likely provide further guidance on the consideration of cultural heritage issues in the development process, and build upon that provided by existing mechanisms such as Marine Licensing and associated EIA process, current Scottish policy (i.e. Scottish Historic Environment Policy (SHEP) 2011, the Marine Historic Environment Strategy for the Protection, Management and Promotion of Marine Heritage 2012 – 15, etc.), and existing requirements outlined in legislation (i.e. Protection of Wrecks Act 1979, Ancient Monuments and Archaeological Areas Act 1979, etc.). As a consequence, the potential for overall benefits through greater consideration of Cultural Heritage and Material Assets have been identified.</p>			
Climate change	0				
Cultural heritage	+	<p>While designated features such as the Neolithic Heart of Orkney WHS and designated wrecks are currently subject to numerous layers of protection, the assessment noted that the policy may have particular benefits for the preservation of undesignated features (i.e. undiscovered coastal or marine archaeology and undesignated wreck sites). It could also provide further guidance to developers and marine users on their responsibilities for considering the potential for direct, indirect or cumulative effects on these features.</p>			
Landscape/Seascape	+	<p>Whilst not specifically focused on landscape/seascape preservation, the potential for benefits through improving awareness on cultural heritage and historic setting issues for future developers and coastal/marine users has the potential to deliver associated benefits for visual amenity and landscape/seascape. In particular, areas such as West Mainland Orkney, Hoy and the north Caithness and Sutherland coast containing large areas of important historic and landscape/seascape designations, may have the highest potential for benefits.</p>			
Soil, marine geodiversity and coastal processes	0	<p>The potential for associated benefits for population and human health were also noted in the SA; principally given the importance of cultural heritage in communities across the PFOW and encouraging the continued enjoyment and appreciation of heritage and historic features in coastal and marine areas (e.g. the WHS, listed buildings in coastal areas, etc.).</p>			
Communities, Population and Human Health	+				
Water	0				
Material Assets	+				
The following general policies and their supporting text would also apply:	<p>1A: Sustainable Development 1B: Supporting Sustainable Economic Benefits 2: Wellbeing, Quality of Life and Amenity of Coastal Communities</p>		<p>4D: Landscape and Seascapes 5B: Coastal Processes and Flooding</p>		
Outcomes and recommendations					
<p>The SA recognised the importance of cultural heritage in the PFOW and for the many communities in the area. It also noted the range of existing legislative mechanisms and processes that are in place for the protection of cultural heritage and historic environment features in both the terrestrial and marine environments.</p> <p>The SA found that the policy likely presents an opportunity to further promote the importance of cultural heritage sites, both designated and undesignated, and raise awareness for future developers and marine users in their obligations for the preservation of these valued features. The potential for positive effects for the preservation of heritage assets was noted and the potential for secondary and indirect environmental effects for a number of topic areas was also identified (e.g. landscape/seascape and visual amenity, and communities, population and human health).</p> <p>The SA considered that current consenting processes underpinned by specific assessments (e.g. EIA incorporating an assessment of cultural heritage/historic environment in relation to a proposal) are likely to continue to be the primary mechanism for identifying and mitigating any such impacts at the project level. The implementation of the Policy and the ambitions of the Pilot Plan, particularly around ensuring a consistent approach is taken to the consideration of these concerns and their assessment, are likely to support these processes. However, the SA also identified a need to engage with stakeholders, including developers, marine users, Government agencies (e.g. Historic Environment Scotland), consenting authorities and local communities, and nominated this as a key recommendation in ensuring that the potential benefits identified in the SA are realised, and where possible, maximised.</p>					

## General Policy 7: Integrating Coastal and Marine Development

General Policies			
Topic Area		Assessment Summary	
7: Integrating Coastal and Marine Development		<p>For developments that require multiple licences, permissions and/or consents, applicants should undertake early pre-application engagement with the consenting authorities and relevant stakeholders.</p> <p>For developments that require an Environmental Impact Assessment and multiple licences, permissions and/or consents, applicants should produce a Consultation Strategy at the scoping stage. Where appropriate, a single EIA should be carried out for marine and terrestrial components of a development project that are inextricably linked to the main works.</p> <p>Proposals for construction projects should be supported by a construction environmental management plan which covers both the terrestrial and marine environment.</p> <p>MS-LOT and other relevant consenting authority should consult one another at an early stage to improve the efficiency of the consenting process and, where appropriate, coordinate and streamline the various consenting requirements.</p>	
Biodiversity	+	In general terms, the ambitions outlined in the policy should aid in streamlining and improving efficiency in the licensing and consenting processes for developments with both onshore and offshore elements. The SA also identified an opportunity in further promoting a 'joined up' approach to the consideration of potential environmental and socio-economic impacts in these processes. If taken forward with the support of developers and consenting authorities, the primary effects are likely to be improved co-ordination between developers, marine users and various consenting/licensing bodies within the Plan area. For example, the potential for greater consideration of other marine and coastal users and the opportunity to identify synergies between them have been identified as potential positive outcomes (e.g. potential for co-existence through shared use of marine and coastal space, multiple use of onshore infrastructure, etc.).	
Climate change	+		
Cultural heritage	+	The promotion of methodologies in the Policy, such as production of a Consultation Strategy at an early stage in the development process, may also lead to more efficient and transparent communication and engagement between developers and stakeholders (i.e. other marine sectors and marine users, local communities, etc.). This has potential for a range of positive effects, including the early identification of environmental, social and economic risks, and early opportunities to overcome any potential obstacles. This may also present an opportunity for developers to discuss potential synergies and mutual benefits associated with their proposals with stakeholders (e.g. sharing infrastructure with other marine sectors and coastal/marine users, community benefits, sharing monitoring strategies, etc.). However, the SA also noted that any such benefits or opportunities for streamlining should not outweigh the requirements of the specific consenting processes.	
Landscape/Seascape	+		
Soil, marine geodiversity and coastal processes	+	While many developments have previously considered both on and offshore impacts through an integrated EIA process, support for the consideration of all components of a development project in a single EIA in the Draft Pilot Plan has the potential to deliver more consistency in the consideration of cumulative effects to in the development process at the regional scale, particularly for those with separate, yet linked, marine and terrestrial components. The potential for associated benefits to coastal and marine geodiversity, coastal processes, biodiversity, landscape/seascape and the setting of cultural heritage features, in particular were noted.	
Communities, Population and Human Health	+		
Water	+	However, it is acknowledged that this is likely to ultimately rest with the applicant. Further, the realisation of any such effects is likely to depend on achieving 'buy in' from developers, marine users and licensing/consenting bodies in particular, and the maximisation of any benefits is also likely to depend on the level of communication and engagement at the regional and project levels between developers, marine users and local communities.	
Material Assets	+		
The following general policies and their supporting text would also apply:		<p>1A: Sustainable Development  1B: Supporting Sustainable Economic Benefits  1C: Safeguarding the Marine Ecosystem  2: Wellbeing, Quality of Life and Amenity of Coastal Communities  4A: Nature Conservation designations  4B: Protected Species.  4C: Wider Biodiversity</p>	<p>4D: Landscape and Seascape  4E: Geodiversity  5A: Water Environment  5B: Coastal Processes and Flooding  6: Historic Scotland  8B: Waste and Marine Litter</p>
Outcomes and recommendations			
<p>The SA identified the potential for positive effects through promoting greater efficiency and streamlining in the development process through seeking opportunities to combine aspects of these processes for the consideration of its onshore and offshore elements. The likelihood of benefits for developers, stakeholders and licensing/consenting bodies alike was identified, and the potential for more consistent and transparent engagement between these and other stakeholders was also seen as a key potential benefit. While efficiencies for each were noted, the SA also noted that any such benefits or opportunities for streamlining should not outweigh the requirements of specific consenting processes. As a consequence, working with stakeholders and obtaining their 'buy in' was noted as an essential aspect of this policy. The engagement of developers and marine users with consenting authorities and local communities in particular was considered likely to be a determining factor in achieving any potential benefits and also in opportunities for co-ordinating consenting requirements.</p> <p>The potential for further benefits through the consideration of direct and cumulative environmental effects through an integrated process were considered to be of particular note where there are potential interactions between coastal and marine environments (e.g. coastal and marine geology, coastal processes, biodiversity, landscape/seascape and the setting of cultural heritage features). Similarly, potential opportunities for early identification of synergies and mutual benefits for marine users and local communities were also identified as key findings of the SA (e.g. sharing infrastructure with other marine sectors and coastal/marine users, community benefits, sharing monitoring strategies, linking construction works with other development activities).</p>			

## General Policy 8A: Noise

General Policies				
Topic Area		Assessment Summary		
8A: Noise		<p>This Plan will support developments in the marine environment where:</p> <ul style="list-style-type: none"> <li>Developers have avoided significant adverse effects of man-made underwater noise and vibration on species sensitive to such effects; of man-made noise, vibration and/or disturbance on the amenity of local communities and marine users.</li> <li>Applications for marine development that are likely to have significant noise impacts (on sensitive species and/or people) have submitted a noise impact assessment or supporting information to describe the duration, type and level of noise expected to be generated at all stages of the development (construction, operation, decommissioning).</li> <li>Mitigation measures are in place to minimise the adverse impacts associated with the duration and level of significant noise activity.</li> <li>The cumulative effects of noise in the marine environment and on local communities have been assessed.</li> <li>Developers have considered whether the level of surface or underwater noise has the potential to affect a European Protected Species (EPS) and should note that any development which has the potential to disturb an EPS (otters, cetaceans) will be required to apply for an EPS licence.</li> <li>Developers have consulted with the local planning authority, Marine Scotland and Scottish Natural Heritage in relation to potential noise impacts as early as possible in the design and development of any marine-related project.</li> </ul>		
Biodiversity	+	The policy is largely aimed at contributing to the avoidance and/or mitigation against the potential for noise and vibration impacts from development and coastal/marine activities. It will likely provide guidance for potential developers and coastal/marine users on expectations for developers and marine users for the consideration of potential noise and vibration effects from development and other marine activities on key receptors at an early stage; both in relation to impacts on noise or vibration sensitive species and human health. As a consequence, it will add support as a material consideration to current consenting processes and any supporting assessments (e.g. EIA, HRA as appropriate), whilst also supporting engagement with Marine Scotland and SNH in the identification of potential noise issues at an early stage in the development process.		
Climate change	0			
Cultural heritage	0	In general terms, many marine or coastal activities have the potential for disturbance or displacement of biodiversity features, including the potential for injury from exposure to both subsurface noise for some species (e.g. injury to hearing organs of species such as seals and cetaceans from exposure seabed piling operations, etc.) and above water noise (e.g. impacts on seabirds, some of which are likely to feed in marine areas and breed in coastal or inland locations, etc.). There is also the potential for impacts to communities and human receptors such as disturbance, displacement and in some instances, adverse effects on human health from exposure to noise and vibration (e.g. ranging from direct impacts such as hearing impairments and cardiovascular effects to annoyance and reductions in the quality of life).		
Landscape/Seascape	0			
Soil, marine geodiversity and coastal processes	0	The Policy has the potential to raise awareness and improve the consistency in how noise and vibration effects are considered and mitigated by developers and marine users (e.g. noise impact assessment). With the 'buy in' of developers and other stakeholders, the inclusion of this policy in the Pilot Plan may also aid in more consistency in the use of monitoring or research on the impacts of noise and vibration in the PFW, particularly for marine fauna. Given the wide and varied biodiversity around Orkney and along the north Caithness and Sutherland coastlines, the SA found that this has the potential for significant benefits. For example, many coastal areas in the Pilot Plan area are known to support many important bird populations, vulnerable seal populations and the wide range of cetacean species that are sighted in the region; each receptor known to be susceptible to noise and vibration effects, and given their mobility, could be impacted by several different sources as they travel. There is also the potential for improved consistency in the assessment and where appropriate, mitigation of noise and vibration effects on human receptors.		
Communities, Population and Human Health	+	The potential for benefits for material assets were also identified, largely associated with the potential for improved consistency and efficiency in early identification of potential concerns, and in improved management of potential noise and vibration issues (e.g. production of a noise impact assessment, receptor surveys, etc.).		
Water	0	The SA also identified the potential for more consistent engagement with likely receptors in coastal communities located throughout the PFW. With the 'buy in' of developers and marine users, this could also aid in developing a more detailed knowledge base on the impacts of noise and vibration on human health receptors from a range of development types (e.g. offshore renewables, etc.). However, the potential for additional costs associated with the consideration of potential noise impacts were identified as a potential likely concern for some marine sectors, particularly for small operators and those out with current consenting processes.		
Material Assets	+-	The assessment found that significant effects on the remaining topic areas were unlikely.		
The following general policies and their supporting text would also apply:		1C: Safeguarding the Marine Ecosystem 2: Wellbeing, Quality of Life and Amenity of Coastal Communities	4A: Nature Conservation Designations 4B: Protected Species	4C: Wider Biodiversity

## Outcomes and recommendations

Whilst recognising the role of existing processes in the identification and mitigation of potential noise issues (e.g. through Development and Marine Licence Applications underpinned by EIA and HRA), the SA identified the potential for the policy to have positive effects for biodiversity and communities, population and human health. In particular, the provision of guidance for developers and marine users for the consideration of potential noise and vibration impacts on receptors was identified a likely to contribute to positive effects. The potential for wider benefits was also noted, particularly in relation to the potential for the consistent and transparent consideration of receptors susceptible to both terrestrial and marine noise (e.g. seabirds feeding at sea and breeding in coastal or inland locations, seals utilising both marine and coastal environments), including those that can travel past different noise sources (e.g. migrating seabirds, seals, cetaceans, elasmobranchs). Benefits for material assets were also identified, largely in the potential for improved consistency and efficiency in the early identification of potential concerns and in managing potential noise and vibration issues (e.g. production of a noise impact assessment, receptor surveys).

Effective communication between stakeholders (i.e. developers, marine users, consenting authorities, Government agencies (e.g. SNH), environmental bodies and local communities), was a key recommendation in ensuring the early identification of any potential issues. However, the ability of the policy to deliver these potential benefits is likely to be closely linked to the requirements of current consenting processes and conditions of any consent given. As such, the SA identified a need for further engagement between stakeholders including developers, marine users and local communities in ensuring the realisation of any potential benefits.

## General Policy 8B: Waste management and marine litter

General Policies						
8B: Waste management and marine litter		<p>All developers and users of the marine environment should seek to minimise waste and discard all litter responsibly, recycling where possible. Proposals for new development or modifications to existing activities shall ensure that waste is reduced to a minimum and they do not add to marine litter. Large developments may require a waste management plan, which shall be adhered to as a condition of the development, where appropriate. Where this is the case, a draft plan should be included in the application. Where unavoidable litter is created, e.g. due to storms, a means of recovery, where reasonably practical, should be deployed. Where appropriate, a decommissioning plan should be provided to ensure removal of redundant infrastructure.</p>				
Topic Area		Assessment Summary				
Biodiversity	+	<p>The policy is aimed at managing waste and litter in the marine environment, and largely supports the ambitions of existing Scottish policy (i.e. Marine (Scotland) Act 2010, Marine Litter Strategy for Scotland developed in 2014). It will likely provide additional focus and guidance for potential developers and all coastal/marine users regarding expectations for the management of waste in the coastal and marine environment, and is aimed at supporting both the reduction of marine litter, promoting the waste hierarchy where possible, and reducing the potential for associated adverse effects to marine users and the marine environment.</p>				
Climate change	0	<p>Greater awareness of marine waste issues and potentially, improved management of waste amongst users of the PFOW marine environment, were identified as possible benefits of the policy. For example, reductions in marine litter and effective management of unavoidable litter generated by events such as storms, have the potential to deliver a wide range benefits for the marine environment, including positive effects for several other SA topic areas. Potential benefits for landscape/seascape and cultural heritage through removing visual detractors, a reduced risk of impacts of water quality (e.g. reductions in oil and chemicals associated with litter, waste materials being released into the aquatic environment, and reduced concentrations of contaminants in the ambient environment, etc.) and reduced risk of adverse effects on the coastal environment (e.g. accumulation of waste on the shoreline, etc.) were all been identified. The potential for positive population and human health effects associated with the use and enjoyment of the marine environment by recreational users (e.g. swimming, sailing, surfing and sea angling, amongst others), the potential for reduced risk of collision by marine users and vessels between marine users and waste objects, and reduced risk of disease and bacterial contamination of water that may be associated with the accumulation of waste and contamination of water bodies, were also noted .</p>				
Cultural heritage	+	<p>Reductions in waste and litter releases may also have long-term benefits for biodiversity in the marine environment and at the shoreline; most notably in reducing the amount of litter which could give rise to ingestion and/or entanglement of marine fauna. The same potential for long-term benefits applying to reductions in benthic smothering and the potential for the spread of non-native species were also noted, as was the potential for associated positive effects for soil, marine geodiversity and coastal processes.</p>				
Landscape/Seascape	+	<p>In terms of economic/material assets, many sectors are likely to benefit from reductions in waste and litter in the marine environment, and in the recovery of large items of waste generated by storm events and accidents. For example, sectors such as the aquaculture and offshore renewables sectors are likely to benefit from reduced risk of damage to infrastructure from large items of marine litter and from a reduced risk of adverse water quality. Others such as the fishing, shipping, recreational sailing and cruising sectors, may also experience positive effects through a reduction in collision risk between vessels and waste materials.</p>				
Soil, marine geodiversity and coastal processes	+	<p>However, the SA also noted that in many instances litter management is likely to be a condition of consent (e.g. aquaculture, renewables, etc.). The potential for additional costs associated with implementing waste management measures in line with the Pilot Plan were identified as a likely concern for some marine sectors; particularly for small operators and those out with these sectors (e.g. in the recovery of waste or litter after storm events, etc.).</p>				
Communities, Population and Human Health	+	<p>It was considered unlikely that the Policy would have significant effects in relation to climate change.</p>				
Water	+	<p>The assessment also considered that the realisation of any such effects is likely to rely on 'buy in' of developers, coastal and marine users, and other stakeholders.</p>				
Material Assets	+/-					
The following general policies and their supporting text would also apply:	<p>1C: Safeguarding the Marine Ecosystem 2: Wellbeing, Quality of Life and Amenity of Coastal Communities 4A: Nature Conservation Designations</p>		<p>4B: Protected Species 4C: Wider Biodiversity 4D: Landscape and Seascape 5A: Water Environment</p>	<p>6: Historic Environment 7: Integrated Coastal and Marine Development</p>		
Outcomes and recommendations						
<p>Whilst recognising that existing consenting processes in the coastal and marine environment currently consider waste and litter generation and can outline conditions for its appropriate management (e.g. development of Waste Management Plans), the SA identified the potential for overall positive effects associated with this policy. In particular, the potential for improved management of waste amongst marine users was identified, and especially for coastal and marine users out with these consenting processes.</p> <p>However, the SA also noted the potential for mixed effects for some marine users. While reduced marine litter is likely to have benefits for many, through a reduced risk of adverse impacts to water quality, damage to coastal and marine infrastructure and vessel collision risk from larger items, there is the potential for additional cost implications associated with implementing further waste management measures for some marine users; particularly for small operators (e.g. in the recovery of waste or litter after storm events).</p> <p>The potential for secondary or indirect benefits for a number of topic areas associated from the promotion of ambitions to reduce litter and improve the recovery of unavoidable litter (e.g. from storm events) were also identified. This included the potential for a reduced risk of interactions between marine flora and fauna with marine litter (e.g. ingestion, entanglements, benthic smothering), reduced collision risk between vessels and marine/coastal infrastructure, and reduced risk of impacts to visual amenity, landscape/seascape and the setting of cultural heritage features, amongst others.</p> <p>The SA found that the realisation of any such benefits associated with the implementation of the Policy are likely to be closely linked to the requirements of current consenting processes and conditions of any consents given be contingent, and contingent on achieving the 'buy in' of stakeholders (i.e. developers, marine users, consenting authorities and local communities). However, it also considered that with the support of stakeholders, any actions undertaken by developers and/or marine users are also likely to contribute to wider waste reduction and management ambitions, including Scotland's zero waste targets.</p>						

## General Policy 9: Invasive Non-native Species

General Policies						
9: Invasive Non-native Species		<p>All developers and other users of the marine environment should take into account the risk of introducing and spreading non-native species and put in place biosecurity and management measures to minimise this risk. These measures will be most effective when a co-ordinated and collaborative approach is taken by developers and users of the marine environment.</p> <p>Existing Codes of Practice, species control agreements and orders (under the WANE Act) and international guidelines should be used to develop these measures where relevant to the marine environment.</p> <p>Where non-native species are known to be present, mitigation measures (e.g. an eradication plan) or a contingency plan should be put in place to minimise the risk of spreading the species.</p>				
Topic Area		Assessment Summary				
Biodiversity	+	<p>With the inclusion of this Policy, an increased awareness of existing measures and controls for reducing the potential risk of introducing and spreading invasive and non-native species is likely. The potential for greater and more consistent consideration of invasive and non-native species amongst all marine sectors, and where appropriate, promoting the adoption of appropriate management measures, should also aid the protection of biodiversity features in the PFOW and in wider Scottish waters. The potential for particular benefits for those species and habitats sensitive or vulnerable to invasive species have been noted, particularly as this is expected to become an issue of greater concern in the future (i.e. warmer sea temperatures associated with predicted effects of climate change, etc.). The SA found that this may also limit the potential for adverse impacts on the integrity of coastal and marine ecosystems, and on the ecological status of the PFOW water environment.</p> <p>The potential for benefits was also identified for those marine users and local communities that rely on the unique biodiversity in the region.</p>				
Climate change	0	<p>The policy reflects and supports ambitions and commitments made in wider policy and overarching regulations, such as those outlined in the NMP and the upcoming Alien and Locally Absent Species in Aquaculture (Scotland) Regulations 2014, amongst others. Some sectors, such as the aquaculture sector and shipping sector, have developed voluntary codes of practice or management policies that include biosecurity measures and procedures (i.e. the Orkney Islands Council Harbour Authority Ballast Water Management Policy for Scapa Flow was developed for vessels over 400 gt).</p> <p>However, the potential for benefits through increased awareness amongst other marine users was recognised, and there is likely to be a particular benefit for those operating in areas of the PFOW area where invasive non-native species are known to be present or in areas of significant biodiversity and socio-economic value (e.g. reducing risks associated with hulls and equipment used in the fishing and recreational sectors, cruise ships, etc.). For example, in Scapa Flow where such as Japanese skeleton shrimp and Orange tipped Sea squirt have been identified, and further 'high risk species' such as Chinese mitten crab and Leathery sea squirt, have been identified as posing high environmental and socio-economic risk and are the subject of a monitoring programme<sup>1</sup>.</p>				
Cultural heritage	0	<p>The SA noted the potential for mixed effects for a number of marine sectors. In terms of economic effects, compliance with biosecurity measures by some sectors has the potential to increase operating costs. However, the potential for positive effects of a reduced risk of adverse impacts on important and sensitive habitats, many native species, and of the PFOW marine and coastal ecosystems in general were identified as likely having overall positive effects. Further, greater consistency in actioning potential issues at the strategic and local level is also likely to provide material benefits and help to provide further protection for those sectors dependant on biodiversity in the area (e.g. fishing, wildlife tourism, etc.).</p>				
Landscape/Seascape	0	<p>The SEA considered that the policies were unlikely to result in significant impacts in relation to climate change, cultural heritage, landscape/seascape, soil and marine geodiversity.</p>				
Soil, marine geodiversity and coastal processes	+	<p>The SA noted the potential for mixed effects for a number of marine sectors. In terms of economic effects, compliance with biosecurity measures by some sectors has the potential to increase operating costs. However, the potential for positive effects of a reduced risk of adverse impacts on important and sensitive habitats, many native species, and of the PFOW marine and coastal ecosystems in general were identified as likely having overall positive effects. Further, greater consistency in actioning potential issues at the strategic and local level is also likely to provide material benefits and help to provide further protection for those sectors dependant on biodiversity in the area (e.g. fishing, wildlife tourism, etc.).</p>				
Communities, Population and Human Health	+	<p>The SEA considered that the policies were unlikely to result in significant impacts in relation to climate change, cultural heritage, landscape/seascape, soil and marine geodiversity.</p>				
Water	+	<p>The SEA considered that the policies were unlikely to result in significant impacts in relation to climate change, cultural heritage, landscape/seascape, soil and marine geodiversity.</p>				
Material Assets	+-	<p>The SEA considered that the policies were unlikely to result in significant impacts in relation to climate change, cultural heritage, landscape/seascape, soil and marine geodiversity.</p>				
The following general policies and their supporting text would also apply:	<p>1C: Safeguarding the Marine Ecosystem 3: Climate Change</p>		<p>4A: Nature Conservation Designations 4B: Protected Species</p>	<p>4C: Wider Biodiversity 5A: Water Environment</p>		
Outcomes and recommendations						
<p>The SA identified the potential for overall positive effects associated with greater awareness of risks from invasive non-native species. It found that the Policy is also likely to strengthen and promote overarching ambitions of informing a wide range of marine users on existing guidance and on their legal requirements in relation to this issue (e.g. SNH Guidance on Marine Biosecurity Planning, Codes of Practice, NMP, regulations, Orkney Islands Council (OIC) Harbour Authority Ballast Water Management Policy for Scapa Flow).</p> <p>In all, the SA identified the potential for positive effects for biodiversity, and marine ecosystems, water, geodiversity and communities, population and human health. The potential for mixed effects for a number of marine sectors was also noted; principally that compliance with biosecurity measures by some sectors has the potential to increase operating costs. However, the potential for reducing the risk of adverse impacts on marine biodiversity and marine and coastal ecosystems are also likely to be beneficial in helping to preserve those sectors dependant on biodiversity in the area (e.g. fishing, wildlife tourism) and the local communities they help to support. As a consequence, the SA found that there is the potential for any such costs to be offset, at least in part, by overarching benefits for the marine environment and the sectors that utilise its resources.</p> <p>However, it also found that consistency across all marine sectors is likely to be needed to minimise these risks and deliver these potential benefits. The SA noted identified that achieving 'buy in' of all marine stakeholders was likely to be a key factor in realising the ambitions of the Policy. As a consequence, the SA considered the policy and the Pilot Plan may present an opportunity to facilitate further engagement with a wide spectrum of marine sectors in the PFOW area (e.g. fishing sector, recreational sailing and boating, shipping and marine transport) and work towards the consistent use of biosecurity measures across all marine sectors in the PFOW by building upon those measures already in place.</p>						

<sup>1</sup> Orkney Islands Council Harbour Authority (2013) Ballast Water Management Policy for Scapa Flow [Online] Available At: <http://www.orkneyharbours.com/pdfs/bwm/Ballast%20Water%20Management%20Policy%20for%20Scapa%20Flow%2010%20December%202013.pdf> (accessed 23/12/2014)

## APPENDIX B:

### Assessment Tables for Sectoral Policies

<u>Legend:</u>		Positive effects
		Mixed effects
		Negative effects
		No significant effects
		Uncertain

## Sectoral Policy 1: Commercial Fisheries

Sectoral Policy		
1: Commercial Fisheries		
Preferred Option		Assessment Summary
Biodiversity	+	<p>In general terms, commercial fishing activities have the potential to generate environmental effects on coastal and marine environments. For example, the potential for adverse impacts to marine and coastal biodiversity (e.g. benthic impacts from dragging of gear, effects on sustainability of fishing stocks through overexploitation or by catch, entanglement in netting and ropes, displacement of species such as seabirds, reduced availability of food for prey species, etc.), climate change (e.g. use of fuel contributing to GHG emissions, etc.), direct impacts to submerged cultural heritage features and to soil and sediment/marine geodiversity (e.g. bottom-contact mobile gear, impacts on benthic habitats have implications for the character and integrity of the seabed, etc.), impacts on coastal and marine water quality (e.g. pollution incidents from vessels, impacts on ecological status of water, turbidity from bottom-contact mobile gear, etc.), amongst others. The potential for socio-economic impacts was also identified, including the displacement of other coastal or marine activities, the potential for benefits through the creation of jobs, and the potential for associated impacts for communities, particularly for those with a reliance on commercial fishing.</p>
Climate change	0	<p>The policy seeks to improve the awareness of existing fishing activities amongst other marine users and future developers, and sets out expectations for the consideration of fishing interests (including cultural, economic and environmental factors) in decision-making for the future use of the PFOW area. It promotes sustainability and the safeguarding of existing fishing activities and opportunities for the future, whilst highlighting the importance of the preservation of fishing stocks, nursery and spawning areas, and these habitats for the sector. Whilst the inclusion of such policies promote the preservation of resources considered important to the sector, it is considered unlikely to promote growth in the sector. Therefore, the potential for any such impacts is considered out with the remit of the Pilot Plan.</p>
Cultural heritage	0	<p>Given the likelihood of increased competition for space in the PFOW marine environment, there is the potential for mixed effects for many marine users; the commercial fishing sector included and the communities that they help to support. In general terms, some fishing activities are less likely to be compatible for shared or multiple use than others and the potential for conflicts between the fishing sector and others has been identified as a potential concern (e.g. between different types of fishing, between some fishing activities and renewables, etc.). As a consequence, there is the potential for 'trade-offs' within the fishing sector and between it and other sectors (e.g. in terms of siting of future developments, timing/design, displacement of fishing activities, additional costs associated with routing around such developments, etc.). However, assuming that any such 'trade-offs' are appropriately assessed and decisions and agreements made accordingly (e.g. via a Fisheries Management and Mitigation Strategy), the sustainable focus of the Draft Pilot Plan and the provisions of this policy are likely to have a net positive effect in ensuring that the potential for adverse effects are better managed, and that marine resources are put to their best use. Further, giving due consideration to fishing activity in these decision-making processes will likely help to safeguard fishing jobs and incomes, reduce the risk of adverse effects such as collision risk on the sector, and contribute to providing associated benefits for the sector itself and local communities. However, it is unlikely that this will result in net job creation at the current time.</p>
Soil, marine geodiversity and coastal processes	+	<p>In general terms, many of the marine activities and developments that are likely to significantly affect commercial fishing operations in the PFOW are currently subject to existing consenting processes where the requirement for consultation with stakeholders is well established (e.g. renewables, aquaculture, oil and gas, etc.). In such cases, the policy has the potential to provide additional guidance for developers and setting out expectations for the consideration and management of potential impacts on the commercial fisheries sector. With the 'buy in' of marine users, developers and the fishing sector itself, the Policy has the potential to aid in promoting early and effective engagement and could help to introduce the views of the fishing sector, and potentially aid in identifying constraints or issues of concern for developers at an early stage in the development process. In some instances, there is the potential for early engagement to help to steer development away from areas of such concern (e.g. spawning or nursery areas) and into areas of lesser constraint.</p>
Communities, Population and Human Health	+-	<p>The potential for positive effects for biodiversity through safeguarding spawning and nursery areas, and for associated benefits for associated marine ecosystems have also been identified. The</p>
Water	+	

Material Assets	+-	<p>promotion of sustainable development in the Plan also seeks to provide opportunities for developers and marine users alike to manage and grow their activities in a sustainable way. As a consequence, there is the potential to reduce the likelihood of adverse environmental effects in this growth. The potential for positive effects in contributing to maintain the ecological status of coastal waters and in contributing to coastal/marine geodiversity has also been identified.</p> <p>It is considered unlikely that the Policy itself would have significant effects on climate change, cultural heritage, landscape/seascape and coastal processes.</p>		
The following general policies and their supporting text would also apply:		1A: Sustainable Development 1B: Supporting Sustainable Social and Economic Benefits 1C: Safeguarding the Marine Ecosystem 2: Wellbeing, Quality of Life and Amenity of Coastal Communities	4A: Nature Conservation Designations 4B: Protected Species 4C: Wider Biodiversity 4E: Geodiversity	5A: Water Environment 6: Historic Environment 8B: Waste and Marine Litter 9: Invasive Non-native Species
<b>Outcomes and recommendations</b>				
<p>The SA identified the potential for largely positive effects associated with the policy through the promotion of the consideration of interactions with the fisheries sector by potential developers and other marine users in the PFOW area. In setting out expectations for developers and marine users, and outlining support for the safeguarding of existing fishing practices where possible, preserving the potential for opportunities for future sustainable activities, and supporting the safeguarding of environmental factors upon which the sector relies (e.g. fish stocks, spawning and nursery areas), the policy has the potential for contributing overall positive effects for the sector. However, the potential for conflicts and trade-offs between the fishing sector and other sectors was noted in the SA (e.g. particularly in terms of displacement due factors such as the location and timing/design of development, amongst others), and hence the potential for both positive and negative effects for Material Assets and Communities, Population and Human Health.</p> <p>The SA considered that the policy may help in streamlining the development process; principally through promoting the co-existence of marine users and in early and effective management of any potential conflicts. For example, in setting out expectations for developers for working with fisheries stakeholders (i.e. Inshore Fisheries Groups, local communities) there is the potential for benefits in having early and effective discussions on the management of the available marine space. This could also aid in resolving potential conflicts between developers and fisheries, and where possible, help to seek opportunities for synergistic benefits for a wide range of marine users.</p> <p>With the 'buy in' of stakeholders, the potential for associated positive effects for biodiversity and the ecological status of water quality and soil and marine geodiversity were also identified (e.g. protection of benthic habitats important to juveniles). Positive effects for safeguarding fishing stocks and nursery/spawning areas, managing potential conflicts between the fishing sector and other marine users, and reducing displacement and collision risk were also identified. However, it was considered unlikely that the Policy itself would have significant effects on climate change, cultural heritage, landscape and coastal processes.</p> <p>The SA also noted that delivery of any such benefits is likely to be contingent on the achieving the 'buy in' of key stakeholders (e.g. future developers, the fishing sector, other marine users, consenting authorities, environmental bodies and government bodies such as SNH).</p>				

## Sectoral Policy 2: Aquaculture

Sectoral Policy				
Preferred Option		Assessment Summary		
1: Aquaculture		<p>Aquaculture developments may be supported in principle by the Plan where they are in compliance with:</p> <ul style="list-style-type: none"> <li>• Local Development Plans for Orkney Islands Council or Highland Council.</li> <li>• Aquaculture Supplementary Guidance for Orkney Islands Council or any Aquaculture Supplementary Guidance for Highland Council.</li> </ul>		
Biodiversity		<p>In general terms, finfish and shellfish aquaculture and seaweed cultivation have the potential for impacts on coastal and marine environments. For example, the potential for adverse impacts to marine and coastal biodiversity (e.g. benthic smothering and/or enrichment, reduction in biological carrying capacity, entanglement in netting and ropes, etc.), direct and setting impacts to submerged and coastal cultural heritage, impacts to soil and sediment/marine geodiversity, impacts to landscape/ seascape, impacts on coastal and marine water quality, and increased human health risks (e.g. navigational safety, etc.), amongst others, have been identified. The potential for socio-economic impacts was also noted, particularly in relation to the displacement of other coastal or marine activities and the potential for benefits such as the creation of jobs and the potential for associated benefits for communities.</p>		
Climate change		<p>However, in the context of current legislation and guidance as outlined in the Pilot Plan, the policy itself is unlikely to significantly increase aquaculture activities within the plan area. Rather, the policy aims to provide information on the wide variety of factors that should be considerations in future development in the sector, including the development of shore-based facilities such as processing plants. It refers to the existing requirements of the respective LDPs and Supplementary Guidance of the Orkney Islands and Highland Councils, which identify current consenting processes relevant to growth in the sector (e.g. Marine Licensing and the requirements of the EIA Directive).</p>		
Cultural heritage		<p>Its inclusion in the Pilot Plan is likely to increase awareness of these requirements and has the potential for benefits for future aquaculture developers and other stakeholders. As for other sectors considered in the Pilot Plan, it has the potential to improve efficiency in the development and application process. The potential for improved stakeholder consultation through discussing the current consenting process in the Pilot Plan has also been identified, alongside the potential for some stakeholders to become more involved in these processes (e.g. identifying potential community benefits, etc.). As a consequence, there is the potential for positive effects for Material Assets and Communities, Population and Human Health.</p>		
Landscape/Seascape		<p>However, the assessment considered that no further significant environmental effects are likely from the inclusion of the policy in the Pilot Plan.</p>		
Soil, marine geodiversity and coastal processes				
Communities, Population and Human Health				
Water				
Material Assets				
The following general policies and their supporting text would also apply:		1A: Sustainable Development 1B: Supporting Sustainable Social and Economic Benefits 1C: Safeguarding the Marine Ecosystem 2: Wellbeing and Quality of Life and Amenity of Coastal Communities	4A: Nature Conservation Designations 4B: Protected Species 4C: Wider Biodiversity 4D: Landscape and Seascape	5A: Water Environment 5B: Coastal Processes and Flooding 8B: Waste and Marine Litter 9: Invasive Non-native Species
Outcomes and recommendations				
<p>The SA found that while aquaculture and seaweed cultivation activities have the potential to result in significant environmental effects, development within these sectors in the future will continue to be managed through existing consenting processes (e.g. potentially including planning permission under the Town and Country Planning (Scotland) Act 1997, obtaining seabed leases from TCE and landowners, Controlled Activity Regulations (CAR) Licenses from SEPA, Marine Licensing from Marine Scotland). The policy will provide support to these processes by providing awareness for future developers and stakeholders on these requirements, and could result in benefits for Material Assets and Communities, Population and Human Health topic areas (i.e. potential for improved efficiency in the consenting process, enhanced consultation between developers and stakeholders, early identification of interactions and potential constraints to development/marine use). As a consequence, there is likely the potential for positive effects for the aquaculture sector and associated benefits for the communities that these activities can help to support. It was also noted that Marine Scotland is undertaking work to identify areas of opportunity and constraint for both finfish and shellfish aquaculture, referred to in the NMP, and the SA noted that that future regional marine planning work should be linked to this work.</p> <p>The SA considered that the 'buy in' of a range of stakeholders is likely to be an important factor in the delivery of any positive effects identified in this assessment (e.g. prospective developers, aquaculture sector, other marine users, consenting authorities and Government bodies (e.g. TCE, SEPA, Marine Scotland) in particular).</p>				

## Sectoral Policy 3: Oil and Gas

Sectoral Policy							
Preferred Option		Assessment Summary					
3: Oil and Gas		<p>Exploration and production of oil and gas will be supported by this Plan, working with DECC and, when established, the new Oil and Gas Authority and Competent Authority when:</p> <ul style="list-style-type: none"> <li>• Oil and gas exploration and production are conducted in accordance with regulations.</li> <li>• There is an approved Oil Pollution Emergency Plan in place that has the agreement with the appropriate authorities to respond to any accidental release of oil or gas and related hazardous substances.</li> <li>• All oil and gas platforms will have in place 9 nautical mile consultation zones in line with Civil Aviation guidance.</li> <li>• Connections to shore base and associated infrastructure take into account environmental and socio-economic constraints.</li> <li>• Appropriate monitoring programmes and detailed restoration and maintenance proposals based on standard best practice are in place.</li> <li>• Re-use of oil and gas infrastructure is considered and, where not practicable, decommissioning must take place in line with standard practice, and as allowed by international obligations.</li> </ul>					
Biodiversity	0	<p>In general terms, the exploration and production of oil and gas within the Pilot Plan area (out to 12 nautical miles) and outside of it (outside 12 nautical miles) has the potential to result in significant effects on coastal and marine environments. For example, the potential for adverse impacts to marine and coastal biodiversity, submerged and coastal cultural heritage, soil and sediment/marine geodiversity, landscape/ seascape, coastal and marine water quality, and increased human health risks (e.g. navigational safety, etc.) from exploration and production activities offshore and from associated operations offshore, coastal and onshore areas (e.g. construction, operation and decommissioning of pipelines, landfall infrastructure and supporting port facilities, etc.), amongst others, have been identified. The potential for socio-economic impacts have also been identified, particularly in relation to displacement of other coastal or marine activities and the potential for associated impacts at the community level. However, in the context of current legislation and guidance as outlined in the Pilot Plan, the policy itself is unlikely to significantly affect oil and gas exploration and production either within the plan area or further offshore.</p>					
Climate change	0	<p>The Department of Energy and Climate Change (DECC) environmental regulations relating to emissions and discharges do not apply for waters within 3 nautical miles, and competence in relation to pollution matters in these areas rests with the Scottish Government. As such, the SA considered that the policy has the potential for benefits in relation to oil and gas activities in coastal, landfall and onshore activities within the 3 nautical mile limit (e.g. supporting infrastructure such as ports and harbour facilities, onshore and landfall infrastructure, etc.). The SA noted the likelihood of positive environmental effects through the statement of support in the policy for approved Oil Pollution Emergency Plans and appropriate monitoring programmes based on standard best practice, but also noted this would likely be limited given these current responsibilities for oil and gas exploration and production activities. While in general terms, the inclusion of connections to shore base and associated infrastructure take into account environmental and socio-economic constraints in the policy may have the potential for positive effects, the SA found that this too is likely to be limited by current responsibilities.</p>					
Cultural heritage	0	<p>Guiding developers on Scottish Ministers expectations and referring developers to the accompanying RLGs at an early stage in the application process, could help to streamline the existing consenting process and aid in identifying, avoiding and/or minimising any adverse impacts that may result from proposed activities. The publication of the RLGs should also aid in informing prospective developers on regional issues and potential constraints for development, including exploration and production within and near to the plan area and locations of other coastal and marine use. While the SA considered that this could help to guide developers into areas of lesser constraint (e.g. avoidance of environmental designations for landfall sites, etc.), in the context of this policy, the SA also considered that it is unlikely that the policy would result in significant environmental effects.</p>					
Landscape/Seascape	0	<p>However, the SA also noted the potential for exploration and production activities in and near to the Pilot Plan area in the future. As a consequence, it is recommended that any policies relating to oil and gas activities in future regional marine plans in the PFOW area be periodically reviewed to address this.</p>					
Soil, marine geodiversity and coastal processes	0	<p>The following general policies and their supporting text would also apply:</p> <ul style="list-style-type: none"> <li>1A: Sustainable Development</li> <li>1B: Supporting Sustainable Social and Economic Benefits</li> <li>1C: Safeguarding the Marine Ecosystem</li> <li>4A: Nature Conservation Designations</li> <li>4B: Protected Species</li> <li>4C: Wider Biodiversity</li> <li>4D: Landscape and Seascape</li> <li>4E: Geodiversity</li> <li>5A: Water Environment</li> <li>6: Historic Environment</li> <li>7: Integrating Coastal and Marine Development</li> <li>9: Invasive Non-native Species</li> </ul>					
Outcomes and recommendations							
<p>The SA found that the ambition and potential effect of this policy is likely to be limited by current responsibilities for oil and gas exploration and production activities. It noted that the responsibility for offshore oil and gas exploration and production lies largely within existing UK legislation and regulations within the remit of the Department of Energy and Climate Change (DECC). As such, while the potential for positive effects associated with several provisions of the policy were noted in the assessment in general terms (e.g. use of approved Oil Pollution Emergency Plans, that connections to shore base and associated infrastructure taking into account environmental and socio-economic constraints, appropriate monitoring programmes and detailed restoration and maintenance proposals based on standard best practice are in place), it was considered that these ambitions were already requirements at the UK level and are largely outside the influence of the Pilot Plan. As such, in the context of this policy and the current oil and gas sector, the SA considered that it is unlikely that the policy would result in significant environmental effects.</p> <p>However, the SA did note the potential for the publication of the accompanying RLG to aid in informing prospective developers on relevant issues and constraints within the PFOW area. For example, it noted that the RLG could help prospective developers in the sector to identify potential constraints to development, including those looking to progress exploration and production activities within and near to the plan area and associated landfall or shore-based activities, and may aid in guiding developers into areas of lesser constraint (e.g. avoidance of environmental designations for landfall sites). The SA also recommended that any policies relating to oil and gas activities in future Regional Marine Plans in the PFOW area be periodically reviewed to consider the potential for future activities in and near to the PFOW area.</p>							

## Sectoral Policy 4: Renewable Energy Generation

Sectoral Policy			
Preferred Option		Assessment Summary	
4: Renewable Energy Generation		<p>All proposals for offshore wind and marine renewable energy development are subject to licensing and consenting processes. The Plan will support proposals when:</p> <ul style="list-style-type: none"> <li>Proposals for commercial scale developments are sited in the Plan Option areas identified through the Sectoral Marine Plan process. These are considered the preferred location for the sustainable development of offshore wind and marine renewables.</li> <li>The potential for co-existence in, and multiple use of, Plan Option areas and Agreement for Lease areas by other marine users has been discussed with stakeholders and given due consideration.</li> <li>Due regard has been paid to relevant factors in Regional Locational Guidance.</li> <li>Connections to shore and National Grid connections have been considered against the appropriate policies in the relevant Local Development Plan(s).</li> <li>Early and effective communication and consultation with all affected stakeholders has been established to avoid or minimise adverse impacts.</li> <li>Any adverse impacts are satisfactorily mitigated.</li> </ul>	
Biodiversity		<p>In general terms, support for sustainable growth of the renewables sector has the potential for both positive and negative effects on marine, coastal and terrestrial environments due to offshore and associated land-based and landfall renewables infrastructure. These broadly include the potential for positive and negative impacts to marine and coastal biodiversity (e.g. disturbance and displacement of marine fauna and seabirds, injuries to seals through collision with vessels/infrastructure, electromagnetic field (EMF) effects, damage to and loss of benthic habitats, smothering of benthic habitats, reef effects, etc.); the potential for adverse impacts for cultural heritage (e.g. damage to and loss of underwater features, effects on setting of historic features from surface-piercing infrastructure), soil and sediment/marine geodiversity (e.g. damage to or loss of seabed, changes to wave patterns and sediment dynamics), landscape/seascape (e.g. visual effects from presence of devices, associated and infrastructure and onshore components, etc.), and coastal and marine water quality (increased turbidity during installation works, potential release of contaminants from dredged material or oil/chemical spills, changes to wave energy and sediment dynamics, etc.); and the potential for positive effects in relation to climatic factors (e.g. reduce generation of GHG emissions and contribute to climate change adaptation), amongst others, through the siting and operation of offshore renewables. Further, growth in the renewables sector also has the potential to adversely affect development and activities in other marine sectors; notably the potential for displacement of other marine users from renewable development areas due to incompatibility and/or navigation and safety issues. The potential for positive and negative socio-economic impacts has also been identified in previous SEA work.</p>	
Climate change		<p>The Policy largely reflects the sustainable development ambitions advocated in wider offshore renewables policy; most notably in the preference for future development of commercial renewables development within the Plan Option Areas as outlined in the Sectoral Marine Plans rather than out with these areas, and the inclusion of reference to the appropriate policies in LDPs. However, by itself, the inclusion of this policy in the Pilot Plan is unlikely to significantly increase renewable development in the PFOW. Rather it will seek to support ambitions within the sector by guiding prospective developers in relation to the ambitions of the Sectoral Plans and LDPs, and raising awareness of the expectations of current consenting processes. It is considered that the identification, avoidance and/or mitigation of potential environmental and socio-economic impacts associated with specific developments are likely to continue to be addressed under these current processes.</p>	
Cultural heritage		<p>Together, support for the consideration of the relevant factors in the RLGs in the Policy, and promoting the co-existence of marine users has the potential for overall positive effects in most of the topic areas scoped into the assessment (e.g. biodiversity, cultural heritage, landscape/seascape, soil, marine geodiversity and coastal processes, and water). Creation of the RLGs to accompany the Pilot Plan will likely aid in informing prospective developers on key issues and constraints to development at the regional level, and potentially help to guide developers into areas of lesser environmental and socio-economic constraint. As a consequence, positive effects for a range of topic areas have been identified. Further, guiding developers in the consideration of the RLGs and promoting the use of early, effective and continuous communication between developers and affected stakeholders in particular, could help to streamline current consenting process and could help to avoid or minimise early delays and adverse impacts that could result from a given development.</p>	
Landscape/Seascape		<p>The promotion of early and effective communication and consultation with all affected stakeholders in the policy reflects the common theme amongst many of the policies in the Pilot Plan. The potential for benefits such as the early identification of potential conflicts between renewables and other marine users, mutual benefit opportunities for developers and other stakeholders (e.g. multiple use of infrastructure, shared monitoring programmes, community benefits, etc.) and opportunities to promote co-existence amongst different marine users were identified. However, the SA also found that while some sectors are likely to co-exist effectively with offshore renewables (e.g. different types of renewables and some recreational sectors, etc.), there is the likelihood that some activities may be displaced by further renewables development if not appropriately designed and sited (e.g. some fishing sectors, shipping routes, etc.). The potential for cost implications were also noted, either through the displacement of activities or via additional costs associated with routing around developments (e.g. shipping routes, fishing vessel steaming, etc.). As a consequence, the likelihood of mixed effects for the Communities, Population and Human Health and Material Assets topic areas was identified.</p>	
Soil, marine geodiversity and coastal processes		<p>The SA identified that the 'buy in' of prospective developers and stakeholders to the ambitions of the policy and the accompanying RLGs is likely to be an important part of the delivery of any positive effects. This is also likely to be a key factor in the management of potential adverse effects, particularly relating to displacement or disturbance of other marine users.</p>	
Communities, Population and Human Health			
Water			
Material Assets			
The following general policies and their supporting text would also apply:		<p>1A: Sustainable Development 1B: Supporting Sustainable Social and Economic Benefits 1C: Safeguarding the Marine Ecosystem 2: Wellbeing, Quality of Life and Amenity of Coastal Communities 4A: Nature Conservation Designations</p>	<p>4B: Protected Species 4C: Wider Biodiversity 4D: Landscape and Seascapes 4E: Geodiversity 5A: Water Environment</p> <p>5B: Coastal Processes and Flooding 6: Historic Environment 7: Integrating Coastal and Marine Development 8A: Noise 9: Invasive Non-native Species</p>

## Outcomes and recommendations

The SA identified the potential for largely positive environmental and socio-economic effects associated with the inclusion of this policy in the draft Pilot Plan. As for other sectoral policies, the potential for improved efficiencies in existing consenting processes, awareness of the ambitions of the Sectoral Plans, informing prospective developers of key socio-economic and environmental issues and constraints via the RLG, and the promotion of early, effective and continuous communication with stakeholders are likely to provide benefits for a range of topic areas (e.g. biodiversity, water, soil, marine geodiversity, landscape/seascape, cultural heritage, communities, population and human health and material assets). However, the SA also noted that current consenting processes underpinned by project-specific socio-economic and environmental assessments will remain the primary mechanism for the consideration of future development within this sector. It is anticipated that together the draft Pilot Plan, the RLG and the Sectoral Plans for Offshore Wind, Wave and Tidal energy are likely to provide support for these processes.

While the net effect of the policy is likely to be positive, the potential for mixed effects for the Communities, Population and Human Health and Material Assets topic areas was noted in the assessment. This finding reflects the potential for some marine sectors to conflict with renewables development and its related activities if inappropriately designed and sited; notably displacement of fishing activities and steaming routes, displacement of shipping and some recreational users, amongst others. The potential for associated effects at the community level were also identified, particularly for those with a close reliance on these sectors. However, the reference to the RLG, Sectoral Plans and inclusion of provisions for early and effective communication with affected stakeholders in the Policy was identified as having the potential to aid in the early identification and resolution of any such interactions.

The SA noted that the 'buy in' of stakeholders (e.g. developers, other marine users, communities, environmental bodies and Government bodies (e.g. SNH, SEPA), TCE, Marine Scotland and Local Authorities), and promoting early, effective and continuous communication between them, is likely to be an important factor in the delivery of any potential positive effects of the Plan. With the 'buy in' of stakeholders, the SA noted the potential for the policy to aid in the management of any potential adverse effects associated with further development of offshore renewables in the PFOW area, whether within the Plan Option areas or out with them.

## Sectoral Policy 5: Recreation, Sport, Leisure and Tourism

Sectoral Policy				
Preferred Option		Assessment Summary		
5: Recreation, Sport, Leisure and Tourism		<p>The Plan will support the sustainable development of marine recreation, sport, leisure and tourism. The Plan will support proposals for development of this sector where:</p> <ul style="list-style-type: none"> <li>• They do not adversely affect the natural environment which is the resource that recreation, sport, leisure and tourism rely on.</li> <li>• Codes of best practice and guidance such as those for biosecurity planning, non-native species and Marine Wildlife Watching are complied with.</li> </ul> <p>The Plan will support proposals for the development of other sectors where:</p> <ul style="list-style-type: none"> <li>• During planning and construction they minimise or mitigate any disruption and/or disturbance to recreation, sport, leisure and tourism activities, including the natural environment as a resource that these activities rely upon.</li> <li>• The impact the development has on access, navigational routes and navigational safety in relation to recreation, sport, leisure and tourism activities has been minimised or mitigated.</li> <li>• Consultation and engagement with relevant users of the marine environment has been undertaken to ensure the measures used to minimise or mitigate disruption or disturbance are appropriate.</li> <li>• Consideration has been given to the facility requirements of marine recreation, sport, leisure and tourism users and the potential for co-operation and sharing infrastructure and/or facilities taken into account.</li> </ul>		
Biodiversity	+	<p>In general terms, support for the sustainable growth of the recreation, sport, leisure and tourism sectors has the potential for both positive and negative environmental and socio-economic effects. These broadly include the potential for impacts to marine and coastal biodiversity (e.g. damage to or loss of benthic habitat from anchoring, disturbance of marine wildlife from recreational activities, introduction of invasive non-native species on vessels), cultural heritage (e.g. damage to and loss of underwater features), soil and sediment/marine geodiversity (e.g. damage to or loss of seabed from anchoring) and water quality (e.g. reduction in water quality from waste discharges, reduction in ecological status from anchoring damage to benthic habitat), amongst others. At the local level, there is also the potential for positive effects for communities in both Orkney and along the north Caithness and Sutherland coast, particularly those economically reliant on these sectors (e.g. creation of jobs, economic benefits, etc.), and similar positive effects are likely for recreation, sport and leisure users across the PFOW area.</p>		
Climate change	0	<p>By itself, the inclusion of this policy in the Pilot Plan is unlikely to significantly increase growth of this sector in the PFOW. Rather it is aimed at promoting the consideration of recreational, sport, leisure and tourism interests in future development and marine use by promoting sustainable development and co-existence amongst developers and marine users, and helping to preserve the resources upon which the sector is based. For example, setting out expectations for developers and other marine users for the consideration of the recreation, sport, leisure and tourism sector has the potential to reduce the risk of adverse effects on these activities (i.e. potential for displacement of marine users and some activities, impacts on navigational safety and human health, impacts on the natural environment, etc.). As a consequence, the potential for positive effects for Material Assets and Communities, Population and Human Health were identified.</p>		
Cultural heritage	+	<p>In the environmental context, many of the activities and operations undertaken in the recreation, sport, leisure and tourism sector utilise the resources of the natural environment, whether it be based around marine wildlife, coastal walking areas or using the area's many open waters for diving, cruising or yachting. As a consequence, the SA identified the potential for overall positive effects from the Policy through the preservation of these resources. In particular, there is potential for positive effects for biodiversity associated with increased awareness of existing codes of practice and guidance, particularly those relating to biosecurity and managing non-native species. An opportunity to contribute to the preservation of habitats and species in the PFOW, particularly those potentially vulnerable to displacement by invasive and non-native species, was noted as a particular benefit. Whilst many codes and guidance documents have been produced both at the sectoral and national levels many of which are currently well-known in some sectors (see assessment table for General Policy 9), inclusion of this issue in the Policy strengthens these ambitions and could present an opportunity to develop a more consistent approach across multiple sectors. The SA also identified the potential for significant benefits in reducing the risk of introduction or spread of such species in this sector, particularly in relation to recreation and leisure vessels, amongst others.</p>		
Landscape/Seascape	+	<p>Similarly, given the close links between water, marine geodiversity and biodiversity, the potential for associated positive effects in these topic areas was also identified in the assessment (e.g. reduced risk of adverse effects of geodiversity, particularly benthic habitats and the ecological status of water quality). The likelihood of associated benefits for the preservation of cultural heritage and landscape/seascape was also identified including valued landscapes/seascapes and sites with high tourism value (e.g. Heart of Neolithic Orkney WHS, Castle and Gardens of Mey, NSAs in Hoy and the Caithness coast, etc.) and other coastal assets that can frame outdoor recreational activities.</p>		
Soil, marine geodiversity and coastal processes	+	<p>While the potential for an increase in GHG emissions with growth of the sector was also noted in the assessment, the SA noted that the Plan and this policy themselves are unlikely to significantly increase growth in this sector. As a consequence, no significant increase in emissions or associated effects in relation to climatic factors was considered likely.</p>		
Communities, Population and Human Health	+	<p>The inclusion of support for proposals that "minimise or mitigate any disruption and/or disturbance" from activities in the sector and the natural resources that these rely upon, may have the potential to constrain development in other sectors within the Pilot Plan area. However, the SA also found that undertaking early consultation and engagement between users of the marine environment would likely play an important role in ensuring the co-operation and co-existence of users. The potential for opportunities to promote the shared use of space and infrastructure, and help to balance the needs of all users in the sustainable development of the PFOW area were also identified. As such, the grading provided to the left for Material Assets reflects the potential for both positive and negative effects.</p>		
Water	+	<p>While the net potential socio-economic and environmental effects of the Policy were found to positive, the SA also considered that the 'buy in' of marine users from all sectors would likely be required to deliver these potential benefits.</p>		
The following general policies and their supporting text would also apply:		1A: Sustainable Development 1B: Supporting Sustainable Social and Economic Benefits 1C: Safeguarding the Marine Ecosystem 2: Wellbeing, Quality of Life and amenity of Coastal Communities	4A: Nature Conservation Designations 4B: Protected Species 4C: Wider Biodiversity 4D: Landscape and Seascapes	5A: Water Environment 6: Historic Environment 9: Invasive Non-native Species

## Outcomes and recommendations

The SA identified the potential for overall positive socio-economic and environmental effects associated with the inclusion of the policy in the draft Pilot Plan. Increased awareness of potential interactions with recreational users, and setting out expectations for developers and other marine users, has the potential for a range of positive effects (e.g. potential for displacement of activities, impacts on navigational safety and human health, impacts on the natural environment). Similarly, informing prospective developers of known areas of recreational/tourism via the RLG this SA and the Socio-economic Baseline Report, and the promotion of early, effective and continuous communication with stakeholders are likely to provide particular socio-economic benefits. This could include opportunities to identify synergistic benefits for multiple sectors, marine users and local communities. The potential for further socio-economic benefits through the promotion of sustainable development and support for the existing recreation, sport, leisure and tourism sectors at the community level were also noted.

The SA identified that the inclusion of provisions to “minimise or mitigate any disruption and/or disturbance to coastal and marine recreation, sport, leisure and tourism activities, including the natural environment as a resource that these activities rely upon” may have the potential to constrain development in other sectors within the Pilot Plan area. However, it was also considered that undertaking early consultation and engagement between users of the coastal and marine environments could help to ensure the co-operation and co-existence of these users, to seek opportunities for the shared use of space and infrastructure, and help to balance the needs of all users in the sustainable development of the PFOW area.

The potential for a number of environmental benefits was also identified, notably through the likely contribution of the policy to the preservation of biodiversity, water and geodiversity from increased awareness of codes of practice and guidance relating to biosecurity and non-native species (e.g. protection of existing biodiversity, particularly for vulnerable habitats and species, reduced risk of impacts on ecological status of water). The potential for positive effects for cultural heritage and landscape/seascape were also identified through more consistent consideration of sectors based around the appreciation and enjoyment of these assets. As a consequence, the potential benefits for communities, population and human health associated with support for the existing recreation, sport, leisure and tourism sectors were also identified. For example, reduced risks associated with navigational safety and human health, and the preservation of outdoor recreation sites and activities, amongst others.

While the net environmental effect of the policy is likely to be positive, the SA considered that the ‘buy in’ of stakeholders would likely be required for the delivery of any such positive effects (e.g. recreation, leisure and tourism sector, other marine users and developers, environmental bodies and Government bodies, consenting authorities and local communities). In particular, the SA found that this is likely to be a key challenge in ensuring co-operation between different sectors, the shared use of space and in sharing infrastructure and facilities, and in the management of potential concerns such as invasive non-native species.

## Sectoral Policy 6: Marine Transport

Sectoral Policy		
6: Marine Transport		
Preferred Option		Assessment Summary
Biodiversity	+	In general terms, an increase in marine transport and commercial shipping has the potential to generate a range of environmental effects on coastal and marine environments. For example, the potential for adverse impacts to marine and coastal biodiversity (e.g. injury and/or death from collision of vessels with marine fauna, introduction of non-native invasive species on vessel hulls, etc.), climate change (e.g. use of fuel by vessels contributing to GHG emissions, etc.), impacts to soil and sediment/marine geodiversity (e.g. vessel movements may contribute to coastal erosion in areas susceptible to this issue, anchoring of vessels outside ports/harbours, etc.), and impacts on coastal and marine water quality (e.g. pollution incidents from vessels, discharges to sea will adversely affect water quality, etc.), amongst others, have been identified. The potential for socio-economic impacts was also noted, particularly in relation to providing connectivity for remote island communities, providing supporting services for marine industries (e.g. shipping of produce and equipment, etc.) and the potential for local benefits such as the creation of employment opportunities.
Climate change	0	The SA identified the potential for mixed effects associated with the inclusion of this policy in the draft Pilot Plan. In particular, the inclusion of policy for the safeguarding ferry routes and supporting the co-existence of different marine activities alongside one other has the potential for benefits for communities, population and human health. These include the potential for safeguarding of local jobs including those that rely on maintaining access across the PFOW area (e.g. ferry services, etc.), safeguarding safe navigational access to island and coastal communities and the preservation of recreational and leisure safety and accessibility; particularly where these activities share the use of shipping lanes, ferry routes and port/harbour/anchorage facilities.
Cultural heritage	0	The SA identified the potential for mixed effects associated with the inclusion of this policy in the draft Pilot Plan. In particular, the inclusion of policy for the safeguarding ferry routes and supporting the co-existence of different marine activities alongside one other has the potential for benefits for communities, population and human health. These include the potential for safeguarding of local jobs including those that rely on maintaining access across the PFOW area (e.g. ferry services, etc.), safeguarding safe navigational access to island and coastal communities and the preservation of recreational and leisure safety and accessibility; particularly where these activities share the use of shipping lanes, ferry routes and port/harbour/anchorage facilities.
Landscape/Seascape	0	Indirect positive effects for biodiversity, water quality, soil and marine geodiversity were also identified in the SA relating to the potential for a reduction in the risk of collisions and any pollution/spill incidents; particularly relating to the large tanker vessels accessing Scapa Flow Oil Terminal and commercial shipping routes through the Pentland Firth. However, the assessment also noted that marine safety is currently underpinned by international safety conventions, regulations and codes issued by the IMO. It is expected that any future marine development would be in accordance with these requirements, and the SA noted that this is also currently a consideration in consenting processes for many marine developments and marine activities. This is not expected to change with the adoption of the Pilot Plan.
Soil, marine geodiversity and coastal processes	+	While the inclusion of ambitions to protect existing and planned shipping routes and ensuring safeguarding ferry routes in this Policy is likely to have clear benefits for the marine transport sector (e.g. commercial shipping, recreational users using these areas, etc.), support for the co-existence of different marine activities alongside one-other could also have the potential to lead to conflicts between different industries. For example, this could result in the growth of some activities at the expense of others (i.e. those that are not compatible, which may lead to effects such as displacement, etc.). However, the SA also considered that undertaking early consultation and engagement between developers and users of the marine environment would likely play an important role in ensuring the co-operation and co-existence of users. It found that this could aid in seeking opportunities for the shared use of space and infrastructure, and help in balancing the needs of all users in a sustainable development context. As such, the effects of the policy in relation to material assets/economic and communities, population and human health topic areas have the potential to be mixed.
Communities, Population and Human Health	+/-	It is considered unlikely that the policy itself would have significant effects on biodiversity, climate change, cultural heritage or landscape/seascape.
Water	+	
Material Assets	+/-	
The following general policies and their supporting text would also apply:	1B: Supporting Sustainable Social and Economic Benefits 2: Wellbeing, Quality of Life and amenity of Coastal Communities 3: Climate Change	
		4E: Geodiversity 5A: Water Environment 9: Invasive Non-native Species
Outcomes and recommendations		
The SA found that there is the potential for socio-economic and environmental benefits associated with the safeguarding of shipping routes, ferry routes and access to ports, harbours and other anchorages. The potential for positive effects from setting out expectations for developers and marine users in maintaining navigational safety, including greater awareness and consideration of existing shipping and ferry routes, was also noted. For example, in addition to the likelihood of benefits for the marine transport sector (e.g. safeguarding access and travel routes for the sector), the potential for positive effects for communities, population and human health through reducing the risk of vessel-development collisions (i.e. tanker and shipping vessels in Scapa Flow, through the Pentland Firth and off the north Caithness and Sutherland coast) and maintaining accessibility, particularly between remote islands were considered likely (e.g. serviced by commercial vessels, recreational craft and ferries). Similarly, with the 'buy in' of stakeholders, the potential for associated benefits for biodiversity, water quality, soil and marine geodiversity through reduced collision and pollution incident risk were also noted.		
However, in some instances, the potential for mixed effects was identified. For example, maintaining safe access to ports and harbours and safeguarding important shipping and ferry routes may also negatively impact on the potential growth of other sectors, particularly those that are not compatible (i.e. offshore renewables, aquaculture). Further, the SA noted that marine safety is currently underpinned by international safety conventions, regulations and codes issued by the IMO. Navigational safety is also currently a consideration of existing consenting processes. As a consequence, the 'buy in' of stakeholders and the promotion of early communication and engagement between them was identified as being a likely key factor in the realisation of positive effects associated with this policy.		

## Sectoral Policy 7: Ports and Harbours

Sectoral Policy				
Preferred Option		Assessment Summary		
7: Ports and Harbours		<p>The sustainable growth of the ports and harbours within the PFOW area, particularly within existing facilities, will be supported by the Plan were:</p> <ul style="list-style-type: none"> <li>• Access to ports and harbours is not restricted.</li> <li>• Safety considerations are primary.</li> <li>• Navigational routes are not compromised.</li> </ul>		
Biodiversity	+	<p>In general terms, there is the potential for a range of environmental impacts associated with increased port and harbour activity. These broadly include the potential for impacts on biodiversity (e.g. damage to or loss of habitats through expansion of ports and harbours, disturbance of marine fauna (i.e. seals, cetaceans and seabirds), injury and/or death from collision of vessels with marine mammals, risk of introduction of non-native invasive species on vessel hulls, etc.), landscape/seascape and cultural heritage (e.g. visual impacts and impacts on setting from placement of new infrastructure and increased vessel numbers, etc.), soil, marine geodiversity and coastal processes (e.g. damage to or loss of habitats through expansion of ports and harbours, vessel movements may contribute to coastal erosion in areas susceptible to this concern, anchoring of vessels outside ports/harbours, etc.), climate change (e.g. increased use of fuel by vessels contributing to GHG emissions, etc.), coastal and marine water quality (e.g. pollution incidents from vessels, discharges to sea will adversely affect water quality, turbidity from dredging activities, etc.) and population and human health (disturbance from infrastructure works and increased activity in and around port and harbour facilities), amongst others. The potential for socio-economic impacts was also identified, particularly in relation to improved connectivity of remote island communities, providing supporting services for marine industries (e.g. shipping of produce and equipment, etc.) and the potential for local benefits such as economic benefits including the creation of jobs, amongst others.</p>		
Climate change	0	<p>The policy aims to provide guidance for potential developers, marine users and consenting bodies on the consideration of navigational safety and safeguarding of access in the development process, and the promotion of sustainable growth of ports and harbours in the PFOW area. However, the assessment also noted that the growth of ports and harbours will largely depend on market forces and demand for growth, rather than be driven by the development of the Pilot Plan. As a consequence, the SA considered that the policy itself is unlikely to create growth in the sector.</p>		
Cultural heritage	0	<p>As for Sectoral Policy 5 (Marine Transport) to which the policy is closely linked, there is the potential for largely positive environmental effects and both positive and negative socio-economic effects. The promotion of sustainable growth of port and harbour infrastructure may help to promote sustainable economic growth in the region and is also likely to help safeguard jobs and services in the region, particularly in communities that are economically reliant on ports/harbours and the activities they support. The policy also has the potential to contribute positively by safeguarding the accessibility and connectivity of remote island communities, and providing continued support for the lifeline services that many depend on (e.g. ferries, jobs, etc.). The potential for further positive effects such as maintaining and/or improving access for coastal and marine recreation, and economic benefits for these communities, have also been identified.</p>		
Soil, marine geodiversity and coastal processes	+	<p>In general, promoting the preservation of navigational routes and safe access to ports and harbours in the PFOW area is likely to have clear benefits for many marine users (e.g. marine transport sectors, recreational users, fishing sector, renewables development service vessels, etc.); particularly if these facilities are shared. However, in some instances, the potential for conflicts between different industries has been identified and this could have the potential to aid the growth of some sectors and/or activities at the expense of others (i.e. those that are not compatible, which could lead to effects such as displacement, etc.). As such, the effects of policy in relation to material assets and communities, population and human health have the potential to be mixed. Indirect positive effects for biodiversity, water quality and soil and marine geodiversity were also identified in the assessment, largely associated with a potential reduction in the risk of collisions and subsequent pollution incidents.</p>		
Communities, Population and Human Health	+-	<p>However, the assessment also noted that marine safety is underpinned by international safety conventions, regulations and codes issued by the IMO. Further, the SA noted that the development of port and/or harbour facilities would also continue to be subject to existing consenting processes (e.g. Marine Licensing, Town and Country Planning, etc.) supported by environmental assessments where applicable (e.g. EIA, HRA, etc.) to identify the potential for adverse effects and where appropriate, to mitigate them. It is expected that any future marine development would be in accordance with these requirements.</p>		
Water	+	<p>While the SA identified the potential for increases in GHG emissions associated with increased activity at port and harbour sites, it is considered that any growth in vessel numbers is likely to be due to market forces and demand rather than the Pilot Plan and this policy itself. This is discussed further in the assessment of General Policy 3 (Climate Change).</p>		
Material Assets	+-	<p>The following general policies and their supporting text would also apply:</p> <p>1A: Sustainable Development 1B: Supporting Sustainable Social and Economic Benefits 1C: Safeguarding the Marine Ecosystem 2: Wellbeing, Quality of Life and Amenity of Coastal Communities</p> <p>4A: Nature Conservation Designations 4B: Protected Species 4C: Wider Biodiversity 4D: Landscape and Seascapes</p> <p>4E: Geodiversity 5A: Water Environment 5B: Coastal Processes and Flooding 8A: Noise</p>		

## Outcomes and recommendations

The SA identified the potential for overall positive environmental and socio-economic effects associated with the Policy. However, as for Sectoral Policy 6 (Marine Transport), there is the potential for these effects to be mixed in some instances. Potential socio-economic benefits through promoting the safeguarding and sustainable growth of existing port and harbour facilities, the potential safeguarding of jobs and recreational/leisure activities that rely on these facilities, and setting out support for the communities that rely economically on them, were all noted.

In general, protecting access to ports and harbours in the PFOW area was considered likely to be beneficial for many marine users, particularly if the use of these facilities is shared (e.g. marine transport sector, recreational users, fishing sector, renewables sector, vessels servicing oil and gas). Further benefits for sectors such as the aquaculture sector were also identified through the maintenance of important links in the supply chain and connectivity. The potential for associated positive effects for biodiversity, water quality, soil and marine geodiversity was also identified in the SA, due largely to the potential for a reduction in collision and pollution risk associated with promoting navigational safety and the safeguarding of port and harbour access.

However, the SA noted that in some instances, there may be the potential for conflicts between different industries in the use of port and harbour facilities. Further, any future growth is likely to be subject to demand and market forces. Thus, the ambitions set out in the policy could aid the growth of some sectors and/or activities more than others; for example, while this may benefit sectors reliant on safe navigation, it may create potential siting constraints for growth of aquaculture and offshore renewables. However, the SA noted that there is also the potential for the sustainable growth and adaptability of port and harbour facilities to service a wide range of sectors; potentially including those for aquaculture and renewables. This should help in improving the efficient use of marine space and could potentially help to offset any potential adverse effects (e.g. siting limitations). While the potential for an increase in GHG emissions from the growth of ports and harbours was also noted, the SA found that such growth in vessel numbers would likely be out with the influence of the policy. In particular, while the Pilot Plan and this policy may promote sustainability in sectoral growth, any such growth would likely be influenced by market forces and demand.

The SA considered that the delivery of any benefits, and the identification and mitigation of any potential adverse effects, is likely to rely heavily on having the 'buy in' of stakeholders; in particular, the support of port and harbour owners and operators, marine users and local communities.

## Sectoral Policy 8: Pipelines, Electricity and Telecommunications Infrastructure

Sectoral Policy		
8: Pipelines, Electricity and Telecommunications Infrastructure		
Preferred Option		Assessment Summary
Biodiversity	+	In general terms, laying and maintaining subsea cables and pipelines has the potential to generate environmental effects on coastal and marine environments. For example, the potential for adverse impacts to marine and coastal biodiversity (e.g. loss or damage to coastal or benthic habitats and species through laying or removal activities, EMF effects on electro and magneto-sensitive species, benthic smothering from sediment generated during installation, etc.), submerged cultural heritage features (e.g. loss or damage to heritage features through installation or removal of cables or pipelines, impacts on setting of coastal assets due to landfall activities and ancillary infrastructure, etc.), direct impacts to soil and sediment/marine geodiversity (e.g. loss and or damage to the seabed, increased erosion from potential breach of natural coastal defences through landfall activities, etc.), landscape and seascape (e.g. visual impacts from installation of landfall or ancillary infrastructure, etc.), and coastal and marine water quality (e.g. pollution incidents from vessels, reduction in water quality and impacts on ecological status of water from turbidity during installation/removal, etc.), amongst others, have been identified. The potential for socio-economic impacts was also identified, particularly in relation to displacement of other coastal or marine activities (e.g. fishing activities with bottom-contact mobile gear, displacement of anchoring sites for vessels, etc.) and the potential for associated impacts for communities.
Climate change	0	Improved awareness of information sources for cable and pipeline locations has the potential to reduce the risk of damage to the cables themselves, and to the communities that they service. Further, with the 'buy in' of the sector, there is also the potential for the policy to help in reducing the risk of environmental disturbance from repair or replacement works (e.g. potential for reduced impacts to marine biodiversity, soil and marine geodiversity, cultural heritage, water quality, etc.). The inclusion of guidance in the Policy promoting the use of suitable routing of cables and pipelines, the burial of cables where feasible, and reference to the use of information sources such as KIS-ORCA in identifying infrastructure, are likely to have similar benefits. However, it is noted that in many locations, such as within much of the Pentland Firth itself, burial of cables is not achievable due to the rocky composition of the substrate or shallow depth of seabed sediments. In such locations, the risks to the cables/pipelines and to other marine users are unlikely to be significantly affected by implementation of this policy in the Pilot Plan.
Cultural heritage	+	In some instances these effects could be mixed. Promoting suitable routing of cable and pipeline infrastructure could lead to the avoidance of sensitive or designated areas, and could for example, aid in the protection of sensitive or important seabed habitats and benthic species from disturbance of effects of operation such as EMF. The potential for similar benefits for avoiding impacts to historic assets (e.g. submerged wreck sites, etc.) throughout the PFOW area was also identified. There is the potential for benefits for other marine users through avoiding conflicts and potential displacement of other marine users (e.g. fishing activities such as scallop dredging, vessel anchoring areas, etc.). However, the assessment also identified the potential for adverse effects for those undertaking cabling or pipeline work, notably the potential for increased costs in laying longer cable or pipelines runs as a consequence of avoiding such areas.
Landscape/Seascape	0	A primary effect of the Policy is likely to be in the provision of guidance for potential developers on cable routing. Promoting a 'joined up' approach to cabling and early communication between developers has the potential to increase co-ordinated cabling works and the placement of cables in the same corridor. The potential for reducing environmental impacts by reducing the duration of cabling operations and the area of seabed disturbed (e.g. potential for reduced impacts to marine biodiversity, soil and marine geodiversity, cultural heritage, water quality, etc.) and the potential for economic benefits have been noted.
Soil, marine geodiversity and coastal processes	+	While the net environmental effect of the Policy is likely to be positive, it is noted that the 'buy in' of developers, marine users and consenting bodies is likely to be essential to the delivery of any such positive effects.
Communities, Population and Human Health	+	
Water	+	
Material Assets	+/-	

The following general policies and their supporting text would also apply:	1A: Sustainable Development 1B: Supporting Sustainable Social and Economic Benefits 1C: Safeguarding the Marine Ecosystem 2: Wellbeing, Quality of Life and Amenity of Coastal Communities	4A: Nature Conservation Designations 4B: Protected Species 4C: Wider Biodiversity 4E: Geodiversity	5A: Water Environment 6: Historic Environment 7: Integrating Coastal and Marine Development 9: Invasive Non-native Species
<b>Outcomes and recommendations</b>			
<p>The SA identified the potential for overall positive effects associated with this policy. The promotion of a 'joined up' approach to cabling from developers, appropriate burial of cables where possible, and suitable routing of cables and pipelines are likely to have predominantly positive environmental effects (e.g. reduced risk of disturbance to benthic habitats and biodiversity, cultural heritage and seabed/marine geology). The potential for reduced impacts and conflicts with other marine users were also identified (e.g. limiting the potential for interactions on bottom-contact fishing activities and known anchoring sites). While the SA considered that cabling activities are likely to result in damage to the seabed and the many features that it may contain (e.g. benthic habitats, submerged historic assets), the Policy has the potential to be beneficial in promoting suitable routing of cables and pipelines to avoid sensitive or designated features, and in reducing the potential for adverse impacts by taking a 'joined up' and co-ordinated approach to their installation.</p> <p>The potential for positive socio-economic effects was also identified including the potential for a reduced risk of damage to infrastructure and impacts from outages to communities (i.e. particularly those in remote islands due to damage to telecommunications, electricity and pipeline infrastructure). Likely benefits such as the avoidance of costs to repair and/or lay replacements for damaged cables were also identified, and the potential for reduced costs for the sector in co-ordinating operations involving laying cables and pipelines. However, the SA also noted the potential for negative impacts in relation to the Material Assets topic area, particularly associated with increased costs for longer cable runs associated with suitable routing.</p> <p>While the net environmental effect of the Policy is likely to be positive, it is noted that the 'buy in' of stakeholders is likely to be essential in the delivery of any such positive effects; in particular, pipeline and cable owners, marine users and those sectors involved in the placement and repair of cables and pipelines.</p>			

## Sectoral Policy 9: Marine Aggregates

Sectoral Policy				
Preferred Option		Assessment Summary		
9: Marine Aggregates		<p>Proposals for new marine aggregate extraction sites should ensure they do not compromise existing activities. Decision makers should ensure marine environmental issues are considered and appropriately safeguarded. Any marine development should consider any impacts on existing or potential marine aggregate resources.</p>		
Biodiversity		<p>In general terms, marine aggregate extraction and dredging operations have the potential for a wide range of environmental impacts. These can include biodiversity effects (e.g. loss, damage to or smothering of benthic habitats, disturbance of species, injury to species from collisions or increased turbidity, loss of spawning/nursery grounds, etc.), water quality (e.g. increased turbidity, contaminants, loss of ecological value, etc.), cultural heritage (e.g. loss, damage to or smothering of submerged archaeology, etc.) and to soil, marine geodiversity and coastal processes (e.g. loss and/or damage to the seabed, changes to hydrodynamics/sediment dynamics and coastal processes, damage to geodiversity features, etc.), amongst others.</p>		
Climate change		<p>The policy supports the Plan's ambitions for sustainable growth and shared use of the PFOW marine environment, and seeks to support the safeguarding of existing marine aggregate activities, potential aggregate resources and the consideration and appropriate safeguarding of the marine environment. It should provide general guidance for the consideration of future aggregate extraction, with a key focus on shared use of the PFOW marine environment. While the potential for increased dredging activities in the future has been noted in this assessment, including port/harbour maintenance dredging requirements, the Policy itself is unlikely to have significant effects on existing marine aggregates operations or directly lead to future extraction operations. Rather, growth in this sector has historically been, and is likely to continue to be, market-driven.</p>		
Cultural heritage		<p>Highlighting the importance of ensuring that marine environmental issues are considered by decision-makers and are appropriately safeguarded has the potential for overall positive environmental effects in reducing the potential for adverse impacts from future operations and in the consideration of future extraction opportunities. The policy is expected to have a positive effect on the sustainable development of the marine economy and the marine aggregates sector, through encouraging the consideration of environmental and socio-economic issues in decision-making (i.e. environmental issues such as coastal and marine biodiversity, cultural heritage, geodiversity and water; potential impacts on existing aggregate activities and future resources, etc.). It should aid in guiding potential developers and decision-makers on the need to consider potential environmental impacts of their operations, on other marine sectors, and that the potential for impacts on both existing and potential aggregate resources should also be considered.</p>		
Landscape/Seascape		<p>The potential for conflicts with other marine sectors associated with the safeguarding protection of existing and potential marine aggregate resources has also been identified. For some sectors, such as those likely to involve geological operations (e.g. offshore wind renewables, some fishing operations, etc.), these effects have the potential to be significant and could result in displacement of these activities or constrain future operations. In some instances, this could also have adverse impacts on at the community level, particularly on those closely linked to these sectors. As such, the effects of the policy in relation to Material Assets and Community, Population and Human Health topic areas have the potential to be mixed.</p>		
Soil, marine geodiversity and coastal processes		<p>The SA also identified that capital dredging operations and applicable maintenance dredging operations fall under the EIA Directive and will remain subject to existing consenting processes including that of Marine Licensing under the Marine (Scotland) Act 2010. The Pilot Plan, this policy and the RLGs have been developed to become a material consideration of current consenting processes, and in this way, have the potential to inform this decision-making process.</p>		
Communities, Population and Human Health		<p>While the net environmental effect of the Policy is likely to be positive, it is noted that the 'buy in' of the sector, developers, marine users and consenting bodies is likely to be essential to the delivery of any such positive effects.</p>		
The following general policies and their supporting text would also apply:		1A: Sustainable Development 1B: Supporting Sustainable Economic Benefits 1C: Safeguarding the Marine Ecosystem 4A: Nature Conservation Designations	4B: Protected Species 4C: Wider Biodiversity 4E: Geodiversity	5A: Water Environment 6: Historic Environment 9: Invasive Non-native Species
Outcomes and recommendations				
<p>The SA identified the potential for largely positive environmental and socio-economic effects associated with the policy. Promoting the consideration of existing marine aggregate resources in the PFOW area, current activities and the potential for future opportunities for the sector amongst developers and decision-makers may have positive effects in the preserving the potential for growth of this sector in the future. The potential for positive environmental effects in setting out expectations that wider environmental issues be considered and appropriately safeguarded by decision-makers was also noted as being likely to result in positive effects at the project level (e.g. promotion of preservation of marine biodiversity, cultural heritage features, geodiversity and water quality).</p> <p>The potential for conflicts with other marine sectors through the safeguarding of existing and potential marine aggregate resources was identified in the assessment. For sectors and activities likely to involve geological operations (e.g. offshore wind renewables, some fishing operations), there may be the potential significant conflict and could result in displacement of operations or addition of constraints in the siting of developments. As such, the effects of the policy in relation to the Material Assets topic area has the potential to be mixed.</p> <p>The SA noted that environmental issues are also likely to continue to be a consideration of the current consenting process for marine aggregate extraction (e.g. Marine Licensing, TCE seabed lease) and that such activities currently fall under the EIA Directive. However, it found that reinforcement of these issues in the policy and the Pilot Plan could be beneficial for the sector and its resources overall, particularly if the Pilot Plan is adopted as a material consideration of current consenting processes.</p> <p>However, while the overall effects of the policy are expected to be largely positive, the SA found that the 'buy in' of prospective developers and other stakeholders is likely to be an important factor in the delivery of any such benefits (e.g. the sector, other developers and marine users, consenting authorities, TCE, environmental bodies, and local communities).</p>				

## Sectoral Policy 10: Defence

Sectoral Policy				
10: Defence		Development proposals in the Pentland Firth and Orkney Waters area that are in, or affect, Ministry of Defence exercise areas, firing ranges or firing danger areas must ensure that agreement for such use of the area has been agreed with the Ministry of Defence.		
Preferred Option		Assessment Summary		
Biodiversity	0	In general terms, defence activities have the potential to generate socio-economic and environmental effects in coastal and marine areas. For example, the potential for adverse impacts to marine and coastal biodiversity (e.g. disturbance or injury/death from sonar, vessel collision with marine fauna, and live ammunition operations; introduction of invasive non-native species; loss or damage to habitats and disturbance/displacement from installation of new infrastructure; benthic smothering; etc.), climate change (e.g. use of fuel contributing to GHG emissions, etc.), submerged cultural heritage features (e.g. damage or loss from marine operations and development of new infrastructure, impacts on setting of heritage features, etc.), landscape/seascape (e.g. visual impacts from presence of new infrastructure above the water or on the coast, etc.), soil, marine geodiversity and coastal processes (e.g. changes to coastal processes and increased erosion or deposition of sediment resulting from the introduction of new hard features into the coastline, scouring of the seabed from placement and presence of new infrastructure, potential for increased coastal erosion from vessel movements, etc.), coastal and marine water quality (e.g. pollution incidents from vessels, turbidity from construction or dredging activities for new infrastructure, etc.) amongst others, have been identified. The potential for socio-economic impacts was also identified, particularly in relation to the potential for displacement of other coastal or marine activities from MoD exercise areas.		
Climate change	0			
Cultural heritage	0			
Landscape/Seascape	0	The Policy and its supporting information in RLG developed for the Pilot Plan provide general guidance for potential developers and coastal/marine users on the location of MoD activity areas in the PFOW area. At present, the marine areas near to the PFOW used by the MoD include large exercise and firing danger areas to the east of Orkney, the Pentland Firth and the east Sutherland Coast (off Oldwick), and to the west of the Kyle of Tongue in North-west Sutherland <sup>1</sup> .		
Soil, marine geodiversity and coastal processes	0	The Policy has the potential to promote early communication between potential developers, coastal/marine users and the MoD to identify the potential for interactions with marine development and activities; and this is represented in the grading for material assets to the left. However, it is also noted that offshore development proposals subject to the existing processes (e.g. Marine Licensing for offshore renewables, etc.) in or near to these areas are likely to have considered the potential for conflicts either directly with the MoD or via the consenting process. Similarly, many marine users should be aware of the locations of these established areas on navigational charts. While the potential for reduced risk of human health impacts (e.g. potential for reduced risk of collision with vessels and MoD infrastructure, etc.) has been noted, given the locations of MoD operations and their identification in current navigational charts used by marine vessels (i.e. commercial shipping, recreational cruising vessels, fishing vessels, etc.), it is considered unlikely that the inclusion of this information in the policy, the RLGs and the Pilot Plan would result in any other significant environmental or social effects.		
Water	0			
Material Assets	+	As with other policies, the realisation of any benefits is likely to depend primarily on achieving the 'buy in' of developers, marine users across various sectors and the MoD.		
The following general policies and their supporting text would also apply:	None.			
Outcomes and recommendations				
The SA identified the potential for positive effects in promoting awareness amongst potential developers and marine users of existing requirements that the potential for interactions with defence interests be a key consideration. With the buy in of stakeholders including the MoD, the opportunity for reducing the potential for conflicts through early engagement and communication was identified as being a specific benefit. While in general, these activities are not located in areas currently subject to development or sectoral growth, the SA noted the potential for increased interactions between marine users and defence activities in the future (e.g. with further exploration of offshore oil and gas, exploration of aquaculture development further offshore).				
As with other Policies, the realisation of any such benefits are likely to be largely dependent on achieving the 'buy in' of stakeholders, particularly of prospective developers, marine users, consenting authorities and the MoD itself.				

<sup>1</sup> Scotland's Marine Atlas [online] Available at: <http://www.gov.scot/Publications/2011/03/16182005/75> (accessed 11/11/2014)

## APPENDIX C:

### Assessment Tables for Reasonable Alternatives

<u>Legend:</u>		
		Positive effects
		Mixed effects
		Negative effects
		No significant effects
		Uncertain

## REASONABLE ALTERNATIVE: Do Not Develop a Pilot Plan

Alternative:				
Do not develop a Pilot Plan – this alternative involved not preparing a Pilot Plan, but rather proceeding with the development of Regional Marine Plans for the Orkney and North Coast regions as detailed in the 2010 Act. This alternative also included an option relating to the potential development of separate Pilot Plans for the Orkney and North Coast regions ahead of the development of the Regional Marine Plans.				
Assumptions:				
The following assumptions have been made in considering this alternative:				
<ul style="list-style-type: none"> <li>• The process of the development of Regional Marine Plans for the Orkney and North Coast regions would be undertaken in the next few years.</li> <li>• While RLGs may be developed to inform these Plans in the future, it has been assumed that no RLGs would be developed under this option.</li> <li>• No co-ordinated work to fill data gaps, as undertaken in Stage 2 of the Pilot Plan, would be undertaken at this stage. However, it has been assumed that this work would be undertaken in the preparation of the Regional Marine Plans.</li> </ul>				
Topic Areas	Assessment Summary			
Biodiversity	?			
Climate change	?			
Cultural heritage	?			
Landscape/seascape	?			
Soil, marine geodiversity and coastal processes	?			
Communities, population and human health	?			
Water	?			
Material Assets	?			
Outcomes and recommendations				
<p>The SA found that undertaking the development of a co-ordinated draft Pilot Plan for the PFOW area offered several opportunities over that of not preparing one. Of particular note, the opportunity to encourage co-operation between the separate plan-making bodies in the region (e.g. Orkney Islands and Highland Councils, Marine Scotland) and establishment of relationships with stakeholders through the creation of the working group and advisory group, and engaging with key sectoral stakeholders during the Plan's development and via the public consultation process, would be missed under this alternative. Further opportunities such as the early identification of potential issues or concerns held by stakeholders, using this period of engagement to encourage stakeholders to 'buy' into ambitions of the draft Pilot Plan and its policies, and the opportunity try different approaches, learn lessons and apply this knowledge directly into the upcoming regional planning process, were also considered to be important.</p> <p>Whilst it is likely that many of these issues and actions could be addressed at the regional level in the development of the upcoming Regional Marine Plans, it was considered that the development of the Pilot Plan presented an opportunity to add value to this process. It is believed that this could help in laying the foundation and had the potential to directly inform and streamline the development of the upcoming regional plans, particularly through the development of supporting information such as the RLG and the Environmental and Socio-economic Baselines. As a consequence, the SA found that many of these opportunities would likely be missed if the Pilot Plan were not produced.</p>				

## REASONABLE ALTERNATIVE: Adopt a 'Zoned Approach' in the Development of the Pilot Plan

Alternative option:		
Consider adopting a 'zoned approach' in the development of a Pilot Plan – this alternative involved the zoning of marine areas within the PFOW area specifically for different types of marine uses and/or development.		
Assumptions:		
The following assumptions have been made in considering this alternative: <ul style="list-style-type: none"> <li>• The term zoning of areas refers to the allocation of marine space specifically for certain types of development or use (e.g. renewables, fishing areas, aquaculture, shipping, etc.).</li> <li>• Inclusion of 'low level' designations for multiple marine users has also been considered.</li> <li>• Development and marine use would remain subject to current consenting processes, as applicable.</li> </ul>		
Topic Areas		Assessment Summary
Biodiversity	+	In general terms, while the likelihood of environmental impacts from development and future marine use is dependent on a range of factors (i.e. locational issues, specific infrastructure designs, types of development, nature of activities and/or associated activities, etc.), the consideration of spatial options and 'zoning' for marine use has the potential to provide greater certainty in the identification of environmental issues. For example, there is the potential for greater certainty over interactions between developments and specific Natura 2000 and MPA site interests, in the proximity of marine users to sensitive species including seal haul outs and seabird breeding and foraging areas, and over the consideration of potential effects of developments on cultural heritage setting and landscape/seascape, amongst others. The potential for more useful and focused monitoring of these interactions, and the identification of any impacts, was also noted. Together, this could help to improve the knowledge base in relation to the PFOW marine environment, and could help to guide development and future marine use into areas of lesser constraint and lesser environmental impact.
Climate change	+	While over-exploitation of resources in some areas has the potential to result in significant adverse environmental effects, it is noted that development and marine use would remain under the consideration of current consenting processes (e.g. Marine Licensing, Town and Country Planning, historic environment legislation, etc.). As such, the consideration of potential adverse effects would continue to be managed via these processes, typically underpinned by assessments such as EIA and HRA where appropriate.
Cultural heritage	+	The potential for 'trading-off' areas for marine use was also noted, including the potential for allocating some areas for development and the protection of others. While this has the potential for both positive and negative effects on many environmental topic areas, as noted above, the potential for any such adverse effects would continue to be managed via existing consenting processes. There is the potential to separate incompatible marine users, and with it, an opportunity for reducing the risk of adverse interactions (e.g. impacts on fish spawning/nursery areas, collision risk with infrastructure, shipping vessels/ferries and port and harbour access, etc.). As a consequence, the potential for associated reductions in the risk of adverse impacts to environmental aspects such as biodiversity (e.g. reduced risk of impacts on known nursery/spawning areas, seabird feeding areas, seal haul out sites, etc.), landscape/seascape and cultural heritage (e.g. avoidance of valued landscape/seascape areas or heritage features for developments with the potential to create visual/setting effects, etc.) have been identified, amongst others. The grading listed to the left reflects these findings.
Landscape/seascape	+	The potential for both positive and negative effects for some marine users were also identified. For example, the development of specific zones for types of development may help to promote development in some areas, and provide a degree of surety for prospective developers. The potential for positive impacts on social and economic factors associated with the establishment of zones and increased development/marine use in these zones was also identified. However, the SA found that there may be the potential for negative effects for some marine sectors, particularly in the potential for zoning to limit opportunities for growth in some sectors at certain locations. As a consequence, there is the possibility that limiting opportunities for these sectors may also limit their ability to help in supporting local communities and provide further employment opportunities.
Soil, marine geodiversity and coastal processes	+	The SA found that work on introducing spatial considerations into development in the coastal/marine area has been undertaken previously (e.g. Sectoral Marine Plans for Offshore Wind, Wave and Tidal Energy, etc.) and is currently being undertaken by Marine Scotland at the national level (e.g. work to identify areas of opportunity and constraint for both finfish and shellfish aquaculture). As a consequence, the SA noted the potential for the introduction of greater spatial data at the regional planning level. It was considered that the staged approach consisting of the development of the draft Pilot Plan involving the identification of data gaps in Stage 2 of the development process and the preparation of the RLGs, and Environmental and Socio-economic Baseline information, demonstrates that steps have been taken in this direction. It is anticipated that further work in the development of the Orkney and the North Coast Regional Marine Plans will build upon this work and the information already gathered, and could continue to explore the potential for this alternative. It is also anticipated that the public consultation on the draft Pilot Plan, and the inclusion of this as an alternative in this SA, will seek the views of stakeholders on this issue and explore the appetite for this in the future.
Communities, population and human health	+/-	
Water	+	
Material Assets	+/-	
Outcomes and recommendations		
<p>The SA identified the potential for overall positive effects in adopting a 'zoned approach' to the management of marine use in the PFOW, particularly in relation to the environmental impacts. The potential for greater certainty in identifying potential environmental effects for designated and protected features in particular (e.g. SACs, SPAs, dSPAs, pMPAs, Historic MPAs); focusing monitoring programmes, and improving the existing knowledge-base in relation to the PFOW marine environment and interactions with developments and marine use were identified under this alternative. However, the SA also noted that development and marine use would continue to be subject to existing consenting processes, where applicable, and the potential for adverse effects would continue to be managed via these processes and through supporting mechanisms such as EIA and HRA.</p> <p>The potential for both positive and negative effects for marine users were also identified under this alternative. For example, the establishment of zones for types of development or for 'low level' interactions may help to promote development within these zones, and the SA considered that this could provide a greater certainty for developers, marine users, consenting authorities and local communities. Opportunities for streamlining the consenting and development processes were also noted, and the potential for positive impacts for local economies and employment associated with establishment of zones and increased development/marine use in these zones was also identified. However, the SA also found that there may be the potential for negative effects for some marine sectors and marine users, particularly in the likelihood that zoning could limit opportunities for growth in some sectors and opportunities for local communities/employment at certain locations, including the potential limitation of recreational and community use (i.e. socio-economic effects).</p> <p>The SA noted the potential for the introduction of greater spatial data in regional marine planning, and the staged approach offered by the development of the draft Pilot Plan indicates steps are being taken in this direction (i.e. the identification of data gaps and ongoing work to fill these gaps, preparation of the RLGs, and Environmental and Socio-economic Baseline information). It is anticipated that further work in the development of the two Regional Marine Plans will build upon this work and the collated information, and will continue to explore the potential for adoption of a greater spatial focus on management of the PFOW area in the future. It is also anticipated that the public consultation on the draft Pilot Plan, and the inclusion of this as an alternative in this SA, will seek the views of stakeholders on this alternative, and could explore the appetite amongst marine users and local communities in the area for this in the future.</p>		

## REASONABLE ALTERNATIVE: Limit the Scope of the Pilot Plan to an Overview of Existing Requirements

Alternative option:	
Using the Pilot Plan to provide an overview of existing requirements – this alternative involved limiting the scope of the Pilot Plan to discussing the current requirements for developers and marine users in the PFOW area; primarily to raise awareness of current obligations.	
Assumptions:	
The following assumptions have been made in considering this alternative: <ul style="list-style-type: none"> <li>Under this alternative, the draft Pilot Plan would be limited to presenting current requirements for developers and marine users in the PFOW area.</li> <li>It would inform stakeholders on their current obligations (i.e. developers, marine users, consenting authorities, etc.).</li> <li>No RLGs would be produced, although in the future, guidance may be prepared in the development of the Regional Marine Plans for the PFOW area.</li> </ul>	
Topic Areas	Assessment Summary
Biodiversity	+/0
Climate change	+/0
Cultural heritage	+/0
Landscape/seascape	+/0
Soil, marine geodiversity and coastal processes	+/0
Communities, population and human health	+/0
Water	+/0
Material Assets	+/0
Outcomes and recommendations	
<p>The SA identified the potential for positive effects in the development of an alternative Plan prepared under this option for many of the environmental topic areas. It considered that these were likely to be predominantly associated with improving the awareness of existing requirements and current processes amongst stakeholders (e.g. help in streamlining these processes for developers and consenting authorities alike).</p> <p>The SA found that while this alternative could help to inform stakeholders on their current obligations, it also introduced limitations in what could be delivered and how this could be done. Of particular note, the SA considered that the Pilot Plan would likely benefit from clear and demonstrable links between overarching ambitions for the region, including that of the NMP and wider overarching policy, and that an opportunity to promote these ambitions in the regional context would likely be missed by limiting the scope of the draft Pilot Plan.</p> <p>Further ambitions such as promoting sustainable development ambitions, socio-economic benefits, the preservation of the coastal and marine environment at the regional level, the promotion of consideration of other marine users and working towards improving early and effective engagement between stakeholders in the process, were seen as key opportunities that the alternative Plan would be unlikely to contribute to. Similarly, the process for including information in the RLG to further inform stakeholders of potential constraints and opportunities, to work towards filling identified data gaps during the development of the draft Pilot Plan, and to usefully inform the development of the Regional Marine Plans for Orkney and North Coast areas, would also be missed.</p> <p>As a consequence, the draft Pilot Plan acknowledged the potential outcomes of this alternative and built upon these in the development of the preferred alternative detailed in the Consultation Paper.</p>	

## **APPENDIX D:**

### **Analysis of key environmental and socio-economic objectives**

Source	Key objectives
<b>Biodiversity</b>	
UN Convention on Biological Diversity 1992	<p>Relates to the conservation and sustainable use of biodiversity, and the sharing of benefits from the use of genetic resources (including by appropriate access to these resources).</p> <p>Article 6 requires that all parties to the Convention develop national biodiversity strategies, plans or programmes, and that they seek to integrate the provisions of these across other policy sectors.</p> <p>Article 7 requires the identification of key resources and their protection.</p> <p>Monitoring of potentially damaging processes and activities should also be undertaken and representative networks of protected areas be established in the maritime environment by 2012.</p>
Bonn Convention on the Conservation of Migratory Species of Wild Animals 1979	Aims to conserve terrestrial, marine and avian species through international co-operation.
Convention on Wetlands of International Importance 1971 (amended 1982/87)	Otherwise known as the Ramsar Convention, it emphasises the special value of wetlands, particularly as a key habitat for waterfowl. The Convention resulted in designation of sites for management and conservation.
Convention for the Protection of the Marine Environment of the North-East Atlantic (OSPAR Convention) 1992.	<p>Aims to prevent and eliminate pollution and to protect the maritime area against the adverse effects of human activities.</p> <p>Led to establishment of a cross-regional commission promoting an ecosystems approach to marine management, including establishment of a network of MPAs.</p> <p>Its five work areas are biodiversity and ecosystems, eutrophication, hazardous substances, offshore industry, and radioactive substances, with climate change also a key cross-cutting theme.</p> <p>Includes a Biological Diversity and Ecosystems Strategy.</p>
Agreement on the Conservation of African-Eurasian Migratory Waterbirds 1995 (AEWA)	<p>An independent international treaty developed under the auspices of the UNEP Convention on Migratory Species.</p> <p>Covers 255 species of birds ecologically dependent on wetlands for at least part of their annual cycle, including species of divers, grebes, cormorants, herons, ducks, swans, geese, waders, gulls, and terns.</p> <p>An action plan addresses issues including species and habitat conservation, management of human activities, research, monitoring, education and implementation.</p>
Agreement on the Conservation of Small Cetaceans of the Baltic, North East Atlantic, Irish and North Seas 1992 (ASCOBANS)	An agreement on the protection of small cetaceans, noting that the migratory nature of dolphins, porpoises and whales means that they can be vulnerable to a range of marine activities and issues.

Source	Key objectives
UN Agreement on Straddling Fish Stocks and Highly Migratory Fish Stocks 2001	Sets out principles for the conservation and management of specified fish stocks and establishes that such management must be based on the precautionary approach and the best available scientific information. It elaborates on the fundamental principle established in United Nations Convention on the Law of the Sea (UNCLOS) that States should co-operate to ensure conservation and promote the objective of the optimum utilisation of fisheries resources both within and beyond the exclusive economic zone.
International Plan of Action for the Conservation and Management of Sharks 1999 (IPOA-SHARKS)	The objective of the IPOA-SHARKS is to ensure the conservation and management of sharks and their long-term sustainable use. Scotland has over 30 species of sharks, skates and rays recorded in its waters of which 25 are found in coastal waters, of which a high proportion are already or nearly at risk.
Council Directive 79/409/EEC on the conservation of wild birds (the Birds Directive) / Directive 2009/147/EC	<p>Relates to the long term conservation of all species of naturally occurring birds in the wild state across European Member States and allows for designation of special protection areas as part of a coherent ecological network across Europe.</p> <p>Applies to factors with potential to affect birds including human activity leading to the destruction and pollution of habitats.</p>
Council Directive 92/43/EEC the conservation of natural habitats and of wild fauna and flora (the Habitats Directive) as Amended by Council Directive 97/147/EC	<p>Aims to promote the maintenance of biodiversity and natural heritage as part of sustainable development.</p> <p>Establishes a commitment to the designation of special areas of conservation, as part of a coherent ecological network across Europe. These are known as Natura 2000 sites and include Special Protection Areas (SPAs) (designated under the Birds Directive) and Special Areas of Conservation (SACs).</p> <p>Notes that land-use planning and development policies should encourage the management of features of the landscape which are of major importance for wild fauna and flora.</p> <p>Also requires an appropriate assessment to be made of any plan or programme likely to have a significant effect on the conservation objectives of a designated site.</p>
Bern Convention on the Conservation of European Wildlife and Natural Habitats (1979)	Aims at promoting co-operation between European states to protect biodiversity.
The Pan-European Biological and Landscape Diversity Strategy (1995)	<p>Aims to reverse the decline of landscape and biological diversity, by promoting innovation and proactive policy making.</p> <p>It supports preceding measures for protecting natural heritage, and aims to supplement this by further promoting a number of action themes relating to different environmental resources.</p> <p>Emphasises the rapid decline of some key characteristics and resources, including traditional human-made landscapes, coastal zones, marine areas, wetlands, mountains and grassland.</p>
Our life insurance, our natural capital: an EU Biodiversity Strategy to	Sets out a 2050 vision that EU biodiversity and natural heritage and the ecosystem services it provides are protected, valued and appropriately restored.

Source	Key objectives
2020 (2011)	<p>Includes the headline target of halting the loss of biodiversity and natural heritage and degradation of ecosystem services by 2020, restoring them where possible and increasing the EU contribution to averting global biodiversity and natural heritage loss.</p> <p>Further targets cover improved conservation status, establishment of green infrastructure and restoration of at least 15% of degraded ecosystems, contribution of agriculture, forestry and fisheries, and combating invasive alien species.</p> <p>Notes the importance of spatial planning and land use management in reaching these targets.</p>
Wildlife and Countryside Act 1981 (as amended)	<p>Core legislation that provides the framework for protection of species other than European Protected Species (EPS).</p> <p>Sets out protection objectives for specified birds and wild animals and the Act's various schedules detail the species that are protected under the Act, including: dolphins, porpoises, and numerous birds such as geese and ducks.</p> <p>This was reviewed and updated in December 2008 and it was recommended that several further species of marine fish should be added to the lists attached to the Act, including: shark, seahorse and ray species.</p> <p>Provides the legal framework within which activities that impact on protected species constitute an offence, and makes available powers of enforcement.</p> <p>The Act has been amended in part by the Nature Conservation (Scotland) Act 2004.</p>
Wildlife and Natural Environment (Scotland) Act 2011 (WANE)	<p>Draws together and updates legislation on nature conservation. In particular, it updates much of the Wildlife and Countryside Act and focuses on a series of key measures relating to certain land management activities including the introduction of vicarious liability in relation to the persecution of wild birds.</p>
Conservation (Natural habitats &c.) Regulations 1994 (as amended) and its Amendment (Scotland) Regulations 2007	<p>Transposes the requirements for protection of designated sites under the Habitats and Birds Directives, and the framework for protection of European Protected Species.</p> <p>While it applies within 12 nautical miles (nm), several marine species are protected by various development consenting regimes covered by the Act, including marine turtles, all species of dolphins, porpoise and whale, seals and several types of marine fish (Atlantic salmon, Barbel, etc.).</p> <p>Part IVA sets out the requirement for the appropriate assessment of land use plans where it is likely to have a significant effect on a European site and is not directly connected with or necessary to the management of the site. It elaborates that the assessment should be undertaken prior to the marine spatial plan being given effect and should include consultation with the appropriate nature conservation body.</p>
The Offshore Marine Conservation (Natural Habitats, &c) Regulations 2007 (the	<p>Extends protection to important species and habitats under the Birds and Habitats Directives beyond UK territorial waters (i.e. outside 12 nm) and gives protection to marine species, wild birds and habitats through the creation of offences and site protection mechanisms.</p>

Source	Key objectives
Offshore Marine Regulations)	Provides the definition of deliberate disturbance as applicable to cetaceans, turtles and the Atlantic sturgeon.
Conserving Biodiversity – the UK Approach (2007) and the UK Post-2010 Biodiversity Framework (2012)	<p>Is a framework document for biodiversity, identifying six priorities for implementing biodiversity objectives within the integrating framework of an ecosystem approach:</p> <ul style="list-style-type: none"> <li>• Protecting the best sites for wildlife.</li> <li>• Targeting action on priority species and habitats.</li> <li>• Embedding proper consideration of biodiversity and ecosystem services in all relevant sectors of policy and decision-making.</li> <li>• Engaging people and encouraging behaviour change.</li> <li>• Developing and interpreting the evidence base.</li> <li>• Ensuring that the UK plays a proactive role in influencing the development of Multilateral Environmental Agreements, and contributes fully to their domestic delivery.</li> </ul> <p>The UK Post-2010 Biodiversity Framework succeeds the UK Biodiversity Action Plan (UK BAP) and 'Conserving Biodiversity – the UK Approach', and is the result of a change in strategic thinking following the publication of the Convention for Biodiversity Strategic Plan for Biodiversity 2011–2020, its 20 Aichi Biodiversity Targets, and the launch of the new EU Biodiversity Strategy (EUBS) in May 2011. The Framework demonstrates how the work of the four countries and the UK contributes to achieving the Aichi Biodiversity Targets, and identifies the activities required to complement the country biodiversity strategies in achieving the targets.</p>
Conservation of Seals Act 1970	Provides for the protection and conservation of seals in and in adjacent territorial seas. The Habitats Directive and the 1994 Regulations (see above) introduced additional measures for the protection of seals.
Nature Conservation (Scotland) Act 2004	Introduced the duty for public bodies to further the conservation of biodiversity and natural heritage, and the requirement for a Scottish Biodiversity Strategy. Also sets the framework designating sites of special scientific interest (SSSIs).
The Marine (Scotland) Act 2010	<p>Establishes a range of new powers including that for development of Marine Protected Areas (MPAs) in the seas around Scotland, to recognise features of national importance and to meet international commitments for developing a network of MPAs.</p> <p>Allows for three different types of MPAs to be set up including:</p> <ul style="list-style-type: none"> <li>• Nature Conservation MPAs.</li> <li>• Demonstration and Research MPAs.</li> <li>• Historic MPAs.</li> </ul> <p>Amongst others, the 2010 Act also introduced improved protection for seals.</p>
2020 Challenge for Scotland's Biodiversity - A Strategy for the	The 2020 Challenge for Scotland's Biodiversity is Scotland's response to the Aichi Targets set by the United Nations Convention on Biological Diversity, and the European Union's Biodiversity

Source	Key objectives
<p>conservation and enhancement of biodiversity in Scotland (2013)</p> <p>Scotland's Biodiversity: It's in Your Hands (2004)</p>	<p>Strategy for 2020.</p> <p>It is a supplement to the Scotland's Biodiversity: It's in Your Hands (2004), and the two documents together comprise the Scottish Biodiversity Strategy.</p> <p>The 2020 Challenge document aims to increase the general level of biodiversity and natural heritage and support ecosystems, engage people with the natural world and maximise the benefits of a diverse natural environment and the services it provides, contributing to sustainable economic growth. Together, they call for a step change in efforts to halt the loss of biodiversity and restore the essential services that a healthy natural environment provides, highlighting the need to protect marine and coastal biodiversity and maintain marine productivity.</p>
<p>The Non-Native Species Framework Strategy for Great Britain (2008)</p>	<p>Aims to protect against the adverse impacts of invasive non-native species by taking a more preventative and joined-up approach.</p> <p>Notes that non-native species are a significant threat to biodiversity and natural heritage world-wide, and also that the distribution of species could be affected by climate change over the coming years.</p> <p>When the GB Strategy was launched in 2008, it included a commitment to review the strategy after five years, a process that formally commenced in September 2013.</p>
<p>A Fresh Start: The renewed Strategic Framework for Scottish Aquaculture (2009) (SFSA)</p>	<p>Based on three guiding principles: economic, environmental and social, the SFSA is the main policy instrument to deliver a diverse, competitive but sustainable aquaculture industry in Scotland and provides a set of parameters within which industry can balance socio-economic benefits against environmental impact.</p>
<p>Salmon and Freshwater Fisheries (Consolidation) (Scotland) Act 2003</p>	<p>Allows for the Salmon Conservation Regulations to be made where it is considered necessary to do so for the conservation of salmon, and relates to fishing in the sea, estuaries or rivers.</p>
<p>Aquaculture and Fisheries (Scotland) Acts 2007 and 2013</p>	<p>Covers fish farms and shellfish farms, referring to operational issues and addressing both freshwater and sea fisheries.</p> <p>The Act covers operational aspects of the aquaculture industry, ranging from improving technical issues (e.g. equipment used in fish farming, escapes, etc.) to outlining payments and penalty charges relating to aquaculture and fisheries, amongst others.</p>
<p>Orkney Local Biodiversity Action Plan 2013-2016</p> <p>Highland Biodiversity Action Plan 2015 – 2020 (draft)</p> <p>Caithness, Sutherland, Wester Ross, Ross and Cromarty (East), Skye and Lochalsh, Lochaber, Inverness and Nairn,</p>	<p>Local Biodiversity Action Plans (LBAP) and their Partnerships operate at a local level to conserve and enhance biodiversity and natural heritage and deliver action for national priorities identified in the UK Biodiversity Action Plan (UK BAP), as well as for species and habitats which are particularly cherished or valued in local areas of Scotland.</p> <p>The Orkney LBAP 2013-2016 (in draft) takes a targeted approach similar to that of its predecessors.</p> <p>The Highland BAP 2015 – 2020 (draft) draws together the key strategic issues that emerged from the eight LBAPs (see left) and provide a work programme for the Highland Biodiversity Partnership.</p>

Source	Key objectives
and Badenoch and Strathspey LBAPs	

**Implications:**

- The SA should assess the extent to which the Pilot Plan will contribute to the core aims or protection and enhancement of biodiversity and natural heritage.
- There is a need to establish and mitigate impacts on coastal and marine habitats and species, particularly those designated at the international, national and local levels within the PFOW marine spatial plan area.
- The SA should encourage the Pilot Plan to take positive action in reflecting the aspirations and goals set out within the EU Biodiversity Strategy, the emerging Scottish response to the 2020 vision, and BAPs at the local level (Orkney and the Highlands); the latter emphasising the importance of ecosystem health, and framing biodiversity and natural heritage conservation within the context of sustainable economic growth within the PFOW area.
- Many effects on biodiversity and natural heritage can only be identified at a local level as they depend on the type and location of activities which are brought forward under the terms of individual policies. As a result, the assessment should focus on high level strategic issues arising from the emerging policy framework, whilst acknowledging that there will likely be a need to establish and mitigate impacts on designated sites and species from future development within the PFOW area.

Source	Key objectives
<b>Climatic Factors</b>	
Renewable Energy Directive 2009/28/EC	Promotes the use of energy from renewable sources to help reduce greenhouse gas emissions.
National Emission Ceiling Directive 2001/81/EC	<p>It establishes national emission ceilings (kilotonnes/year) for Member States to achieve by 2010, although there are EC proposals to update the Directive and revise the NECD ceiling in line with the amended Gothenburg Protocol.</p> <p>Set upper limits for the total emissions in 2010 of Sulphur dioxide (SO<sub>2</sub>), Nitrous oxides (NO<sub>x</sub>), Volatile Organic Compounds (VOCs), Particulates (PM<sub>2.5</sub>) and Ammonia (NH<sub>3</sub>) whilst allowing member States to achieve the targets through national measures.</p> <p>Notes that many of these pollutants are trans-boundary, and discusses member States tackling them together.</p>
Green Paper: Adapting to climate change in Europe – options for EU action (2007)	<p>Presents options for whilst providing an overall strategy for adapting and mitigating to climate change.</p> <p>Outlines a number of targets, including reducing its greenhouse gas emissions by at least 20% by 2020 and, in case of a global and comprehensive agreement, by 30% by 2020 and called for a global reduction of up to 50% by 2050 compared to 1990 levels.</p> <p>Sets priority options including a flexible four-pronged approach based around four pillars:</p> <ul style="list-style-type: none"> <li>• Early action in the EU.</li> <li>• Integrating adaptation into EU external actions.</li> <li>• Reducing uncertainty by expanding the knowledge base through integrated climate research.</li> <li>• Involving European society, business and public sector in the preparation of coordinated and comprehensive adaptation strategies.</li> </ul>
Climate Change (Scotland) Act 2009	<p>Sets targets for reducing greenhouse gas emissions, including a 42% reduction target by 2020, and an 80% reduction by 2050, and requires the setting of annual targets for 2010-2050. These targets are subject to expert advice from the UK Committee on Climate Change, followed by the Scottish Committee on Climate change when established.</p> <p>Requires regular reporting of progress to the Scottish Parliament.</p> <p>Establishes climate change duties on Scottish public bodies covering both climate change mitigation and adaptation.</p> <p>Part 5 focuses on climate change adaption and action by specific sectors, public engagement and carbon assessment.</p>
UK Climate Change Risk Assessment (CCRA) 2012	It sets out the main priorities for adaptation in the UK under 5 key themes identified in the CCRA 2012 Evidence Report - Agriculture and Forestry; Business, industries and Services; Health and Wellbeing; Natural Environment and Buildings and Infrastructure - and describes the policy context, and action already in place to tackle some of the risks in each area.

Source	Key objectives
	It highlights the constraints of the CCRA analysis and provides advice on how to take account of the uncertainty within the analysis.
Marine Climate Change Impacts Partnership (MCCIP)	<p>The United Kingdom Marine Climate Change Impacts Partnership (MCCIP) brings together scientists, government, its agencies and Non-Governmental Organisations to provide co-ordinated advice on climate change impacts around our coast and in our seas.</p> <p>Produces annual report cards and briefing notes outlining the current state of scientific understanding of marine climate change in our oceans and seas, the changes observed and exploring what could happen in the future, and how much of this is evidenced and how much is interpretation.</p>
Climate Change Delivery Plan (Scottish Government, 2009)	<p>Sets out key challenges arising from climate change, and identifies key sectors for reducing emissions including: electricity demand and supply, heat demand and supply, transport, rural land use and waste.</p> <p>Aims to achieve four transformational outcomes:</p> <ul style="list-style-type: none"> <li>• A largely decarbonised electricity generation sector by 2030.</li> <li>• A largely decarbonised heat sector by 2050 with significant progress by 2030.</li> <li>• Almost complete decarbonisation of road transport by 2050, with significant progress by 2030.</li> <li>• A comprehensive approach to ensure that carbon is factored into land use decisions.</li> </ul>
Scotland's Climate Change Adaptation Framework (Scottish Government, 2009)	<p>Provides an overarching framework for adaptation to climate change, which is currently in the process of being updated to reflect more recent information on climate change risk assessment.</p> <p>Emphasises the importance of understanding and responding to climate change impacts, and integrating this into public sector plans and strategies.</p> <p>Notes that adaptation will be needed to address a wide range issues including changing air quality, impacts on the natural environment and land management, issues around the water environment, and challenges for resilience.</p>
Climate Change Adaptation Framework Sector Action Plans (Scottish Government, 2011)	<p>The series of sectoral plans is focused on required activities to adapt to climate change. While the Marine and Fisheries, Energy and Biodiversity Sector Action Plans were identified as being of particular relevance to the Pilot Plan, the SEA should also take into account wider actions.</p> <p>Sets out a number of objectives including raising awareness of climate change to the wider marine stakeholder community (through the Marine Strategy Forum). Also aims to build evidence to support future adaptation action and build further policies that respond to impacts.</p>
Scottish Climate Change Adaptation Programme 2014	<p>Addresses the impacts identified for Scotland in the UK Climate Change Risk Assessment (CCRA) published under section 56 of the UK Climate Change Act 2008.</p> <p>Sets out Scottish Ministers' objectives in relation to adaptation to</p>

Source	Key objectives
	<p>climate change, targeting three key themes: the Natural Environment, Buildings and Infrastructure Networks, and Society. Outlines proposals and policies for meeting these objectives, the period within which the proposals and policies will be introduced, and setting out arrangements for wider engagement in meeting these objectives.</p>
<p>Low Carbon Scotland: Meeting the Emissions Reduction Targets 2010-2022 (2011) and Low Carbon Scotland: Meeting our Emissions Reduction Targets 2013-2027 (2013) (the first and second climate change reports on proposals and policies (RPP and RPP2)</p>	<p>This series of reports sets out the proposals and policies required to meet Scotland's targets for climate change mitigation included in the Climate Change (Scotland) Act. These includes commitments to the development of the renewable energy sector, and identifies the transport sector as being important in the meeting the necessary targets.</p>
<p><b>Implications:</b></p> <ul style="list-style-type: none"> <li>• The stated objectives and commitments promote the role of sectors such as the energy and transport sectors, amongst others, in contributing to climate change mitigation and aiding in adaptation to its predicted effects in the longer term.</li> <li>• The SA should explore the extent to which the Pilot Plan can aid in delivering both climate change mitigation and adaptation commitments, and in particular, the role that the PFOW area can play in delivering a shift towards low carbon energy.</li> <li>• The assessment should take into account the Pilot Plan's role in addressing issues such as changing vulnerability of the natural environment, the need for land and sea use changes, and requirements for long term resilience in the face of the predicted effects of climate change.</li> </ul>	

Source	Key objectives
<b>Cultural Heritage</b>	
United Nations Convention on the Law of the Sea (UNCLOS) 1982 (ratified by the UK in 1997)	Article 303 stipulates that member 'states have the duty to protect objects of an archaeological and historical nature found at sea and shall co-operate for this purpose' and provides for coastal states to exert a degree of control over the archaeological heritage to 24 nautical miles (nm).
Scottish Historic Environment Policy (SHEP) 2011	<p>Provides the overarching framework for historic environment policy in Scotland, consolidating and replacing the previously separate SHEPs.</p> <p>Aims to promote effective conservation and to enhance enjoyment and understanding of the historic environment, linking it with the Scottish Government's central purpose.</p> <p>The updated SHEP includes provisions to broaden the types of sites which can be designated on the basis of their national importance, arrangements for consultation in advance of designation, and proposals for powers and provisions to allow for site maintenance.</p> <p>It notes that the protection of the historic environment is not about preventing change; rather change should be managed intelligently and with understanding.</p> <p>It notes the key challenges as a lack of understanding of its role in regenerating and revitalising communities, short term vision for the development of places, changing land management, loss of sites from coastal erosion, inappropriate change, the need for renewable energy generation and carbon reduction and lack of traditional skills.</p> <p>Key aspirations include making use of the historic environment to achieve economic and social regeneration.</p>
Joint Nautical Archaeology Policy Committee (JNAPC) Code of Practice for Seabed Developers (JNAPC 2008)	<p>Whilst voluntary, the JNAPC Code provides a framework that seabed developers can use in conducting their activities in an archaeologically sensitive manner.</p> <p>A guidance note on protocols to deal with the marine historic environment has been developed specifically for the offshore renewable energy sector.</p>
Protection of Wrecks Act 1973	Provides protection for designated wrecks and for the designation of dangerous sites.
The Marine (Scotland) Act 2010 (Commencement No. 3 and Consequential Provisions) Order 2013: Licensing (Marine) Protection Of Wrecks	Section 1 of the Protection of Wrecks Act 1973 has been repealed in Scotland and replaced by the historic Marine Protected Areas (Historic MPAs) designation for the purpose of preserving marine historic assets of national importance in Scottish territorial waters (0 – 12 nm).
Ancient Monuments and Archaeological Areas Act 1979	Provides for the protection of archaeological heritage, including the scheduling of 'monuments'. The Act, which is administered by Historic Scotland, primarily deals with terrestrial locations but there is provision to designate submarine sites.
Protection of Military Remains Act 1986	Identifies scope for protected places and controlled sites, covering vessels, reflecting the status of these sites as war graves.

Source	Key objectives
The Marine Historic Environment Strategy for the protection, management and promotion of marine heritage 2012-15	<p>Historic Scotland's strategy has the vision to protect and, where appropriate, enhance the most important marine heritage assets in such a way that they can be valued, understood, and enjoyed. It sets out priorities for protecting, managing and promoting Scotland's outstanding marine heritage under the new marine legislation.</p> <p>The aims of the Strategy are to:</p> <ul style="list-style-type: none"> <li>• Help to advance knowledge about marine heritage and make information widely available;</li> <li>• Improve stewardship of key marine heritage sites; and</li> <li>• Develop wider understanding and enjoyment of marine heritage.</li> </ul>
The Heart of Neolithic Orkney World Heritage Site  Management Plan 2008 – 2013: Supplementary Guidance and  Management Plan 2014 – 2019 (Consultation Draft)	<p>Developed as a framework document for the preservation of the outstanding universal value of the Heart of Neolithic Orkney World Heritage Site (WHS), it sets out an overarching vision and long-term aims, issues and objectives for the period 2008–13 in terms of protecting, conserving, understanding, using, enjoying and managing the WHS.</p> <p>The Consultation Draft for the 2014 -2019 Plan summarises the actions delivered from the 2008-13 Management Plan, outlines a vision and long term strategy for the site, identifies key issues for the 2014-19 Management Plan, and proposes aims and objectives to tackle these issues over the next five year period.</p> <ul style="list-style-type: none"> <li>• The Pilot Plan is intended to balance the needs of conservation, access, interests of the local community and sustainable economic development.</li> </ul>
Draft Highland Historic Environment Strategy (2013)	<p>This Strategy has been prepared to ensure that the historic environment is taken into account during the design of future developments and to set a consistent approach to the protection of the historic environment. The draft guidance aims to ensure that future developments take account of the historic environment, and are of a design and quality to enhance the historic environment bringing both economic and social benefits.</p> <p>It sets the following strategic priorities:</p> <ul style="list-style-type: none"> <li>• To protect, conserve, preserve, interpret and promote the historic environment, particularly those aspects that are characteristic of Highland and lend distinctiveness to the character of the local landscapes and townscapes.</li> <li>• To raise awareness of the historic environment and its full potential as a social, cultural and economic resource.</li> <li>• To raise the profile of the historic environment of Highland both within the Council and the wider community.</li> <li>• To encourage active participation by elected members, officers and the public in the protection, conservation and preservation of the historic environment within Highland.</li> <li>• To seek and secure funding from national sources to support conservation and regeneration within the historic</li> </ul>

Source	Key objectives
	environment.

**Implications:**

- As with those relating to biodiversity and natural heritage, national policy on cultural heritage and the historic environment emphasises the role of the environment in supporting sustainable economic growth in the PFOW area.
- The Pilot Plan should take into account both the historic marine environment and that of coastal and terrestrial features with coastal components in the context of sustainable development and economic growth in the PFOW area.
- The SA should consider the potential for impacts on cultural heritage features and the historic environment within the PFOW area associated with future development undertaken in the context of the Pilot Plan.
- Key principles for managing change in the historic environment could also be applicable at a broader scale and present similar issues in other environmental topic areas. For example, policy relating to biodiversity and natural heritage, and landscape/seascape issues, amongst others.

Source	Key environmental objectives
<b>Landscapes, seascapes, marine geology and coastal processes</b>	
Council of Europe, European Landscape Convention (2000)	<p>States that landscapes across Europe make an important contribution to quality of life and cultural identity, but that they are being transformed as a result of a number of factors, including town planning, transport and infrastructure and the economy.</p> <p>Requires Member States to develop more comprehensive frameworks to protect and enhance landscapes, including inland water and marine areas.</p> <p>Emphasises the importance on non-designated landscapes in addition to those which are protected, and notes that that landscape has no boundaries and people are central to its management.</p> <p>It highlights five key principles:</p> <ul style="list-style-type: none"> <li>• Our landscape – where people are involved in their management.</li> <li>• All landscape – recognising the importance of areas which are not formally designated, whether intact or degraded.</li> <li>• Changing landscapes – reflecting the continuous evolution of landscape and the need to manage change.</li> <li>• Understanding landscapes – the need to improve awareness of landscapes and their benefits.</li> <li>• Tomorrow's landscapes – supporting a forward-looking approach that reflects past evolution of landscapes and shapes new ones.</li> </ul>
Scotland's Landscape Charter 2010	<p>Produced by the Scottish Landscape Forum and SNH, the charter sets an agenda for landscape planning and management.</p> <p>It reflects on the key principles of the European Landscape Convention and emphasises the need to maintain distinctiveness and sense of place within Scotland, whilst calling on the recognition of the importance of landscape in decision making.</p> <p>Also encourages involvement of communities in managing landscape change, recognising the need for landscape expertise within planning, and raises awareness of the role of local and national designations in safeguarding landscapes.</p>
The Natural Heritage Futures including Orkney and Northern Caithness (SNH) / Orkney Landscape Character Assessment	<p>A suite of documents that were originally published in 2002 to guide the future management of Scotland's natural heritage until 2025.</p> <p>Updated in 2009, it identifies significant changes in policy drivers and/or legislative context, new mechanisms or changed priorities, and the implications that these have for the objectives and actions for the natural heritage.</p>
SNH Natural Heritage Futures (Draft) 2008 Update: Coasts and Seas	<p>Provides baseline information and draws attention to particularly important issues, assets and changes in the coastal and marine environment. Includes the following key objectives:</p> <ul style="list-style-type: none"> <li>• Improved management, stewardship, awareness and understanding of marine ecosystems.</li> <li>• Managing the coast in sympathy with natural processes.</li> </ul>

Source	Key environmental objectives
	<ul style="list-style-type: none"> <li>• Safeguarding and enhancing the fine scenery and diverse character of coastal seascapes and landscapes.</li> <li>• Enhancing populations of over-exploited commercial fish species and ensure that fishing is sustainable.</li> <li>• Ensuring salmon fishing and other forms of aquaculture are environmentally sustainable.</li> <li>• Improving the water quality of estuaries and seas.</li> <li>• Promoting access to the sea and coast for public enjoyment and recreation.</li> </ul>
<b>Implications:</b>	
<ul style="list-style-type: none"> <li>• The assessment should reflect the principles of the European Landscape Convention and underlying policies, particularly the 'all landscape' approach it promotes and recognition of the importance of landscape and seascapes to local communities.</li> <li>• The SEA should consider the potential for effects of the Pilot Plan on landscape and seascapes quality and diversity. Such an assessment should however, go beyond a focus on protected areas such as national scenic areas (NSAs) at the national scale to also consider other levels of recognition such as the identification of areas of wild land, national nature reserves, landscapes that contribute to sense of place more generally, and areas that would benefit from enhancement, amongst others.</li> </ul>	

Source	Key environmental objectives
<b>Communities, Population and Human Health</b>	
Bathing Water Directive 2006 (76/160/EEC)	<p>While its purpose is to preserve, protect and improve the quality of the environment, it also aims to protect human health by reducing pollution of bathing waters.</p> <p>Makes provision for identifying and monitoring bathing waters and requires the identification of acceptable quality standards based upon the presence of total and faecal coliforms and faecal streptococci.</p>
Food and Environment Protection Act 1985	<p>Part II protects the marine ecosystem and human health by controlling the deposit of articles or materials or scuttling of vessels in the sea or tidal waters.</p>
The Land Reform (Scotland) Act 2003	<p>Sets out a new right of responsible access in Scotland, and made provisions for community right to buy.</p> <p>Core paths are to be identified in each local authority area, promoting more widespread and functional walking, cycling and riding and thereby supporting improved levels of physical activity.</p>
Orkney Outdoor Access Strategy (2006)	<p>Provides a framework to guide the development and management of outdoor access throughout the islands.</p> <p>The Strategy identifies the following key aims:</p> <ul style="list-style-type: none"> <li>• To provide a co-ordinated, actively promoted and well maintained network of paths.</li> <li>• To provide a range of access opportunities suitable for different user groups and people of all abilities which are safe, welcoming and enjoyable.</li> <li>• To work with land managers to achieve a balance between the needs of access users and the needs of those living and working on the land.</li> <li>• To ensure that local communities, land managers, access user groups and partner organisations are involved in the development of access in Orkney.</li> <li>• To promote responsible behaviour in the countryside, through education and information.</li> </ul>
Scottish Marine Wildlife Watching Code (2005)	<p>Sets out a code of conduct for recreational operators and marine users that actively watch marine wildlife.</p> <p>Whilst not a regulatory instrument, the Code aims to minimise disturbance to marine wildlife.</p>
<p>The Orkney Core Paths Plan, (2009)</p> <p>The Caithness Core Paths Plan (2008)</p> <p>The Sutherland Core</p>	<p>Identifies a framework of paths that provide local residents and visitors reasonable access throughout Orkney. The framework of routes links to and supports wider networks of other paths.</p> <p>Provides guidance for local people and visitors for general access and recreation and links to the wider path network throughout the Highland Council area. Many of the routes covered feature key coastal elements.</p> <p>The Caithness and Sutherland Plans also contribute towards the</p>

Source	Key environmental objectives
Paths Plan (2008)	<p>achievement of a number of the Council's priorities for action, including:</p> <ul style="list-style-type: none"> <li>• Health improvement in the Highlands.</li> <li>• Encouraging "walk to school" pathways and safe cycle tracks.</li> <li>• Increasing the standard of living in the Highlands.</li> <li>• Adopting national standards of community engagement.</li> </ul> <p>Many of the region's core paths outlined in the three plans follow coastal routes.</p>
Scottish Ferry Services: Ferries Plan (2013-2022)	<p>The Plan:</p> <ul style="list-style-type: none"> <li>• Presents a shared vision and outcomes for lifeline ferry services in Scotland, in the context of the Government's Purpose, Economic Strategy and National Transport Strategy.</li> <li>• Analyses the current lifeline ferry services and network, identifying how well it meets the proposed outcomes and how it links to the rest of Scotland's transport network.</li> <li>• Informs the Scottish Government's long-term plan for lifeline ferry services in Scotland and influence the next round of procurement of ferry services.</li> <li>• Identifies policies to be taken forward to deliver the long term plan, including the planned investment framework.</li> </ul> <p>It makes immediate (short-term) proposals and those for the way forward, particularly for ferry services in the west of Scotland.</p> <p>Discusses options for a range of topics including funding of services and port and harbour facilities, competition, replacement of vessels, and advancement of deployment options for services to the Northern Isles in advance of the current agreement, amongst many others.</p>
Europe 2020: Scottish National Reform Programme 2014	<p>Sets out the actions being undertaken in Scotland to support delivery of the ambitions of Europe 2020, and sets out five key targets for the EU to achieve by the end of the decade. These targets relate to employment; education; research and innovation; social inclusion and poverty reduction; and climate/energy.</p> <p>The report sets out actions being pursued in Scotland to support delivery of these ambitions.</p> <p>The Scottish Government is supportive of the ambitions and priorities of Europe 2020 and there is also a significant degree of commonality between Europe 2020 and our Government Economic Strategy (GES).</p>
<p><b>Implications:</b></p> <ul style="list-style-type: none"> <li>• There are numerous ongoing commitments to improving mental and physical health and wellbeing.</li> <li>• The Pilot Plan could contribute to these through promoting key assets such as core paths, considering coastal and marine recreation, ensuring safe environments in the PFOW area and contributing to improving the wellbeing of local communities and delivery of sustainable economic benefits (e.g. employment opportunities).</li> </ul>	

Source	Key environmental objectives
	<ul style="list-style-type: none"> <li>• The SEA should inform the Pilot Plan through exploring the extent to which these objectives are being met, and explore potential access issues associated with future development within the PFOW area.</li> </ul>

Source	Key environmental objectives
<b>Water</b>	
IMO International Convention for the Prevention of Pollution from Ships 1973 (MARPOL)	<p>Aims to prevent marine pollution from ships and in part from oil rigs and production platforms.</p> <p>It includes annexes covering pollution by oil, noxious liquids, harmful substances, sewage, garbage and air pollution.</p> <p>Recent changes focus on reducing the sulphur content and particulate emissions from fuel in the shipping sector.</p>
International Convention on Oil Pollution Preparedness, Response and Co-operation, 1990	<p>Provides a framework for international co-operation in combating major incidents or threats of marine pollution.</p>
London Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter 1972 (as amended)	<p>Prohibits the dumping of certain hazardous materials in the marine environment, requiring a prior special permit for the dumping of some other wastes, and a prior general permit for other wastes or materials.</p> <p>It also creates a basis in international law to allow and regulate carbon capture and storage (CCS) in sub-seabed geological formations.</p>
Water Framework Directive (2000/60/EC) (WFD)	<p>Provides an overarching strategy, including a requirement for EU Member States to ensure that they achieve 'good ecological status' of all water bodies by 2015, including marine waters up to one nautical mile from shore.</p> <p>River Basin Management Plans (RBMPs) were defined as a key means of achieving this.</p> <p>While the recent Marine Strategy Directive (MSD) extends coverage of coastal waters beyond 3 nm, Good Chemical Status already applies beyond this limit.</p> <p>The Directive was transposed into Scots law by the Water Environment and Water Services (WEWS) (Scotland) Act 2003 (see below).</p>
Bathing Water Directive (76/160/EEC)	<p>Aims to protect reduce pollution of bathing waters.</p> <p>Makes provision for identifying and monitoring bathing waters and requires the identification of acceptable quality standards based upon the presence of total and faecal coliforms and faecal streptococci.</p>
The EC Directive 2006/113/EEC on the quality required of shellfish waters	<p>Sets out objectives to ensure a high water quality standard for shellfish waters, including setting 'mandatory' and 'guideline' standards for faecal coliforms in shellfish in designated waters.</p>
EU Waste Framework Directive (2008/98/EC – replaces 2006/12/EC on waste, 91/689/EEC on hazardous waste and	<p>Establishes a framework for the management of waste across the European Community.</p> <p>Requires all member states to take the necessary measures to ensure waste prevention firstly, and that waste is recovered or</p>

Source	Key environmental objectives
75/439/EEC on waste oils)	<p>disposed of without endangering human health or causing harm to the environment.</p> <p>It also includes permitting, registration and inspection, while the Directive's overarching requirements are supplemented by other Directive's for other waste streams.</p>
Merchant Shipping Act 1995 and the Merchant Shipping Regulations 2009	<p>Includes general provisions for merchant shipping, seamen, and safety.</p> <p>Part VI focuses on prevention of pollution, including oil pollution, and sets out responsibilities and liabilities, covers international incidents, and addresses other issues such as lighthouses, salvage and wrecks.</p> <p>Made under sections of the Merchant Shipping Act 1995, the regulations enhance marine protection through stricter regulation of pollution from ships, including requirements such as provision of information to a UK harbour prior to arrival, and charging for reception facilities by harbour authorities and terminal operators, amongst others.</p>
Environmental Protection Act 1990	<p>Addresses pollution control and waste management, whilst also detailing legislation on litter, radioactive substances and genetically modified organisms, amongst others.</p> <p>Pollution at sea is specifically controlled via this act.</p>
Bathing Waters (Scotland) Regulations 2008	<p>Implements the Bathing Waters Directive (76/160/EC) and aims to protect the public and the environment from pollution of waters used for bathing by large numbers of visitors.</p> <p>Requires making information on bathing water quality public and sets standards to be met by 2015.</p>
Environmental Liability (Scotland) Regulations 2009	<p>Covers incidents of significant damage to biodiversity, water or land. In accordance with the European Environmental Liability Directive (2004/35/EC), the regulations aim to apply the polluter-pays-principle by requiring restoration in such instances.</p>
The Water Environment (Controlled Activities) (Scotland) Regulations 2011	<p>Sets out the process by which activities that have the potential to affect Scotland's water environment are regulated.</p> <p>Authorisation under the Controlled Activities Regulations (CAR) is required for discharging to waters, including disposal of pollutants to land, water abstractions, impoundments and engineering works that affect water bodies.</p>
Pollution Prevention and Control (Scotland) Regulations 2000 and 2012	<p>Implements Council Directive 96/61/EC (Integrated Pollution Prevention and Control) and regulates industrial and commercial activities that may cause environmental pollution.</p> <p>Aims to prevent and control emissions that are capable of causing pollution.</p>
Scottish Executive Environment Group (2002) Scotland's Bathing Waters A Strategy for	<p>Aims to reduce water pollution in order to specifically improve bathing water catchments.</p> <p>Measures include changes to agricultural practices to address diffuse pollution, ensuring compliance with controls of industrial discharges, and making more use of Sustainable Urban Drainage</p>

Source	Key environmental objectives
Improvement	Systems (SUDS).
Marine (Scotland) Act 2010	<p>Provides a framework aimed at managing the competing demands on Scotland's seas.</p> <p>The main measures include:</p> <ul style="list-style-type: none"> <li>• A new statutory marine planning system to sustainably manage the increasing demands on Scottish waters.</li> <li>• A simpler marine licensing system.</li> <li>• Improved marine nature and historic conservation with new powers to protect and manage areas of importance.</li> <li>• Improved protection for seals and a new comprehensive licence system to ensure appropriate management when necessary.</li> <li>• A range of enhanced powers of marine conservation and licensing.</li> </ul>
Water Environment and Water Services (WEWS) (Scotland) Act 2003	<p>The Act takes forward the provisions of the Water Framework Directive.</p> <p>Sets out the systems for developing RBMPs in Scotland, aiming to improve the environmental status of water bodies, and reduce adverse impacts on the water environment as a whole.</p>
Water Resources (Scotland) Act 2013	<p>Makes provision for the development of water resources in Scotland.</p> <p>Sets out responsibilities of Scottish Water and Scottish Ministers, placing duties on both in relation to Scotland's water resources.</p> <p>Its key elements relate to water abstraction, management of water quality at the catchment level, and improving efficiency in water and sewerage services.</p>
The Scotland River Basin Management Plan (2009-2015)	<p>SEPA co-ordinates the development, review and implementation of River Basin Management Plans, working in partnership with other authorities.</p> <p>Notes that while many of Scotland's water bodies are already of a high quality, around 35% are under significant pressure from human activity and are not in good condition.</p> <p>The RBMP notes the importance of the Water Environment (Controlled Activities) (Scotland) Regulations 2005, in taking forward measures to address identified pressures, including activities that could lead to pollution, water abstraction, water impoundment and engineering activities. With regard to planning, issues such as sewage disposal, drinking water supplies, hydropower and urban land uses and flood protection are noted as pressures on the water environment.</p>
Flood Risk Management (Scotland) Act 2009	<p>Replaces the Flood Prevention (Scotland) Act 1961 and introduces a more sustainable and modern approach to flood risk management, taking into account the impact of climate change and improved management processes.</p> <p>Creates a more joined up and coordinated process to manage flood</p>

Source	Key environmental objectives
	<p>risk at a national and local level, and sets out responsibility to provide flood warnings.</p> <p>Provides emphasis on assessing flood risk from a range of sources, using a plan-led approach to identify the most sustainable objectives and measures to manage flood risk. The main measures include:</p> <ul style="list-style-type: none"> <li>• A framework for coordination and cooperation between all organisations involved in flood risk management.</li> <li>• Assessment of flood risk and preparation of flood risk management plans.</li> <li>• New responsibilities for SEPA, Scottish Water and local authorities in relation to flood risk management.</li> <li>• A revised, streamlined process for flood protection schemes.</li> <li>• New methods to enable stakeholders and the public to contribute to managing flood risk.</li> <li>• A single enforcement authority for the safe operation of Scotland's reservoirs.</li> </ul>
<p>The Surface Waters (Shellfish) (Classification) (Scotland) Regulations 1997, related Amendment 2007</p>	<p>Sets out objectives to ensure a high water quality standard for shellfish waters, including setting 'mandatory' and 'guideline' standards for faecal coliforms in shellfish in designated waters.</p> <p>The 2013 order details the designation of 84 shellfish water areas in Scotland.</p>
<p>The Water Environment (Shellfish Water Protected Areas: Designation) (Scotland) Order 2013</p>	
<p>Scotland's Zero Waste Plan (2010)</p>	<p>Aims to achieve a significant shift in the way our waste is managed, focused on key measures such as waste prevention, reducing landfill, improving management and contributing to renewable energy.</p> <p>Sets out the Scottish Government's vision for a zero waste society with the following aims:</p> <ul style="list-style-type: none"> <li>• All waste is seen as a resource.</li> <li>• Waste is minimised.</li> <li>• Valuable resources are not disposed of in landfills.</li> <li>• Most waste is sorted, leaving only limited amounts to be treated.</li> </ul>
<p>National Contingency Plan for Marine Pollution From Shipping and Offshore Installations (2006) and Consultation Draft (2014)</p>	<p>Developed by the Maritime and Coastguard Agency (MCA) the plan outlines roles and responsibilities during an emergency; the legal basis under the Merchant Shipping and Maritime Security Act 1997, Marine Safety Act 2003, pollution prevention Control Act 1999 and Offshore Installations (Emergency Pollution Control) Regulations 2002 for the plan; information requirements during and after an</p>

Source	Key environmental objectives
Orkney Oil Spill Contingency Plan and Environmental Database  Highland Council Oil Pollution Contingency Plan	<p>incident; and operational aspects of responding to an emergency. The 2014 Consultation Draft takes this forward, and sets out the arrangements for dealing with pollution, or the threat of pollution, spilled from ships and offshore installations. It also sets out the responsibilities of the Department for Transport, the Department of Energy and Climate Change and the Maritime and Coastguard Agency, harbour authorities, offshore installations operators and other bodies with relevant functions.</p> <p>Plans have also been developed by the Orkney Islands Council, initially for Scapa Flow and Flotta Oil Terminal, and extended to cover the whole of Orkney. The Orkney Islands Plan includes a computer database system for recording biological information, logistical information such as beach access options and recommended response options, based on the Ordnance Survey 1 kilometer grid squares for the entire coastline of Orkney.</p> <p>The aim of the Highland Council Plan, designed to conform to The National Contingency Plan for Marine Pollution from Shipping and Offshore Installations (NCP), is to provide the means, mechanism and structure for Highland Council to respond rapidly and effectively to oil pollution threatening the region's coastline.</p>
National and Marine Litter Strategies (2013)	<p>The Strategies aim to address the levels of litter present in the terrestrial, coastal and marine environments, seeking to maximise opportunities and minimise threats.</p> <p>Are a delivery mechanism for the Marine Strategy Framework Directive, which includes an outcome for marine litter in the Good Environmental Status descriptors, and incorporates activities and actions that are already underway, and sets out:</p> <ul style="list-style-type: none"> <li>• A proposed vision.</li> <li>• Five proposed strategic objectives/directions.</li> <li>• An outline of the existing actions and possible actions to deliver the strategic objectives.</li> <li>• Options for delivery of the strategy.</li> </ul> <p>The draft National Litter Strategy contains:</p> <ul style="list-style-type: none"> <li>• A proposed vision and mission statement.</li> <li>• Proposed values including key values for safety, effectiveness, responsiveness and personal and shared responsibility.</li> <li>• Proposed objectives building on the vision and mission statement, and setting the context for strategic directions and actions.</li> <li>• Proposed strategic directions and supporting actions.</li> </ul>

#### Implications:

- The Pilot Plan will have a key role to play in helping to ensure that the targets such as those set by the WFD and Scotland's RBMP are met, with support from the SEA. The Plan should highlight those areas which are currently designated as shellfish growing waters and bathing waters, and should outline the rationale underpinning these designations.

Source	Key environmental objectives
	<ul style="list-style-type: none"> <li>These policies, plans and their environmental objectives emphasise the inter-relationships between marine waters, coastal waters, rivers and soils in relation to water quality. The SA could explore these relationships, including the integrated and consistent management of terrestrial and marine areas in the context of the Pilot Plan and the specific interests in this area (e.g. the importance of the PFOW area for renewable energy investment, fisheries, aquaculture).</li> </ul>

Source	Key environmental objectives
<b>Soil, marine geology and coastal processes</b>	
Water Framework Directive 2000/60/EC	<p>Provides a hydromorphological element to maintaining and improving the ecological status of water bodies. It focuses on factors such as water flow, sediment composition and movement, continuity in rivers and the structure of physical habitats.</p> <p>To achieve High Ecological Status, the Directive requires that the hydromorphological quality elements are in place. While for lower classes, it is considered a supporting element of the biological, and in some cases physio-chemical status, and should therefore be taken into account.</p> <p>As for water quality, River Basin Management Plans (RBMPs) were defined as a key means of achieving this.</p>
Scottish Soil Framework 2009	<p>Provides an overarching policy framework for protection of soils in Scotland, in line with European Directive.</p> <p>Relates largely to the onshore environment, but this includes coastal areas and the principles are applicable more widely.</p>
Climate Change Adaptation Framework – Water Environment and Resource Sector Action Plan (2012)	<p>Identifies flooding and the effects of climate change as pressures on coastlines, and the links between soil, water and biodiversity.</p> <p>Focuses on actions to reduce flood risk, but is also relevant for coastal and transitional waters.</p>
<p><b>Implications:</b></p> <ul style="list-style-type: none"> <li>• The Pilot Plan and this SA should reflect the principles of the Scottish Soil framework, whilst also considering links to related objectives and pressures in other topic areas (e.g. the potential for future implications associated with the effects of climate change).</li> <li>• Coastal planning emphasises the importance of integrated management of these areas, whilst the emerging National Marine Plan requires a consistent approach with terrestrial planning. The Pilot Plan and its SEA could explore this further in the context of coastal and marine geology, and coastal processes.</li> <li>• The SA should explore the potential effects of the Pilot Plan and associated developments at the strategic level on marine and coastal geology, including the need to ensure the Plan is 'future-proof', and could investigate the potential for secondary effects.</li> </ul>	

Source	Key environmental objectives
<b>Material assets / Economic</b>	
The Scottish Government's Economic Strategy 2011	<p>Reaffirms the Scottish Government's commitment to delivering faster sustainable economic growth with opportunities for all to flourish, focusing actions on six Strategic Priorities to drive sustainable economic growth and develop a more resilient and adaptable economy:</p> <ul style="list-style-type: none"> <li>• Supportive Business Environment.</li> <li>• Learning, Skills and Well-being.</li> <li>• Effective Government.</li> <li>• Transition to a Low Carbon Economy.</li> <li>• Infrastructure, Development and Place.</li> <li>• Equity.</li> </ul>
The Scottish Government's Infrastructure Investment Plan 2011 and the 2013 Update	<p>Provides an overview of the Scottish Government's plans for infrastructure investment over the coming decades. It outlines how infrastructure investment contributes to each of the six Strategic Priorities identified by the Scottish Government's Economic Strategy 2011. It focuses on the fifth priority (Infrastructure, Development and Place) by setting out how Scotland will invest resources in planning and place and in economic and social infrastructure to grow the economy and generate new jobs.</p> <p>It outlines that the Infrastructure Investment Board has broken down the purpose into four prioritisation criteria, and each new investment proposal is considered against four criteria:</p> <ul style="list-style-type: none"> <li>• Delivering sustainable economic growth.</li> <li>• Managing the transition to a low carbon economy.</li> <li>• Supporting delivery of efficient and high quality public services.</li> <li>• Supporting employment and opportunity across Scotland.</li> </ul> <ul style="list-style-type: none"> <li>• The 2013 update focuses on achievements since 2011 and provides updated details on the programmes and projects which form part of the Scottish Government's investment plan. The update includes three separate documents: <ul style="list-style-type: none"> <li>• A progress report providing commentary on activity since the 2011 plan was published and a summary of future plans in each sector.</li> <li>• A programme pipeline providing details of the 30 major investment programmes that are underway, or planned.</li> <li>• A project pipeline providing details of 103 individual projects that are underway, or planned.</li> </ul> </li> </ul>
Conserve and Save: Energy Efficiency Action Plan (2010)	<p>Sets out a wide-ranging programme of activity on behaviour change, household, business and public sector energy efficiency, infrastructure, skills, and finance.</p> <p>Aims to achieve a step-change reduction in energy use, alongside</p>

Source	Key environmental objectives
	<p>other strategies that focus on low carbon generation. Takes forward the overarching target of reducing final energy consumption by 12% by 2020, and provides a framework for monitoring progress.</p>
Electricity Generation Policy Statement (2013)	<p>Identifies changes required to meet this target, by considering the generating mix as a whole, aiming to balance issues including security of supply, affordability, economic benefit and community ownership.</p> <p>Constructed around a number of relevant targets and related requirements:</p> <ul style="list-style-type: none"> <li>• Delivering the equivalent of at least 100% of gross electricity consumption from renewables by 2020 as part of a wider, balanced electricity mix, with thermal generation playing an important role though a minimum of 2.5 GW of thermal generation progressively fitted with Carbon Capture and Storage (CCS).</li> <li>• Enabling local and community ownership of at least 500 MW of renewable energy by 2020.</li> <li>• Lowering final energy consumption in Scotland by 12%.</li> <li>• Demonstrating carbon capture and storage (CCS) at commercial scale in Scotland by 2020, with full retrofit across conventional power stations thereafter by 2025-30.</li> <li>• Seeking increased interconnection and transmission upgrades capable of supporting projected growth in renewable capacity.</li> </ul>
National Renewables Infrastructure Plan (NRIP) (Stages 1 and 2)  Wave and Tidal National Renewables Infrastructure Plan (NRIP) (2014)	<p>Aims to ensure that infrastructure development takes place to realise the opportunities arising from renewable energy development. Focuses on offshore renewable energy, noting the significant potential for investment arising from offshore wind, wave and tidal projects.</p> <p>Together, the phased approach identified a range of sites for offshore wind, wave and tidal activities in the medium to long term; involving working with industry and port owners is underway.</p>
2020 Routemap for Renewable Energy in Scotland (2011)	<p>An update and extension to the Scottish Renewables Action Plan 2009, the Routemap sets out a range of targets, as referred to in the Electricity Generation Policy Statement, including:</p> <ul style="list-style-type: none"> <li>• 100% of electricity demand equivalent from renewables by 2020.</li> <li>• 11% of heat demand from renewables by 2020.</li> <li>• At least 30% of overall energy demand from renewables by 2020 (covering heat, transport and electricity).</li> <li>• A 500 MW target for community and locally owned renewable energy by 2020.</li> </ul> <p>Explains the potential contribution of different sectors to achieving these targets, including onshore and offshore renewable energy</p>

Source	Key environmental objectives
	<p>technologies which are identified as playing an important role. Adds that innovation and investment in this sector is strongly supported.</p> <p>Notes the rolling out of heat energy ambitions, including the rolling out of heat mapping, building on research on waste heat from fossil fuel power stations, and further work on district heating, amongst others.</p> <p>Notes that new strategies for agri-renewables and microgeneration will also be developed.</p>
Blue Seas Green Energy (2011)	<p>Sets out plans for offshore wind energy development in Scottish Territorial Waters, reflecting the significant potential for marine renewable energy throughout Scottish Waters.</p> <p>Contains proposals for development at the regional level up to 2020, 2030 and into the longer term.</p> <p>Set out a number of areas for offshore wind energy development including six 'sites' for development in the short term, and around 25 further 'areas of search' for consideration in the medium to longer term.</p> <p>Contained commitments to further research, data collection, stakeholder engagement, monitoring to accompany this programme of development, and made a commitment to a 2 year review period reflecting the fast pace of change within the offshore renewable sector.</p> <p>Was based on the following strategic aims:</p> <ul style="list-style-type: none"> <li>• Maximise the contribution that offshore wind energy makes to renewable energy generation in Scotland.</li> <li>• Maximise opportunities for economic development, investment and employment.</li> <li>• Minimise adverse effects on people, other economic sectors and the environment.</li> <li>• Deliver offshore wind while complementing other forms of marine energy generation.</li> </ul>
Planning Scotland's Seas Offshore Renewable Energy Draft Plans (2013) and due for finalisation in 2015	<p>Takes forward the aims of Blue Seas Green Energy and together, the plans set out a series of include option areas which will help to steer offshore renewables developers (wind, wave and tidal) towards suitable areas for planning projects to go through a marine licensing process.</p> <p>Identified 10 option areas for offshore wind, eight for wave and 10 for tidal energy.</p> <p>Informed by a Sustainability Appraisal, exploring potential impacts of development opportunities and was open to public consultation.</p> <p>The finalised plans are expected to be published in 2015.</p>
Electricity Act 1989	<p>Provides the legislative background within which the energy sector functions.</p> <p>Sets out the framework within which applications for marine energy development should seek consent, and the related regulations define EIA responsibilities.</p>

Source	Key environmental objectives
Energy Act 2004 and associated Commencement Orders	<p>Covers the civil nuclear industry, sustainability and renewable energy sources including both on and offshore developments.</p> <p>Aims to achieve diversification of supply in favour of renewable sources and augments the system for determining developments within territorial waters.</p> <p>Provides the Crown Estate with rights to license the generation of renewable energy and grant leases for development sites out to 200 nm.</p>
A Sustainable Energy Strategy for Orkney (2009)	<p>Is a non-statutory document that is closely linked to a number of statutory strategies and plans.</p> <p>Sets out Orkney Islands Council's strategy and objectives in relation to renewable energy.</p>
Highland Renewable Energy Strategy and Planning Guidelines (2006)	<p>Prepared as Supplementary Guidance to the policies of Highland Structure Plan.</p> <p>Identifies the capacity in the Highlands for a range of renewable energy targets and provide locational guidance and support economic development.</p>
Environmental and Clean Technologies Action Plan (2010)	<p>Sets out the long-term approach for the development of Environmental Clean Technologies (ECT) in Scotland providing more efficient and co-ordinated public sector collaboration, and support to stakeholders working on the development of new projects and technology options throughout Scotland.</p> <p>Partner organisations including SEPA, HIE, SE and SFC are signed up to this approach, and it has received endorsement by the Scottish Government.</p> <p>Seeks to achieve 6 key deliverables:</p> <ul style="list-style-type: none"> <li>• Establish the necessary partnership framework to manage, develop and deliver Scotland's ECT Strategy.</li> <li>• Map out existing partnerships, projects, support organisations and secured/available sources of funding for ECT projects in Scotland to improve understanding of the scale and nature of Environmental and Low Carbon activities across Scotland.</li> <li>• Identify and consider the options to develop an inter-agency workflow management system to facilitate improved partnership working and the flow of essential sector development information and knowledge transfer.</li> <li>• Map out existing industry sector/public agency information and support portals and either integrate with or create a specific Scottish ECT web portal to act as a "one-stop-shop" for all stakeholders to support the establishment of new partnerships and projects, transfer of knowledge and advice, source funding opportunities and learn from other Scottish, UK and International experiences.</li> <li>• Publish an ECT Communications Plan to ensure consistent and understandable messages to stakeholders, and co-ordinated methods for ongoing promotion, awareness raising, training and</li> </ul>

Source	Key environmental objectives
	<p>capacity building.</p> <ul style="list-style-type: none"> <li>• Publish a long term approach to establishing an ECT industry in Scotland, identifying the long term Economic, Environmental and Knowledge-Base outcomes for delivery and indicators for success, and secure the necessary resources for delivery.</li> </ul>
National Transport Strategy (2006)	<p>Sets the long term vision for our transport policies and aims to promote economic growth by building, enhancing managing and maintaining transport services, infrastructure and networks to maximise their efficiency.</p> <p>Its key themes include connecting remote and disadvantaged communities, increasing accessibility, protecting the environment and improving health through investment in public transport, improving safety and integrating different modes of transport.</p> <p>Introduced three Key Strategic Outcomes, which are to:</p> <ul style="list-style-type: none"> <li>• Improve journey times and connections between our cities and towns and our global markets to tackle congestion and provide access to key markets.</li> <li>• Reduce emissions to tackle climate change.</li> <li>• Improve quality, accessibility and affordability of transport, to give people the choice of public transport and real alternatives to the car.</li> </ul> <p>These outcomes feed directly into the five overarching Strategic Objectives for the Scottish Government, providing a basis for developing policies in the transport sector.</p>
OSPAR Convention for the Protection of the Marine Environment of the North-East Atlantic (1992)	<p>Requires the Contracting Parties to the Convention to report on what they have done to implement their obligations and commitments, and the OSPAR Commission to evaluate what has been achieved and make decisions and recommendations for subsequent actions.</p> <p>OSPAR aims to progressively reduce discharges offshore to close to zero by 2020.</p> <p>These measures are complemented by agreements setting out:</p> <ul style="list-style-type: none"> <li>• Issues of importance.</li> <li>• Agreed monitoring programmes, information collection and other work to be undertaken by the Contracting Parties.</li> <li>• Guidance setting out how programmes or measures should be implemented.</li> <li>• Actions to be taken by the OSPAR Commission on behalf of the Contracting Parties.</li> </ul>
Strategic Framework for Inshore Fisheries (2006) and Inshore Fisheries Management Plans for the Moray Firth and North Coast (2011)	<p>The Framework details that high level objectives for inshore fisheries to be set at a national level, including that for the overall general vision and aspirations for Scottish inshore fisheries, including:</p> <ul style="list-style-type: none"> <li>• Biological – to conserve, enhance and restore commercial stocks and supporting ecosystems in inshore areas.</li> <li>• Economic – to optimise long term sustained economic returns to communities dependent on inshore fisheries and to promote quality initiatives.</li> </ul>

Source	Key environmental objectives
	<ul style="list-style-type: none"> <li>Environmental – to maintain and restore the inshore marine environment for fisheries and wildlife.</li> <li>Social – to recognise historical fishing practices and traditional ways of managing inshore fisheries, to manage changes and interact positively with other activities.</li> <li>Governance – to develop and maintain a transparent accountable and flexible management structure, placing fishermen at the centre of decision making, underpinned by adequate understanding of fisheries interactions and enforcement mechanisms.</li> </ul> <p>Establishment of a network of Inshore Fisheries Groups covering all Scottish inshore waters to develop local objectives, complementing these the high level objectives and reflecting the priorities and circumstances of different areas.</p> <p>Includes the development of local management plans to deliver these objectives, including for the PFOW area.</p>
A Fresh Start: The renewed Strategic Framework for Scottish Aquaculture (2009) (SFSA)	<p>The Strategic Framework for Scottish Aquaculture (SFSA) is based on three guiding principles: economic; environmental; and social. Acts as the main policy instrument to deliver a diverse, competitive but sustainable aquaculture industry in Scotland and provides a set of parameters within which industry can balance socio-economic benefits against environmental impact.</p>
Salmon and Freshwater Fisheries (Consolidation) (Scotland) Act 2003	<p>Allows for the Salmon Conservation Regulations to be made where it is considered necessary to do so for the conservation of salmon (e.g. relating to fishing in the sea, estuaries or rivers).</p>
Aquaculture and Fisheries (Scotland) Acts 2007 and 2013	<p>Covers fish farms and shellfish farms, and refers to operational issues and covers both freshwater and sea fisheries.</p> <p>Details payments relating to aquaculture and fisheries, including additional powers and penalty charges.</p>
Wildlife and Natural Environment Act 2011 (WANE)	<p>Amended a number of other pieces of legislation including the Wildlife and Countryside Act 1981 and the Deer (Scotland) Act 1996. Modernises existing laws and introduces new wildlife offences (including vicarious liability), creates a new regime for regulating invasive and non-native species, makes changes to the licensing system for protected species, and makes operational changes to the management of Sites of Special Scientific Interest (SSSI), amongst others.</p>
EU Common Fisheries Policy (Reform agreed June 2013)	<p>Sets how much fish each Member State is allowed to catch, but the conditions under which it must be caught including the type of net used, how long vessels have to catch the fish and the sizes of fish that can be landed.</p> <p>Priorities include:</p> <ul style="list-style-type: none"> <li>Sustainable fishing – recognising the need to rebuild depleted stocks and maintain stocks at sustainable levels with a combination of Multi-Annual Management Plans (MAPs) and total allowable catches (TACs) set at sustainable exploitation rates for</li> </ul>

Source	Key environmental objectives
	<p>all harvested stocks helping to achieve this.</p> <ul style="list-style-type: none"> <li>• Landing Obligation – requiring fishing vessels to gradually land all they catch, starting in January 2015 and ending in 2019 when all catches of all TAC regulated species must be landed.</li> <li>• Regionalisation – allowing Member states to form regional groupings which will develop management plans and implement measures appropriate for their fisheries in order to achieve high level goals.</li> <li>• Protecting Historic Fishing Rights – National governments retaining flexibility to manage fishing quota and fishing opportunities to best fit their own circumstances.</li> <li>• Integration with other marine environment policies – setting out a clear process for Member States to agree on the management of the marine environment.</li> </ul>
Draft Tourism Development Plan for Scotland ... delivering the visitor economy (2013)	<p>Will aim to help to co-ordinate and deliver future growth in the visitor economy and aims to help define a more proactive and co-ordinated approach to assist stakeholders in the tourism sector to engage with the development plan system whilst helping to secure future opportunities.</p> <p>The Plan's remit will be to focus on development matters, and therefore it does not address operational matters in the sector (e.g. service, skills, training, quality, etc.).</p> <p>Once published, it will be reviewed and updated on a three year cycle, monitoring progress and achievements, and informing future updates to ensure progress in growing the visitor economy is taken into account.</p> <p>If adopted, it will provide a framework to inform and develop a series of Action Plans for Investment for local authorities, whilst continuing to improve coordination and action at a national level.</p>
National Planning Framework 3 (NPF3) 2014	<p>The NPF3 sets the context for development planning in Scotland and provides a framework for the spatial development of Scotland as a whole.</p> <p>It sets out the Government's development priorities over the next 20-30 years and identifies national developments which support the development strategy.</p>
National Marine Plan 2015	<p>Is a five-year plan which sets out a national level framework for the management of Scotland's marine environment. Its purpose is to assist in managing increasing demand for the use of Scotland's marine environment, encourage the economic development of marine industries and incorporate environmental protection and social considerations into marine decision-making.</p> <p>It aims to achieve the Scottish Government's vision for the marine environment of clean, healthy, safe, productive and biologically diverse oceans and seas, managed to meet the long term needs of nature and people, by delivering strategic objectives that will:</p> <ul style="list-style-type: none"> <li>• Achieve a sustainable economy.</li> </ul>

Source	Key environmental objectives
	<ul style="list-style-type: none"> <li>• Ensure a strong, healthy and just society.</li> <li>• Respect environmental limits.</li> <li>• Promote good governance.</li> <li>• Use sound science responsibly.</li> </ul> <p>It brings together existing national-level policy on the marine environment, provides new policy where this is required at the national level, sets the policy framework for regional marine plans and provides direction to marine and terrestrial decision-makers.</p> <p>The Plan contains:</p> <ul style="list-style-type: none"> <li>• The vision for the marine environment, set out in Marine Scotland's marine vision and agreed at the UK level in the Marine Policy Statement.</li> <li>• The objectives for the draft plan based on the Scottish Government's national objectives, the High Level Marine Objectives; the criteria for 'good environmental status' under the MSFD; and the climate change objectives set out in the relevant legislation, sector-specific objectives and policies.</li> <li>• Cross cutting policies focusing on sustainable economic growth, sustainable development, communities, decision-making, engagement, and the environment.</li> <li>• Sector-specific objectives and policies supporting the economic growth of a sector, managing conflicts between marine users or managing particular environmental impacts for a range of sectors.</li> </ul>
Scottish Planning Policy (SPP) 2014	<p>Scottish Planning Policy is a statement of Scottish Government policy on how nationally important land use planning matters should be addressed across the country.</p> <p>It sets out national planning policies which reflect Scottish Ministers' priorities for operation of the planning system and for the development and use of land in Scotland.</p> <p>It promotes consistency in the application of policy across Scotland whilst allowing sufficient flexibility to reflect local circumstances, and relates directly to the preparation of development plans, the design of development from initial concept through to delivery, and the determination of planning applications and appeals.</p>
Community Empowerment Bill 2014	<p>The Bill reflects the policy principles of subsidiarity, community empowerment and improving outcomes and provides a framework to empower community bodies through the ownership of land and buildings and strengthening their voices in the decisions that matter to them; and to support an increase in the pace and scale of public service reform by cementing the focus on achieving outcomes and improving the process of community planning.</p> <p>It outlines a number of provisions including placing community planning partnerships on a statutory footing and imposes duties on them around the planning and delivery of local outcomes, and provides a mechanism for communities to have a more proactive role in having their voices heard in how services are planned and</p>

Source	Key environmental objectives
	delivered, amongst others.
<b>Implications:</b>	
<ul style="list-style-type: none"> <li>• These policies, plans and strategies set out a number of objectives of relevance to the Pilot Plan and its environmental assessment.</li> <li>• Many of the aims and objectives around material assets focus on improving transport infrastructure and services, reducing waste and promoting the waste hierarchy, with underpinning themes that seek to reduce emissions and shift towards a low carbon energy mix.</li> <li>• These objectives also have a strong economic focus, supporting the many sectors that use the marine and coastal environments, but are also linked with opportunities for improving efficiencies and making the best use of resources, while also creating stronger and more resilient communities and environments.</li> <li>• The SA should explore the extent to which these broader goals and ambitions aim could be incorporated or promoted through the Pilot Plan, whilst also seeking to optimise their performance in relation to wider environmental aims and objectives.</li> </ul>	

## APPENDIX E:

### Compliance with the Environmental Assessment (Scotland) Act 2005

Environmental Report Requirements	Section(s) of This Report
Relevant Sections of the Environmental Assessment Act	
14 (2) The report shall identify, describe and evaluate the likely significant effects on the environment of implementing—	
(a) the marine spatial plan or programme; and	Sections 8 – 10 Appendices A and B
(b) reasonable alternatives to the marine spatial plan or programme.	Sections 6.6 and 9.3 Appendix C
14 (3) The report shall include such of the information specified in schedule 3 as may reasonably be required.	
Information referred to in schedule 3	
1. An outline of the contents and main objectives of the marine spatial plan or programme, and of its relationship (if any) with other qualifying plans and programmes.	Sections 2, 3 and 5 Appendix D
2. The relevant aspects of the current state of the environment ... ... and the likely evolution thereof without implementation of the marine spatial plan or programme.	Sections 7.1 – 7.12
3. The environmental characteristics of areas likely to be significantly affected.	Section 7
4. Any existing environmental problems which are relevant to the marine spatial plan or programme including, in particular, those relating to any areas of a particular environmental importance, such as areas designated pursuant to Council Directive 79/409/EEC on the conservation of wild birds and Council Directive 92/43/EEC on the conservation of natural habitats and of wild flora and fauna (as last amended by Council Directive 97/62/EC).	Sections 7 and 9.4
5. The environmental protection objectives, established at international, Community or Member State level, which are relevant to the marine spatial plan or programme ... ... and the way those objectives and any environmental considerations have been taken into account during its preparation.	Sections 5 and 6.4 Appendix D  Sections 5, 6, 9 and 10

Environmental Report Requirements	Section(s) of This Report
<p>6. The likely significant effects on the environment, including—</p> <p>(a) on issues such as—</p> <ul style="list-style-type: none"> <li>(i) biodiversity and natural heritage;</li> <li>(ii) population;</li> <li>(iii) human health;</li> <li>(iv) fauna;</li> <li>(v) flora;</li> <li>(vi) soil;</li> <li>(vii) water;</li> <li>(viii) air;</li> <li>(ix) climatic factors;</li> <li>(x) material assets;</li> <li>(xi) cultural heritage and historic environment, including architectural and archaeological heritage;</li> <li>(xii) landscape;</li> <li>(xiii) the inter-relationship between the issues referred to in heads (i) to (xii).</li> </ul> <p>(b) short, medium and long-term effects.</p> <p>(c) permanent and temporary effects.</p> <p>(d) positive and negative effects.</p> <p>(e) secondary, cumulative and synergistic effects.</p>	Sections 8 – 10
<p>7. The measures envisaged to prevent, reduce and as fully as possible offset any significant adverse effects on the environment of implementing the marine spatial plan or programme.</p>	Sections 8, 9 and 10.2
<p>8. An outline of the reasons for selecting the alternatives dealt with, and a description of how the assessment was undertaken including any difficulties (such as technical deficiencies or lack of expertise) encountered in compiling the required information.</p>	Section 9.3
<p>9. A description of the measures envisaged concerning monitoring in accordance with section 19.</p>	Sections 6.5, 10.2 and 10.3
<p>10. A non-technical summary of the information provided under paragraphs 1 to 9.</p>	Section 1

## **APPENDIX F:**

### **Draft HRA Record**

## F.1 Introduction to the Habitats Regulation Appraisal (HRA)

- F.1.1 The HRA process initially requires an appraisal of whether the components of the Pilot Plan will result in likely significant effects (LSE) on European Sites; those sites designated under the European Habitats or Birds Directives as Special Areas for Conservation (SACs) or Special Protection Areas (SPAs). If it is determined that LSE on a European site may occur then the Pilot Plan will be subject to an 'appropriate assessment' (AA) of its implications for European sites, in view of these site's conservation objectives.
- F.1.2 This Appendix of this Report has been prepared as a Draft HRA Record, setting out the proposed methodology for the appraisal process of the Pilot Plan, the steps undertaken to consider the draft Pilot Plan, and discussion on the initial findings at this early stage of the HRA process. This HRA has been undertaken using guidance provided by the Scottish Government<sup>1</sup> and Scottish Natural Heritage (SNH)<sup>2</sup> which details advice on the steps and process to be followed in undertaking plan-level HRA.

## F.2 Legal Context for HRA

- F.2.1 Article 6(3) of the Habitats Directive<sup>3</sup> requires that any plan or project which is not directly connected with or necessary to the management of a European/Ramsar site (also known as a Natura 2000 site), but likely to have a significant effect thereon, either individually or in combination with other plans or projects, shall be subject to an 'appropriate assessment' of its implications for the Natura site, in light of the site's conservation objectives.
- F.2.2 Natura 2000 is an EU-wide network of nature protection areas established under the Habitats Directive, with the aim of conserving Europe's most valuable and threatened species and habitats and was developed to work towards their long-term survival. The network is comprised of Special Areas of Conservation (SACs) designated by Member States under the Habitats Directive, and also incorporates Special Protection Areas (SPAs) which are designated under the 1979 Birds Directive<sup>4</sup>. In addition, it is a matter of law that candidate SACs (cSACs) and Sites of Community Interest (SCI) are considered as if they were designated, and that proposed SACs (pSACs) and proposed SPAs (pSPAs) are considered as if they were designated.

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<sup>1</sup> Scottish Government (2012) July 2012, Habitats Regulations Appraisal (HRA) Advice Sheet. Screening general policies and applying simple mitigation measures. Advice sheet No. 2 (Version 1).

<sup>2</sup> Scottish Natural Heritage (2015) January 2015, Habitats Regulations Appraisal of Plans: Guidance for Plan-Making Bodies in Scotland, Version 3.0 [online] Available at: <http://www.snh.gov.uk/docs/A1500925.pdf> (accessed 19/05/2015)

<sup>3</sup> Directive 92/43/EEC on the conservation of natural habitats and of wild fauna and flora [online] Available at: [http://ec.europa.eu/environment/nature/legislation/habitatsdirective/index\\_en.htm](http://ec.europa.eu/environment/nature/legislation/habitatsdirective/index_en.htm) (accessed 12/12/2014)

<sup>4</sup> Directive 79/409/EEC as amended on the conservation of wild birds [online] Available at: [http://ec.europa.eu/environment/nature/legislation/birdsdirective/index\\_en.htm](http://ec.europa.eu/environment/nature/legislation/birdsdirective/index_en.htm) (accessed 12/12/2014)

Whilst not currently a legal requirement for consideration in HRA, the draft marine SPAs published in July 2014<sup>5</sup> are expected to be issued for formal consultation in 2015. However, in the context of this HRA, these areas will also be considered as if they have been designated.

F.2.3 The Directive adds that the competent authority shall agree to the plan only after having ascertained that it will not adversely affect the integrity of the site concerned, unless in exceptional circumstances the provisions of Article 6(4) are met. This procedure is applied in Scotland through the Conservation (Natural Habitats, &c.) Regulations 1994 (as amended)<sup>6</sup>.

### F.3 Approach to the HRA

F.3.1 As illustrated in Figure F.1, a six-step approach was developed for undertaking the HRA on the Pilot Plan, broadly reflecting the 13 stage methodology of the HRA process advocated in the SNH Guidance. This process was developed to simplify the process and customise the process to the Pilot Plan and its policies while still reflecting the requirements of the Directive and the methodology in the SNH Guidance.

F.3.2 It is noted that at this stage, the Pilot Plan and its policies are in a draft and will be subject to public consultation. As a consequence, there is the potential for changes to the Pilot Plan and/or its policies, including changes to the focus and scope of specific policies and the potential for the development of new policies for inclusion in the final Plan. As a consequence of undertaking the HRA on the draft policies and based upon the initial findings of the HRA (set out in Section F.4), only the first four steps of this process have been completed.

F.3.3 However, it is also noted that the HRA will remain open during the continued progression of the Pilot Plan and its policies, and the findings of the screening process (Step 4) will be regularly reviewed to identify the potential for impacts on the HRA process; in particular, determination of the need for undertaking an 'Appropriate Assessment' in the finalisation of the HRA Record (Step 5). Upon finalisation of the Pilot Plan, the final HRA Record will be prepared for issue for the publication of the final Pilot Plan (Step 6).

F.3.4 The proposed six-step process includes:

- **Step 1: Decide if an HRA is required** – A review of the requirement for HRA based upon the approach outlined in Stage 1 of Figure F.1, based upon Section 2 of the SNH Guidance.
- **Step 2: Identify European sites** – Identification of the European sites (SACs, SPAs and Ramsar sites) that should be considered in the

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<sup>5</sup> JNCC and SNH (2014) The suite of Scottish marine dSPAs [online] Available at: <http://www.snh.gov.uk/docs/A1350044.pdf> (accessed 12/12/2014)

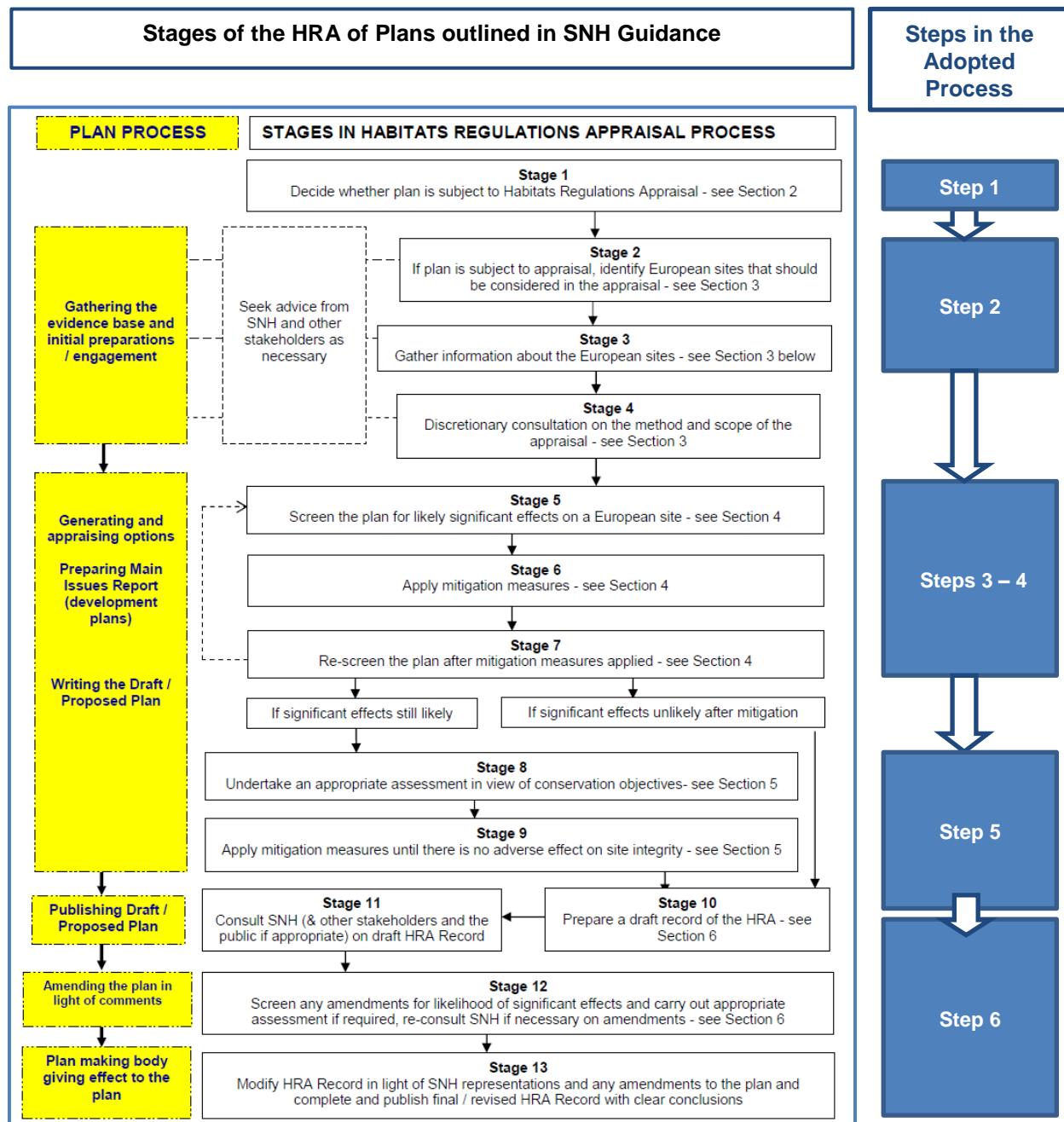
<sup>6</sup> SNH (2013) Species Protection under the Habitats Regulations 1994 [online] Available at: <http://www.snh.gov.uk/protecting-scotlands-nature/protected-species/legal-framework/habitats-directive/regulations/> (accessed 12/12/2014)

screening of the Pilot Plan, reflecting Stages 2 and 3 outlined in the SNH Guidance.

- **Step 3: Impact pathways review and identify activities to which features are sensitive –**
  - Identification of the impact pathways that are relevant for each of the policies in the Pilot Plan.
  - A review of the activities likely to arise from adoption of the Pilot Plan and its policies, and environmental changes which could have an impact on European/Ramsar sites or interest features via the identified impact pathways.
- **Step 4: Activity-based screening of Natura Sites –**
  - Identification (screening) of those Natura sites and their relevant interest features for which there is a LSE, or for which a LSE cannot be excluded, from the relevant policies in the Pilot Plan and the impact pathways.
  - This would also include the identification and application of mitigation measures as applicable.
  - Steps 3 and 4 broadly represent Stages 5 – 7 in the process outlined in the SNH Guidance for Screening for LSE and consideration of the requirement for an Appropriate Assessment.
- **Step 5: Detailed pathway-feature sensitivity review and assessment of the potential effects on European/Ramsar sites –** If significant effects are likely, based upon the Screening, including after the application of mitigation measures, this step would include:
  - A detailed review of the sensitivities of the relevant interest features to the identified impact pathways and activities likely to arise from adoption of the Pilot Plan and its policies.
  - Undertaking an Appropriate Assessment of the policies in the Pilot Plan to identify if there are adverse effects on the integrity of European sites, both alone and in-combination with other existing plans and projects. These steps in the process represent Stages 8 and 9 in the process outlined in the SNH Guidance.
  - If required, this process would be followed by the identification of available mitigation measures for each identified impact pathway and the identification of additional mitigation measures which ensure that these activities have no adverse effects on integrity (AEOI).
  - Preparation of a Draft HRA Record, representing stage 10 in the process outlined in SNH Guidance.
- **Step 6: Preparation of the HRA Record –** Involving consultation with SNH and other stakeholders and the public if appropriate, undertaking

amendments to the HRA Record and the Plan based upon comments, and preparation of the Final HRA Record. This step broadly represents the remaining stages 11 – 13 in the process outlined in SNH Guidance.

**Figure F.1 The process for undertaking the HRA of the Pilot Plan<sup>7</sup>**



<sup>7</sup> SNH (2012) Habitats Regulations Appraisal of Plans Guidance for Plan-Making Bodies in Scotland, Version 2.0, August 2012 [online] Available at: <http://www.snh.gov.uk/docs/B1116296.pdf> (accessed 10/12/2014)

## F.4 Summary of Initial Findings of HRA Record

### Step 1: Decide if an HRA is required

- F.4.1 The initial step of the HRA process involved reviewing the draft Pilot Plan to determine if an HRA was required. This step involved comparing the Plan against criteria set out in Section 2 of the SNH Guidance. As shown in Figure F.2, this review concluded that while the Pilot Plan will not be directly connected with or necessary to the management of a European site for nature conservation purposes, nor is it identified by regulations 85A or 69A, it will provide a framework for deciding applications and influencing decision-makers, as a result of being a material consideration in licencing decisions.
- F.4.2 As a consequence, Marine Scotland considers that the plan should be subject to HRA.

### Step 2: Identify European sites

- F.4.3 The second step of the HRA process involved identifying European sites that should be considered in the screening of the Pilot Plan. This step involved researching the sites and qualifying interests that could be subject to LSE from the Pilot Plan.
- F.4.4 An initial list of sites to be screened has been compiled and this is presented in Annex F1. At this stage of the process, and given the proposed strategic focus of the Pilot Plan, a review of these sites is useful to aid the consideration of potential impact pathways in the next step of the process; however, depending on the findings of this screening, a more detailed analysis and appraisal of these sites may be required.

### Steps 3 – 4: Impact pathways review and identification of activities to which qualifying features are sensitive, and Activity-based screening of European/Ramsar Sites

- F.4.5 The next two steps of the process involved the identification of impact pathways associated with the draft Pilot Plan and the general and sectoral policies contained within it. This work relied heavily on work undertaken on the SEA of the draft Pilot Plan being conducted in parallel to the HRA, and was also informed by previous SEAs and recent HRAs undertaken for the Scottish marine environment; notably the Sectoral Marine Plans for Offshore Renewables, the National Marine Plan (NMP), Marine Protected Areas (MPAs)<sup>8</sup>, amongst others. For example, these assessments informed the consideration of known pathways and known likely distances for movement of Natura qualifying species.

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<sup>8</sup> Marine Scotland (2013) Planning Scotland's Seas [online] Available at: <http://www.gov.scot/Topics/marine/marine-consultation> (accessed 09/02/2015)

F.4.6 From this, the following potential impact pathways were identified:

- Physical loss of habitats from removal or smothering.
- Physical damage to habitats and species from siltation, erosion or physical injury/death.
- Non-physical (indirect) disturbance from noise or visual presence and reduced availability or displacement of species, including prey.
- Toxic contamination from the introduction of synthetic compounds or non-synthetic contaminants.
- Non-toxic contamination from nutrient enrichment, organic enrichment, changes in suspended sediment and turbidity, changes in salinity or changes to the thermal regime.
- Biological disturbance from introduction of microbial pathogens, the introduction of invasive non-native species and translocation, or from selective extraction of selected species.

F.4.7 In line with the SNH guidance, the Pilot Plan is required to undergo screening with the purpose to:

- “a) Identify all aspects of the plan which would have no effect on a European site, so that they can be eliminated from further consideration in respect of this and other plans;
- b) identify all aspects of the plan which would not be likely to have a significant effect on a European site (i.e. would have some effect but minor residual), either alone or in combination with other aspects of the same plan or other plans or projects, which therefore do not require ‘appropriate assessment’; and
- c) identify those aspects of the plan where it is not possible to rule out the risk of significant effects on a European site, either alone or in combination with other plans or projects. This provides a clear scope for the parts of the plan that will require appropriate assessment.”<sup>9</sup>

F.4.8 After identifying the relevant impact pathways, a review of the activities detailed in the Pilot Plan and its general and sectoral policies was undertaken. This involved undertaking a Screening of the Plan and its policies ‘alone’ as outlined in Appendix C of SNH Guidance<sup>10</sup>. This screening process focused on General Policies 1 – 9 and Sectoral Policies 1 – 10 contained within the draft Pilot Plan, to consider the potential for effects on European sites from each.

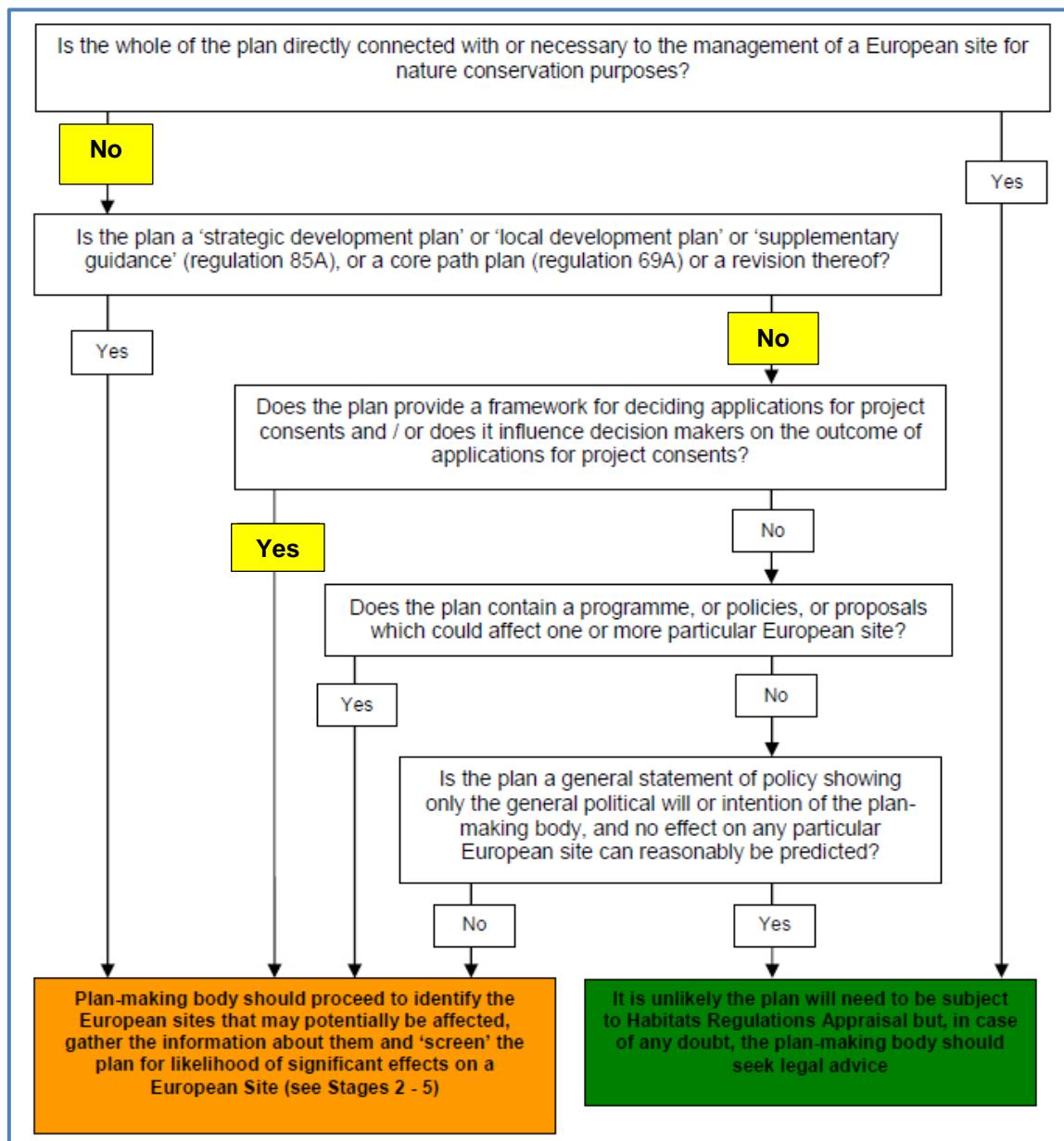
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<sup>9</sup> SNH (2012) Habitats Regulations Appraisal of Plans Guidance for Plan-Making Bodies in Scotland, Version 2.0, August 2012 [online] Available at: <http://www.snh.gov.uk/docs/B1116296.pdf> (accessed 10/12/2014)

<sup>10</sup> SNH (2012) Habitats Regulations Appraisal of Plans Guidance for Plan-Making Bodies in Scotland, Version 2.0, August 2012, Page 58 [online] Available at: <http://www.snh.gov.uk/docs/B1116296.pdf> (accessed 10/12/2014)

F.4.9 The findings of the Screening are presented in Table F.1 and summarised in Section F.5.

**Figure F.2 Deciding if a plan should be subject to HRA<sup>11</sup>**



<sup>11</sup> SNH (2012) Habitats Regulations Appraisal of Plans Guidance for Plan-Making Bodies in Scotland, Version 2.0, August 2012 [online] Available at: <http://www.snh.gov.uk/docs/B1116296.pdf> (accessed 10/12/2014)

**Table F.1 Screening of the General and Sectoral Policies for the likelihood of a significant effect on European Sites identified in the HRA<sup>12</sup>**

Criteria for screening	Relevant parts of the plan (the Policies)	Reason(s) for inclusion in the respective sections of this table and LSE
General policy statements (Step 1 in Appendix C of SNH Guidance)	<u>General Policies</u> 7 (Integrating Coastal and Marine Development) 8B (Waste and Marine Litter)	These policies were considered to be statements of general policy. As such, there will be no LSE on a European site.
A general criteria based policy (Step 1 in Appendix C of SNH Guidance)	<u>General Policies</u> 1A (Sustainable Development) 1B (Supporting Sustainable Social and Economic Benefits) 1C (Safeguarding the Marine Ecosystem) 2 (Wellbeing and Quality of Life of Coastal Communities) 3 (Climate Change) 4C (Wider Biodiversity) 5B (Coastal Processes and Flooding) 8A (Noise)	These policies were considered to be statements of general policy outlining broad criteria. As such, there will be no LSE on a European site.

<sup>12</sup> SNH (2012) Habitats Regulations Appraisal of Plans Guidance for Plan-Making Bodies in Scotland, Version 2.0, August 2012, Page 58 [online] Available at: <http://www.snh.gov.uk/docs/B1116296.pdf> (accessed 10/12/2014)

Criteria for screening	Relevant parts of the plan (the Policies)	Reason(s) for inclusion in the respective sections of this table and LSE
Aspects excluded from the appraisal because they are not proposals generated by this plan (Step 2 in Appendix C of SNH Guidance)	<u>Sectoral Policies</u> 2 (Aquaculture) 4 (Renewable Energy Generation)	<p>These policies reiterate existing policy and requirements for aquaculture and renewable energy (i.e. detailed in Local development Plans (LDPs) and Supplementary Guidance, Sectoral Marine Plans for Renewable Energy, current consenting processes, etc.) and are not considered to contain proposals generated by the Pilot Plan.</p> <p>As such, there will be no LSE on a European site from these policies.</p>
Aspects which protect the natural environment, including biodiversity, or conserve or enhance the natural, built or historic environment (Step 3a in Appendix C of SNH Guidance)	<u>General Policies</u> 4A (Nature Conservation Designations) 4B (Protected Species ) 4D (Landscape and Seascape) 4E (Geodiversity) 5A (Water Environment) 6 (Historic Environment) 9 (Invasive Non-native Species)	<p>These policies will provide additional safeguards to protect the natural and historic environment. As a consequence, there will be no LSE on a European site from these policies.</p>
Aspects which will not lead to development or other change (Step 3b in Appendix C of SNH Guidance)	None	None.

Criteria for screening	Relevant parts of the plan (the Policies)	Reason(s) for inclusion in the respective sections of this table and LSE
Aspects which make provision for change but which could have no conceivable effect on a European site, because there is no link or pathway between them and the qualifying interests, or any effect would be a positive effect, or would not otherwise undermine the conservation objectives for the site (Step 3c in Appendix C of SNH Guidance)	None	None.
Aspects which make provision for change but which could have no significant effect on a European site (minor residual effects), because any potential effects would be so restricted that they would not undermine the conservation objectives for the site (Step 3d in Appendix C of SNH Guidance)	None	None.

Criteria for screening	Relevant parts of the plan (the Policies)	Reason(s) for inclusion in the respective sections of this table and LSE
Aspects which are too general so that it is not known where, when or how the aspect of the plan may be implemented, or where any potential effects may occur, or which European sites, if any, may be affected (Step 3e in Appendix C of SNH Guidance)	<u>Sectoral Policies</u> 1 (Commercial Fisheries) 3 (Oil and Gas) 5 (Recreation, Sport, Leisure and Tourism) 6 (Marine Transport) 7 (Ports and Harbours) 8 (Pipelines, Electricity and Telecommunications Infrastructure) 9 (Marine Aggregates) 10 (Defence)	<p>At this stage the exact location of new infrastructure and/or activities associated with the sectors described in these policies cannot be determined and cannot be linked with certainty to specific European sites. Therefore, at the current stage of development, these policies are considered too general to reasonably consider LSE either alone or in combination.</p> <p>However, whilst at this stage, links or pathways between the policy and specific European sites cannot be identified, there is potential for future development to have LSE when its location is determined. It is therefore recommended that in any further planning or proposals at the project level that identify specific locations, further HRA Screening is undertaken as a minimum.</p>
LSE to go forward to AA	None	None

## Steps 5 – 6: Detailed pathway-feature sensitivity review and Assessment of the potential effects on European/Ramsar sites, and Preparation of the HRA Record

F.4.10 At this stage, the Pilot Plan and its Policies have been presented as a consultation draft. Based upon the outcomes of the public consultation process, the Pilot Plan and its policies will be subject to review, and where necessary, revision. The HRA process, including progression of Steps 5 – 6 (if required), will continue until finalisation of the Pilot Plan and its policies, whereby a Final HRA Record will be prepared and agreed prior to adoption of the Plan.

## F.5 Summary of Current Findings

F.5.1 The general policies included in the draft Pilot Plan are safeguarding or mitigating policies. As outlined in Table F.1, they are general in direction and apply to all activities and development in the PFOW marine environment. In consequence, no connectivity or direct pathway for impact has been identified between these policies and specific European sites; and as such, none of the general policies are considered to have a LSE on a specific European site.

F.5.2 As presented in Table F.1, the majority of the sectoral policies in the draft Pilot Plan are also general in direction, and do not direct development or activities to a particular location, nor do they promote an action that clearly has a link or pathway to potential effects on specific European sites. As such, at this initial stage, these policies have been screened out of the process. Two of the sectoral policies (relating to aquaculture and renewable energy) were considered to reiterate existing policy and contained proposals that have been generated and assessed under other plans. As a consequence, both policies were also screened out of the assessment.

F.5.3 In conclusion, the review of both the general and sectoral policies found that the policies in the draft Pilot Plan will have no LSE on any European sites.

## F.6 HRA iterations as the Pilot Plan Progresses

F.6.1 At this stage of the Plan development process, the Pilot Plan and its policies are to be published as a draft for public consultation. Upon completion of the consultation period, the Pilot Plan and its policies will be subject to review, and based upon the outcomes of the consultation process, the Plan and/or its policies may be subject to revision including the potential for the development of new policies for inclusion in the final Plan. Alongside the finalisation of the Pilot Plan, the HRA process will remain open and the findings of the Draft HRA Record will be regularly reviewed and revised where necessary to consider any subsequent changes in the Pilot Plan and its policies.

- F.6.2 Should the findings outlined in this Draft HRA Record change, particularly if a decision is taken that an 'Appropriate Assessment' is required, the HRA will be progressed to Step 5 as outlined in Section F.3 (i.e. Step 5: Detailed pathway-feature sensitivity review and assessment of the potential effects on European/Ramsar sites).
- F.6.3 Upon completion of the HRA process, a Final HRA Record will be prepared and agreed based upon the finalisation of the Pilot Plan and its policies (Step 6: Preparation of the HRA Record). This will be issued alongside publication of the final Pilot Plan.

## F.7 Initial In-combination Assessment

- F.7.1 As the draft general and sectoral policies have been 'screened out' at this stage of the development of the Pilot Plan due to either being general policy statements, containing aspects protecting the natural and historic environment, containing proposals that have not been generated by the Pilot Plan, or containing aspects that are general so that it is not known how they will be implemented or whether potential effects may occur to any European site, no in-combination assessment is required for the Pilot Plan at this time.
- F.7.2 As noted in Section F.6, should the findings outlined in this Draft HRA Record change due to changes in the Pilot Plan and its policies, particularly if a decision is taken that an 'Appropriate Assessment' is required, an in-combination assessment will be undertaken.

## Annex F1: Sites screened for the likelihood of a significant effect in the HRA<sup>13,14</sup>

Special Protection Areas (SPAs)	
Relevant sites	Auskerry SPA, Caithness and Sutherland Peatlands SPA and Ramsar, Caithness Lochs SPA and Ramsar, Calf of Eday SPA, Cape Wrath SPA, Copinsay SPA, East Caithness Cliffs SPA, East Sanday Coast SPA, Fionaven SPA, Hoy SPA, Marwick Head SPA, North Caithness Cliffs SPA, North Orkney dSPA, North Sutherland Coastal Islands SPA, Orkney Mainland Moors SPA, Orkney Mainland Moors SPA, Papa Westray (North Hill and Holm) SPA, Pentland Firth and Scapa Flow Orkney dSPA, Pentland Firth Islands SPA, Rousay SPA, Sule Skerry and Sule Stack SPA, Switha SPA, West Westray SPA
Species	Arctic skua ( <i>Stercorarius parasiticus</i> ), breeding; Arctic tern ( <i>Sterna paradisaea</i> ), breeding; Black-throated diver ( <i>Gavia arctica</i> ), breeding; Breeding bird assemblage; Common eider ( <i>Somateria mollissima</i> ); Common goldeneye ( <i>Bucephala clangula</i> ); Common scoter ( <i>Melanitta nigra</i> ), breeding; Cormorant ( <i>Phalacrocorax carbo</i> ), breeding; Dunlin ( <i>Calidris alpina schinzii</i> ), breeding; Fulmar ( <i>Fulmarus glacialis</i> ), breeding; Gannet ( <i>Morus bassanus</i> ), breeding; Golden eagle ( <i>Aquila chrysaetos</i> ), breeding; Golden plover ( <i>Pluvialis apricaria</i> ), breeding; Great black-backed gull ( <i>Larus marinus</i> ), breeding; Great northern diver ( <i>Gavia immer</i> ); Great skua ( <i>Stercorarius skua</i> ), breeding; Greenland Barnacle goose ( <i>Branta leucopsis</i> ), non-breeding; Greenland white-fronted goose ( <i>Anser albifrons flavirostris</i> ), non-breeding; Greenshank ( <i>Tringa nebularia</i> ), breeding; Greylag goose ( <i>Anser anser</i> ), non-breeding; Guillemot ( <i>Uria aalge</i> ), breeding; Hen harrier ( <i>Circus cyaneus</i> ), breeding and non-breeding; Herring gull ( <i>Larus argentatus</i> ), breeding; Kittiwake ( <i>Rissa tridactyla</i> ), breeding; Leach's petrel ( <i>Oceanodroma leucorhoa</i> ), breeding; Long-tailed duck ( <i>Clangula hyemalis</i> ); Merlin ( <i>Falco columbarius</i> ), breeding; Peregrine ( <i>Falco peregrinus</i> ), breeding; Puffin ( <i>Fratercula arctica</i> ), breeding; Razorbill ( <i>Alca torda</i> ), breeding; Red-breasted merganser ( <i>Mergus serrator</i> ); Red-throated diver ( <i>Gavia stellata</i> ), breeding; Seabird assemblage, breeding; Shag ( <i>Phalacrocorax aristotelis</i> ), breeding; Short-eared owl ( <i>Asio flammeus</i> ), breeding; Slavonian grebe ( <i>Podiceps auritus</i> ); Storm petrel ( <i>Hydrobates pelagicus</i> ), breeding; Velvet Scoter ( <i>Melanitta fusca</i> ); Whooper swan ( <i>Cygnus cygnus</i> ), non-breeding; Wigeon ( <i>Anas penelope</i> ), breeding; Wood sandpiper ( <i>Tringa glareola</i> ), breeding

<sup>13</sup> SNHi [online] Available at: <http://www.snh.gov.uk/publications-data-and-research/snhi-information-service/map/> (accessed 09/02/2015)

<sup>14</sup> SNH (2015) Natura Sites and the Habitats and Birds Directives [online] Available at: <http://www.snh.gov.uk/protecting-scotlands-nature/protected-areas/international-designations/natura-sites/> (accessed 09/02/2015)

Special Protection Areas (SPAs)	
Conservation objectives for all qualifying interests and sites	<p>To avoid deterioration of the habitats of the qualifying species or significant disturbance to the qualifying species, thus ensuring that the integrity of the site is maintained; and</p> <p>To ensure for the qualifying species that the following are maintained in the long term:</p> <ul style="list-style-type: none"> <li>• Population of the species as a viable component of the site.</li> <li>• Distribution of the species within site.</li> <li>• Distribution and extent of habitats supporting the species.</li> <li>• Structure, function and supporting processes of habitats supporting the species.</li> <li>• No significant disturbance of the species.</li> </ul>
Additional Information	<p>The sites and species listed above have been included based upon geographical relevance, alongside the consideration of previous HRA work undertaken by Marine Scotland including the Sectoral Plans for Offshore Renewables and the Marine Renewables Infrastructure Plan (MRIP).</p> <p>However, in addition to the sites and species listed above, it was noted that many seabird species can travel long distances to reach foraging or feeding grounds. As a consequence, while not listed above, the potential for LSE on mobile bird species that are features of SPAs out with the PFOW area that may travel to or through the PFOW area to forage or for migration was also identified as an important consideration of the HRA Screening process.</p>

Special Areas of Conservation (SACs) and Ramsar sites	
Relevant Sites	Berriedale and Langwell Waters SAC, Caithness and Sutherland Peatlands SAC and Ramsar, Cape Wrath SAC, Durness SAC, Faray and Holm of Faray SAC, Hoy SAC, Invernaive SAC, Loch of Isbister SAC, Loch of Stenness SAC, River Borgie SAC, River Naver SAC, River Thurso SAC, Sanday SAC, Strathy Point SAC, Stromness Heaths and Coast SAC, Moray Firth SAC.
Habitats	Acid peat-stained lakes and ponds, Alpine and subalpine calcareous grasslands, Alpine and subalpine heaths, Base-rich fens, Blanket bog, Calcium-rich nutrient-poor lakes, lochs and pools, Clear-water lakes or lochs with aquatic vegetation and poor to moderate nutrient levels, Coastal dune heathland, Depressions on peat substrates, Dry heaths, Dune grassland, Dunes with creeping willow, Dunes with juniper thickets, Hard-water springs depositing lime, Humid dune slacks, Intertidal mudflats and sandflats, Lagoons, Limestone pavements, Naturally nutrient-rich lakes or lochs which are often dominated by pondweed, Plants in crevices on base-rich rocks, Shifting dunes with marram, Subtidal sandbanks, Tall herb communities, Vegetated sea cliffs, Very wet mires often identified by an unstable 'quaking' surface, Wet heathland with cross-leaved heath.
Species	Atlantic salmon ( <i>Salmo salar</i> ), Freshwater pearl mussel ( <i>Margaritifera margaritifera</i> ), Grey seal ( <i>Halichoerus grypus</i> ), Harbour seal ( <i>Phoca vitulina</i> ), Marsh saxifrage ( <i>Saxifraga hirculus</i> ), Otter ( <i>Lutra lutra</i> ), Bottlenose dolphin ( <i>Tursiops truncates</i> ), Harbour porpoise ( <i>Phocoena phocoena</i> ).
Conservation objectives for all qualifying interests and sites	<p>To avoid deterioration of the qualifying habitats thus ensuring that the integrity of the site is maintained and the site makes an appropriate contribution to achieving favourable conservation status for each of the qualifying features; and</p> <p>To ensure for the qualifying habitats that the following are maintained in the long term:</p> <ul style="list-style-type: none"> <li>• Extent of the habitat on site.</li> <li>• Distribution of the habitat within site.</li> <li>• Structure and function of the habitat.</li> <li>• Processes supporting the habitat.</li> <li>• Distribution of typical species of the habitat.</li> <li>• Viability of typical species as components of the habitat.</li> <li>• No significant disturbance of typical species of the habitat.</li> </ul> <p>To avoid deterioration of the habitats of the qualifying species or significant disturbance to the qualifying species, thus ensuring that the integrity of the site is maintained; and</p> <p>To ensure for the qualifying species that the following are maintained in the long term:</p> <ul style="list-style-type: none"> <li>• Population of the species as a viable component of the site.</li> <li>• Distribution of the species within site.</li> <li>• Distribution and extent of habitats supporting the species.</li> </ul>

Special Areas of Conservation (SACs) and Ramsar sites	
	<ul style="list-style-type: none"> <li>• Structure, function and supporting processes of habitats supporting the species.</li> <li>• No significant disturbance of the species.</li> </ul>
Additional Comments	<p>The sites listed above have been included based upon geographical relevance, and with the consideration of previous HRA work undertaken by Marine Scotland including the Sectoral Plans for Offshore Renewables and the Marine Renewables Infrastructure Plan (MRIP).</p> <p>Coastal habitats and mobile species, particularly Grey and Harbour seals, bottlenose dolphins and Atlantic salmon, were noted to be of particular relevance amongst SACs to the draft Pilot Plan and its HRA. In addition to places used regularly for feeding, breeding, raising calves and socialising, locations where associated and supporting activities such as hunting, courtship, singing, calving, nursing, resting, playing and communication take place were identified as being important considerations.</p> <p>However, it is noted that many migratory species and marine mammals have extensive ranges and cover very large distances to forage in the pelagic environment. For example, cetaceans such as the Bottlenose dolphins (<i>Tursiops truncates</i>) recognised in the Moray Firth SAC are known to travel significantly along the Scottish coastline, and are likely to frequent the PFOW area. Similarly, other species including Harbour and Grey seals and other cetaceans such as Harbour porpoise out with the PFOW area are also known to frequent the Pilot Plan area, and as such, were identified as important considerations of the HRA process.</p> <p>As a consequence, while not listed above, the potential for LSE on mobile species that are features of SACs out with the PFOW area that may travel to or through the PFOW area, or for migration, was also identified as an important consideration of the HRA process.</p>



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