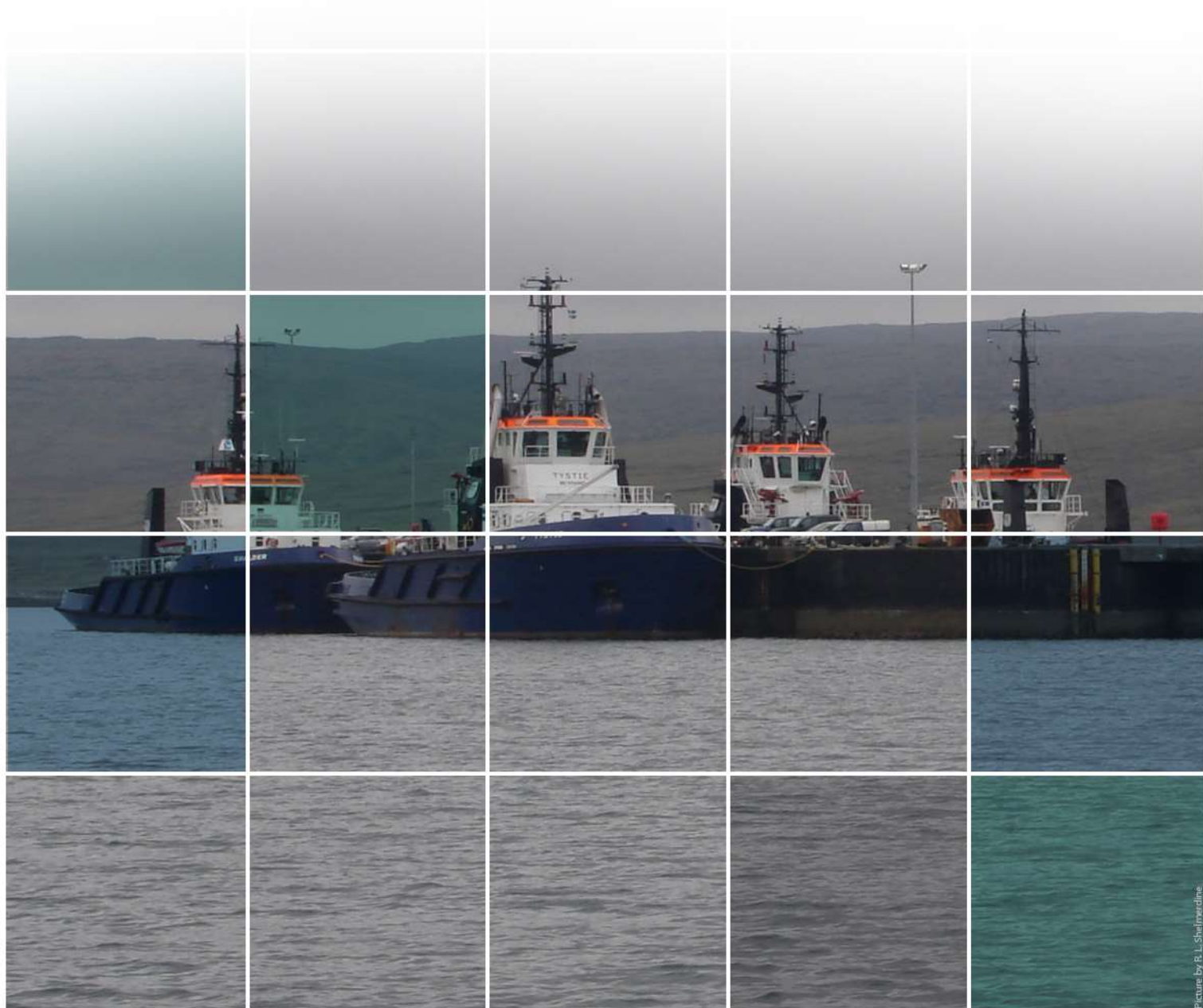




NAFC Marine Centre
University of the
Highlands and Islands

Sullom Voe Master Plan Environmental Report

May 2021



DOCUMENT CONTROL

Version	Date of Draft	Author	Checked
1	Dec 2020	Kathryn Allan (NAFC) Rachel Shucksmith (NAFC)	
2	Jan 2021	Kathryn Allan (NAFC) Rachel Shucksmith (NAFC)	Rachel Shucksmith (NAFC)
3	March 2021	Kathryn Allan (NAFC) Rachel Shucksmith (NAFC)	Kathryn Alan (NAFC) Simon Pallant (SIC)
3	May 2021	Kathryn Allan (NAFC) Rachel Shucksmith (NAFC)	

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NAFC Marine Centre UHI is the trading name of the Shetland Fisheries Training Centre Trust, Scottish Charity Number SC003715.

Sullom Voe Master Plan –Environmental Report 2021. NAFC Marine Centre UHI, developed on behalf of the Shetland Islands Council.

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1 INTRODUCTION

As tanker movements to Sullom Voe Terminal have reduced, Shetland Islands Council (SIC) considered it an appropriate time to review current and future use of the Sullom Voe Harbour Area. The aim is to create a Master Plan which will be used to direct new development types within the harbour area. In doing so, gather information about development constraints and opportunities from the local community and stakeholders.

In November 2018, NAFC Marine Centre UHI were appointed by SIC to undertake a master planning process for the Sullom Voe Harbour Area (herein referred to as the draft Master Plan). The Zetland County Council (ZCC) 1974 Act (as amended) identifies the Sullom Voe Harbour Area boundary in Schedule 1 (as amended by the 1980 HRO), this includes northern Yell Sound and Sullom Voe.

The only development type currently restricted within the harbour is finfish and shellfish aquaculture, with finfish and shellfish farming not, as a matter of policy, permitted anywhere within the harbour limits. This policy is within the Shetland Islands Council Aquaculture Policy, which is Supplementary Guidance to the Shetland Islands Council Local Development Plan (SIC LDP)¹. Within the Sullom Voe Harbour Area, a review of the Shetland Aquaculture Policy is not currently being undertaken but may form a separate process in the future. A review of the Aquaculture Policy would be informed by this draft Sullom Voe Harbour Area Master Plan process and its outcomes.

The master plan process has led to the identification of specific areas which may accommodate new development types, and areas where development, or certain types of development, would not be considered. These areas have been identified through a mapping process, taking into account existing users and uses. The zones are not intended to guide the placement of cables outfalls, or pipelines (e.g. electricity cables, oil, gas pipelines and effluent outfalls), due to their potentially small spatial scale compared to the available data. However, the data gathered within this exercise may help to inform their siting. The zones are also not intended to guide shipping or fisheries.

The Master Plan will be adopted by Shetland Islands Council as non-statutory planning guidance to the Shetland Islands Regional Marine Plan (2021). It will be a material consideration in marine planning decisions for marine planning and works licence applications. It will also be used to inform leasing and licensing decisions, thereby contributing to the future regulation and management of the Sullom Voe Harbour Area. Additionally, any mapped outputs could be used, where appropriate, as evidence to support decision making by the Shetland Islands Council when assessing developments against policy criteria within the Shetland Islands Regional Marine Plan (SIRMP) and Local Development Plan.

The draft Master Plan falls under Section 5(4) of the [Environmental Assessment \(Scotland\) Act 2005](#) ('the 2005 Act') and is considered likely to give rise to significant environmental effects. In accordance with the requirements of the Act, a joint Screening and Scoping Report² has been prepared to give preliminary consideration to the types of environmental effects that could arise from the identification of the areas of search.

¹ [Shetland Islands Council \(2014\) Local Development Plan](#)

² NAFC Marine Centre UHI (2019). Sullom Voe Harbour Area Master Plan- Scoping Report

This Environmental Report combines a Strategic Environmental Assessment (SEA) with a Sustainability Appraisal (SA). SA differs from SEA in that it gives greater consideration to socio-economic services provided by the ecosystem (although the SEA Directive does consider environmental aspects of 'population' and 'human health'). A SA is a systematic process to promote sustainable development by assessing the extent to which the emerging draft Master Plan, when judged against reasonable alternatives, will help to achieve relevant environmental, economic and social objectives. The term SA will be used to refer to the combined SA/SEA for the remainder of this report.

An SEA Environmental Report³ has previously been prepared for the draft 'Shetland Islands Regional Marine Plan' (draft SIRMP)⁴, and for the SIC's Local Development Plan and provided a good basis for determining which themes were scoped in/out accordingly.

1.1 STRATEGIC ENVIRONMENTAL ASSESSMENTS

The 2005 Act requires that public plans, programmes, and strategies (PPS) be assessed for their potential effects on the environment⁵. Undertaking a SA provides a means of identifying potentially significant environmental impacts at an early stage in the development of the PPS. SA also considers how identified impacts can be avoided or minimised through appropriate mitigation measures and provides for engagement with stakeholders through public consultation on both the PPS as well as the findings of the assessment. This feedback is used to inform the final iteration of the Master Plan, as summarised by the Post-Adoption Statement.

1.2 PURPOSE OF THE ENVIRONMENTAL REPORT

The purpose of undertaking a SA on the draft Master Plan are to:

- Ensure that the likely significant environmental and socio-economic effects of the draft Master Plan and any reasonable alternatives are identified and appraised;
- To help identify appropriate mitigation measures to avoid or reduce any adverse effects and enhance any identified beneficial effects associated with the draft Master Plan;
- To enable statutory consultees, stakeholders and the wider public the opportunity to review and comment on the environmental and socio-economic effects the draft Master Plan may have on them; and
- To demonstrate that the draft Master Plan has been developed in a manner consistent with the requirements of the SEA Directive.

1.3 OTHER SUPPORTING ASSESSMENTS

The draft Master Plan will also be subject to a Habitats Regulation Appraisal (HRA)⁶ to assess impacts on European sites.

³ [NAFC Marine Centre \(2014\) Shetland Islands' Marine Spatial Plan: Strategic Environment Assessment- Environmental Report.](#)

⁴ [NAFC Marine Centre UHI \(2019\) Shetland Islands Draft Regional Marine Plan](#)

⁵ Environmental Assessment (Scotland) Act 2005, asp 15 [online] Available at: <https://www.legislation.gov.uk/asp/2005/15/introduction> (accessed 29/11/2019)

⁶ Scottish Government (2017) Habitats Regulations Appraisal [online] Available at: <http://www.gov.scot/Topics/Built-Environment/planning/Roles/Scottish-Government/Enviromental-Assessment/HRA>

1.4 REPORT STRUCTURE

The report is structured as follows:

- [Section 1](#): (this section): Introduces the draft Master Plan and the SEA/SA process
- [Section 2](#): Information on the Sullom Voe Harbour Area and its Management
- [Section 3](#): Environmental Baseline Information
- [Section 4](#): Details the SEA/SA process
- [Section 5](#): The sustainability appraisal itself
- [Section 6](#): Assessing the cumulative effects of the draft Master Plan with other plans and projects.
- [Sections 7 & 8](#): Give details of mitigation measures and how the effects of the Master Plan will be monitored
- [Section 9](#): Conclusion
- [Section 10](#): Next Steps
- [Section 11](#): Links to other important plans, guidance and legislation
- [Appendix A](#): Relationships with other plans, programmes, strategies and environmental objectives
- [Appendix B](#): Acronyms
- [Appendix C](#): Screening and Scoping Consultation Responses

2 THE DRAFT SULLOM VOE HARBOUR MASTER PLAN

The Sullom Voe Harbour Area is defined within the Zetland County Council (ZCC) 1974 Act (as amended), with the boundaries defined in Schedule 1 (as amended by the 1980 HRO), this includes northern Yell Sound and Sullom Voe and confirms Shetland Islands Council as the Statutory Harbour

Authority

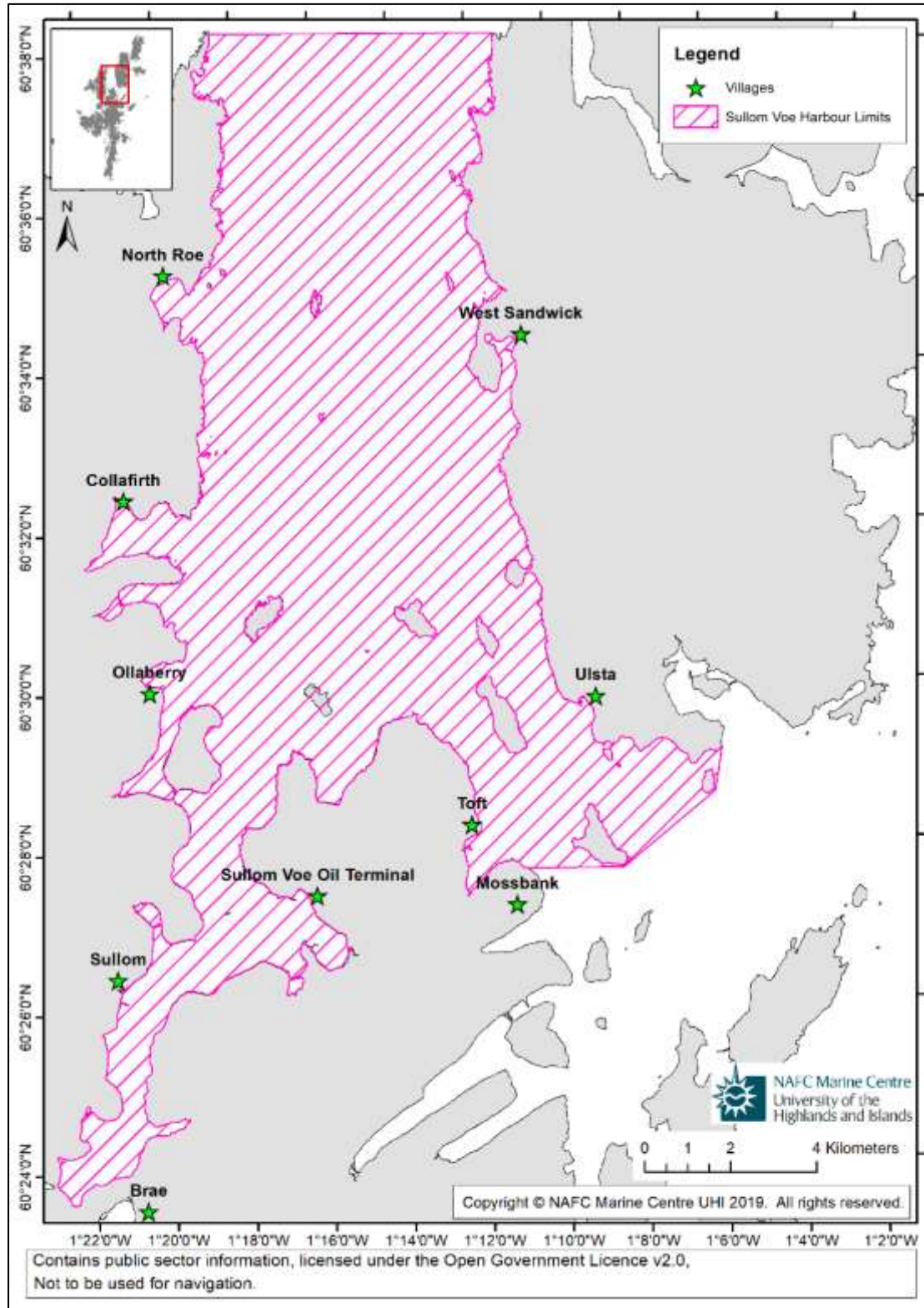


Figure 2:1).

The draft Master Plan will encourage the sustainable economic development of the Sullom Voe Harbour Area by providing a spatial framework to guide the placement of activity, from marine

renewable energy to aquaculture. The draft Master Plan will take into account existing users and uses, and will be compliant with existing legislative and policy frameworks (e.g. draft SIRMP and SIC LDP).

It is intended that the Masterplan will be adopted as non-statutory guidance to the Shetland Islands Regional Marine Plan (2021). The Shetland Islands Regional Marine Plan is scheduled to be adopted and published by Scottish Ministers in summer 2021.

The Master Plan will help to streamline the process in place for development applications within Sullom Voe Harbour Areas by enabling developers to identify suitable areas for development and potential constraints during the pre-feasibility and pre-application stage, which should lead to a reduction in delays and subsequent costs.

During the zoning and consultation stages of the draft Master Plan existing features and uses were assessed and mapped. These features and uses were either “Not compatible with development” or “Potentially incompatible with development” (see Table 2.1 for more details). Within the final report these have been defined as follows:

Not compatible with development - features and/ or uses incompatible with development. No potential development zones were sited in areas where these features and/ or uses exist. These areas were termed ‘Excluded from search’ in public enagagment events.

Potentially incompatible with development - features and/ or uses potentially incompatible with development. Features and/ or uses of this nature have been listed within each potential development zone. Some of the potential development zones indicate the suitability of particular developments only such as Zones A and B which have areas suitable for subsurface development types only. Within each zone the impact of development on these features and/ or uses will be assessed at the individual project application level. These areas were termed ‘Potentially Excluded from Search’ within public engagement events.

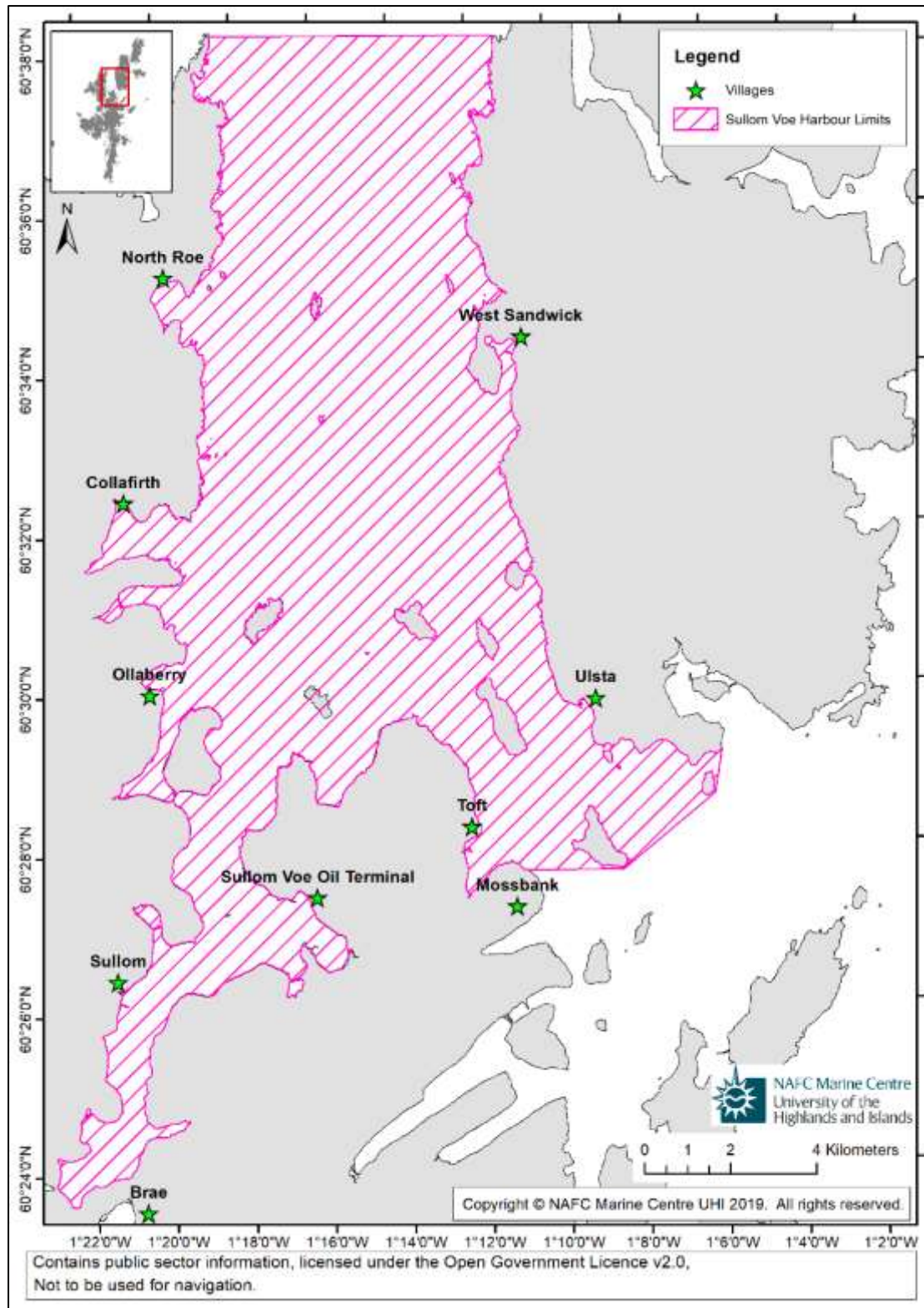


Figure 2:1 Sullom Voe Harbour Area

Table 2.1 Data sets categorised into “Not compatible with development” and “Potentially incompatible with development”.

Not compatible with development	Potentially incompatible with development
<u>Navigation</u> <ul style="list-style-type: none"> – Navigation operations – Yell ferry operations 	<u>Navigation</u> <ul style="list-style-type: none"> – Yell ferry route
<u>Fishing</u> <ul style="list-style-type: none"> – Scallop dredging – Squid trawling – Whitefish trawling 	<u>Fishing</u> <ul style="list-style-type: none"> – Static gear – Sea angling and trout
<u>Infrastructure</u> <ul style="list-style-type: none"> – Pipes and cables 	
<u>Protected Area</u> <ul style="list-style-type: none"> – Yell Sound Coast SAC – SSMO Closed Areas 	<u>Protected Area</u> <ul style="list-style-type: none"> – Sullom Voe SAC
<u>Protected Features</u> <ul style="list-style-type: none"> – Horse mussels – Dune area – Important mud habitat – Saltmarsh area – Seal haul out site 	<u>Protected Features</u> <ul style="list-style-type: none"> – Kelp area – Rock area – Seal haul out site 500 m buffer
	<u>Archaeology</u> <ul style="list-style-type: none"> – Scheduled monuments
	<u>Recreation</u> <ul style="list-style-type: none"> – Kayaking – Rowing – SCUBA diving – Surfing
	<u>Views</u> <ul style="list-style-type: none"> – Archaeological views – National Scenic areas – Scenic areas

2.1 PURPOSE AND SCOPE OF THE DRAFT SULLOM VOE HARBOUR AREA MASTER PLAN

The main purpose of the draft Master Plan is to provide spatial guidance to assist current and future planning, regulation and management of marine and coastal activities within the Sullom Voe Harbour Area.

2.2 PLANNING CONTEXT

The draft Master Plan will add value to, and need to comply with, the existing policy frameworks outlined in the draft SIRMP⁷, SIC LDP⁸ and Scotland’s National Marine Plan (NMP)⁹. It will achieve this by considering local circumstance and reflecting specific challenges and opportunities within the

⁷ Shetland Islands Marine Planning Partnership (2019) *Draft Shetland Islands Regional Marine Plan*. NAFC Marine Centre UHI

⁸ [Shetland Islands Council \(2014\) Local Development Plan](#)

⁹ [Scottish Government \(2015\) Scotland’s National Marine Plan](#)

harbour area. It is intended that the Sullom Voe Harbour Area Master Plan will be adopted by Shetland Islands Council as non-statutory guidance to the SIRMP. In addition to the SIRMP and SIC LDP, the draft Master Plan must consider a range of strategies, plans and programmes, these are detailed in Appendix A.

The draft Master Plan will collate data on the multiple uses of the Harbour Area including industry, conservation and recreation, and provide spatial guidance for marine development and activity. The draft Master Plan will assist developers in locating suitable areas for the placement of proposed developments and/or activities in addition to assisting the consenting/ licensing authorities to make informed decisions on managing the Sullom Voe Harbour Area sustainably.

The maps used to inform the draft Master Plan provide a comprehensive overview of how the Harbour Area is used and where natural resources and habitats exist. This information is useful in minimising potential conflicts between marine users and resources, and between the different marine sectors.

Key benefits of the draft Master Plan will be:

- Providing a plan-led approach to the management of the Harbour Area,
- Enabling long-term protection and use of the marine environment.

The draft Master Plan should assist the development applications process by identifying suitable areas for development and potential constraints at the feasibility and pre-application stage, leading to reduced delays and costs.

It is anticipated that the draft Master Plan will be adopted in 2021 and will be reviewed every 5 years. The developer and the consenting/ licensing authorities are expected to reference the Master Plan where appropriate in any documentation.

2.3 KEY FACTS

The key facts relating to the draft Master Plan are set out below:

Responsible Authority	Shetland Islands Council
Title	Sullom Voe Harbour Area draft Master Plan
What prompted the Sullom Voe Master Plan?	As tanker movements to Sullom Voe Oil and Gas Terminal have reduced, Shetland Islands Council considered it an appropriate time to review current and future use of the Sullom Voe Harbour Area and create spatial guidance to guide future development types where appropriate.
Subject	The creation and establishment of spatial guidance for the Sullom Voe Harbour Area in the form of a Master Plan. The Master Plan will seek to balance demands for development with the need to protect the environment, and to achieve social and economic objectives in an open and planned way.
Period Covered by the draft SIRMP	2021-2026

Frequency of Updates	A formal review of the Master Plan will be published within 5 years of adoption
Area Covered by the draft SIRMP	The Sullom Voe Harbour Area as defined under the Zetland County Council (ZCC) 1974 Act (as amended) , with the boundaries defined in Schedule 1 (as amended by the 1980 HRO), this includes northern Yell Sound and Sullom Voe and confirms Shetland Islands Council as the Statutory Harbour Authority.
Contact Point	Shetland Islands Council Coastal Zone Manager Simon.pallant@shetland.gov.uk 01595 744805

2.4 RELATIONSHIP WITH OTHER PLANS, PROGRAMMES OR STRATEGIES AND ENVIRONMENTAL OBJECTIVES

Preparation of the draft Master Plan is guided and influenced by a number of existing plans, programmes and strategies. These have been developed at the national, regional and local level seeking to enhance and promote environmental, economic and social development.

The SEA Directive requires the analysis of the *‘main objectives of the plan or programme and relationship with other relevant plans and programmes’* and the *‘environmental protection objectives established at international, community or member state level, which are relevant to the plan or programme’*, and the way those objectives and any environmental considerations have been considered during its preparation.

The draft Master Plan will be informed by, and comply with, a range of international, national and regional treaties, conventions and instruments of legislation.

In addition, several different treaties, conventions, instruments of legislation, local policy and initiatives have been identified as having implications for and a relationship with, the draft Master Plan. Table 1 in Appendix A lists the plans, programmes, strategies and environmental objectives which we propose to analyse for their relationship with the draft Master Plan.

3 ENVIRONMENTAL BASELINE INFORMATION

Baseline information helps to provide a basis for predicting and monitoring effects and will help to identify sustainability problems and alternative ways of dealing with them. The [Environmental Assessment \(Scotland\) Act 2005](#) requires Responsible Authorities to describe the environmental characteristics of areas likely to be significantly affected by the draft Master Plan, including any existing environmental issues. This section of the report provides an indication of the content and level of detail to be provided in the environmental baseline for the assessment of the Plan.

Baseline information on the current status of Shetland’s marine environment and key environmental issues has been collated within the ‘Shetland Islands Marine Region State of the Environment

Assessment' (SoEA)¹⁰ and also within the Shetland Islands Reginal Marine Plan (draft SIRMP). This information was presented to stakeholders and the wider community to comment on its relevance and to identify any errors or data gaps between 2018-2019.

The SoEA and draft SIRMP are divided into sections which correspond to the UK High Level Marine Objective to deliver '*clean, healthy, safe productive and biologically diverse oceans and seas*'. The 'condition of the region' is assessed under two sub-sections, 'clean and safe' and 'healthy and biologically diverse'. They consider the functioning of the ecosystem services attributed to specific features or qualities. Dependent commercial, recreational or community activities are also identified. Where possible current pressures are identified, and trends are detailed. The Productive section of the assessment analyses key economic and spatial data concerning human activities.

Two rounds of public engagement were undertaken in 2019 to inform the Environmental Baseline and gauge public support and perception relating to a draft Master Plan. These were undertaken by the 'NAFC Marine Centre UHI' and 'Cradle to Wave' on behalf of the Shetland Islands Council. This information provided additional information for the environmental baselines. Public events took place in January 2019 and June 2019, with maps available to participants to provide new information, or correct existing information. The results of these workshops were published [online](#). Baseline environmental information is summarised in Table 3.1.

Baseline data will be analysed in relation to the obligations and legislative targets associated with the relevant treaties, conventions and plans, as listed in Appendix A.

Table 3.1: Summary of baseline environmental data for the Shetland Marine Region from the 'Shetland Marine Region State of the Environment Assessment'

Topic	State of the environment chapter	Additional data (where available)
Soils, Geology and Coastal Processes	Section A Overview Physical characteristics Section B Condition of the region <i>Physical</i> Climate change Climate change- sea level rise Flood risk management Coastal change <i>Clean and safe</i> Hazardous substance <i>Healthy and biologically diverse</i> Section C Productive Coastal protection and flood risk management Waste disposal	Communities, statutory and non-statutory stakeholders

¹⁰ Shucksmith RJ 2017. Shetland Islands Marine Region State of the Environment Assessment. NAFC Marine Centre UHI. Report for the Shetland Islands Marine Planning Partnership. pp 172

Cultural Heritage	Section A Overview Human habitation Section B Condition of the region Shetland's seascape Section C Productive Historic environment and cultural heritage	Communities, statutory and non-statutory stakeholders
Seascape and Landscape	Section A Overview Human habitation Section B Condition of the region Coastal change Shetland's seascape Section C Productive Historic environment and cultural heritage	Communities, statutory and non-statutory stakeholders
Biodiversity, Flora and Fauna	Section A Overview Physical characteristics Environmental characteristics Section B Condition of the region Protected areas Seabed habitats and species Healthy and biologically diverse (species and habitat subsections)	Communities, statutory and non-statutory stakeholders
Air	Section C Productive Aquaculture Fishing Leisure, recreation and tourism Renewable energy Oil and gas Maritime transport	DEFRA: Air Quality Levels SEPA: Sources of air emissions
Waste	Section B Condition of the region Marine litter	Communities, statutory and non-statutory stakeholders
Water	Section B Conditions of the region Hazardous substances Oil and chemical spills Microbial contamination Biotoxins Biological effects of imposex Eutrophication Section C Productive Waste water treatment and industrial outfalls	Communities, statutory and non-statutory stakeholders
Climatic Factors	Section A Overview Physical characteristics Section B Condition of the region Climate change	Communities, statutory and non-statutory stakeholders

	Climate change- sea level rise Flood risk management Coastal change Section C Productive Coastal protection and flood risk management	
Population and Human Health	Section A Overview Human habitation Section C Productive Leisure recreation and tourism Historic environment and cultural heritage	Communities, statutory and non-statutory stakeholders
Economy	Section A Overview Human habitation Section C Productive Aquaculture Fishing Leisure, recreation and tourism Renewable energy Oil and gas Water abstraction Maritime transport Wastewater treatment and industrial outfalls Telecommunications, electricity cables and water pipes	SIC Scottish Government. Visit Scotland.
Material Assets	Section C Productive Aquaculture Fishing Leisure, recreation and tourism Renewable energy Oil and gas Water abstraction Maritime transport Wastewater treatment and industrial outfalls Telecommunications, electricity cables and water pipes	Communities, statutory and non-statutory stakeholders

3.1 KEY ISSUES

The aims and principles of SEA/SA are to help protect the environment and promote sustainability. The implications associated with the draft Master Plan are therefore presented in Table 3.2.

The ethos behind applying SEA to the marine environment is not to specify or focus on particular environmental issues or impacts, but rather to provide a process by which management decisions are made with the best available knowledge. Therefore, the draft Master Plan will be evaluated as to how

the plan aims to deliver spatial guidance that promotes suitability and protects the environment. The environmental issues may have both negative and positive impacts for the Sullom Voe Harbour Area.

Table 3.2: Summary of issues likely to be affected by the draft Master Plan

Topic	Key Issues/ Implications for draft Master Plan
Soils, Geology and Coastal Processes	<ul style="list-style-type: none"> • Changes to sedimentary processes resulting in changes to erosion or accretion patterns and/ or increase the chance of coastal flooding due to sectoral or habitat enhancement policy. • Physical loss, damage or disturbance of geological features due to sectoral or habitat enhancement policy. • Climate change resulting in increased risk from sea level rise and/ or increase in 'storminess', resulting in flooding and/ or coastal erosion. • Protection of areas designated for geological features. • Discharges (current and historic) and diffuse pollution can lead to sediment contamination, subsequently impacting marine species and habitats.
Cultural Heritage	<ul style="list-style-type: none"> • Changes to cultural heritage including positive effects due to policy protection (including setting), and potential negative effects such as loss or damage due to sectoral or habitat enhancement policy. • Protection of designated and non-designated marine historic assets from inappropriate development. • Developments have the potential to uncover, disturb or destroy unexplored/unknown archaeological remains. • Cultural heritage effects may also be linked to human health (wellbeing).
Seascape and Landscape	<ul style="list-style-type: none"> • Changes to landscape/ seascape, potentially positive and negative due to sectoral policies. Effects will be development specific and dependent on the type of development/ activity, its location and setting. • Terrestrial and marine policy will need to align to ensure that the sensitivity of coastal sites and communities to visual impacts from marine developments/ activities and onshore/ offshore development are considered. • Landscape/ seascape effects may also be linked to human health (wellbeing).
Biodiversity, Flora and Fauna	<ul style="list-style-type: none"> • Developments within or adjacent to international, national and local sites have the potential to have a positive/ negative impact on the sites' integrity or character. • Direct and indirect potential impacts of development and activities are wide ranging and species and habitat specific but can include loss of habitats, disturbance, and introduction of invasive non-native species (INNS).

Air	<ul style="list-style-type: none"> • Developments have the potential to contribute to air pollution directly but also lead to indirect impacts for example re-routing shipping can increase fuel use. • Developments can also reduce overall carbon use by providing low carbon alternatives (e.g. renewables).
Waste	<ul style="list-style-type: none"> • Increases in waste due to developments and activities in the coastal zone. Waste generation requires management to prevent marine litter. • Marine litter can cause adverse environmental effects and affect local businesses from fishing to marine recreation.
Water	<ul style="list-style-type: none"> • Ensuring that developments or activities do not cause any water body to deteriorate in condition status nor prevent the achievement of established objectives as set out in the Scotland River Basin Management Plan (RBMP). • Where possible, new developments will contribute towards objectives to improve the ecological status of coastal waterbodies.
Climatic Factors	<ul style="list-style-type: none"> • Climate change mitigation – the location and development of renewable energy devices and potential impacts on the surrounding environment. • Climate change adaptation – consider the likely impact that developments within the coastal zone may have in terms of climate change i.e. areas at high risk and probability of coastal change and inundation, geomorphological changes that an activity, development or habitat protection will have on coastal processes, including sediment movement and increased flood risk. • Consideration of the resilience of proposed activities and developments with regards to increased sea levels and predicted increases in ‘storminess’ and the impact on local geology.
Population and Human Health	<ul style="list-style-type: none"> • Ensuring local communities and visitors have continued or enhanced access to leisure and recreation assets. • Encouraging sustainable new marine developments and safeguarding existing developments from incompatible uses. • Minimising and mitigating development with the potential to cause a health risk or a nuisance i.e. pollution (including microbial contamination and marine litter), noise, vibration. • Wellbeing can be impacted by changes to cultural and natural heritage including seascape/ landscape, built heritage and biodiversity loss. • Opportunities for new developments within the Harbour Area may affect areas of economic growth which may have positive

	and negative effects on local population levels, including population movements and maintaining rural communities.
Economy	<ul style="list-style-type: none"> • Both job losses and creation from different types of development. • The need for diverse skill sets with job creation in local areas. • In some instances, refusing development can help to secure a more diverse economic base by supporting the local distinctiveness of an area. • Support for island and remote community connectivity and transportation.
Material Assets	<ul style="list-style-type: none"> • There is a need to consider potential effects of new infrastructure on other users or uses of the marine environment, e.g. physical disturbance of fishing grounds; or impacts on navigational safety. • Need to consider the effects of development on opportunities for other types of development. • Need to ensure adequate protection of natural resources to allow full community and economic function.

3.2 REASONABLE ALTERNATIVES

There is a requirement to consider appropriate alternatives to the draft Master Plan as part of the SEA/SA process.

In terms of alternatives to the draft Sullom Voe Harbour Area Master Plan, two scenarios are considered:

- a) 'Do-nothing' scenario, i.e. continue under the current approach to management including using existing Aquaculture Policy and the Shetland Islands Regional Marine Plan;
- b) Create spatial guidance for future and existing use within the Sullom Voe Harbour Area to identify prospective areas of use and clearly identify existing constraint (environmental, existing users/uses)

The assessment of alternatives is integral to the SEA/SA process. In considering the effects of these in relation to each of the main topic areas, the assessment will take full account of the options proposed and the likely effects on the environment in the absence of a Master Plan.

4 SEA/SA PROCESS

Strategic Environmental Assessment is a key component of sustainable development, establishing important methods for protecting the environment and extending opportunities for public participation in decision making. SEA achieves this by:

- Systematically assessing and monitoring the significant environmental effects of public sector strategies, plans and programmes.

- Ensuring that expertise and views are sought at various points in the process from NatureScot (formally SNH), SEPA, Historic Environment Scotland and the public.
- Requiring a public statement as to how opinions have been taken into account.

A five stage approach (

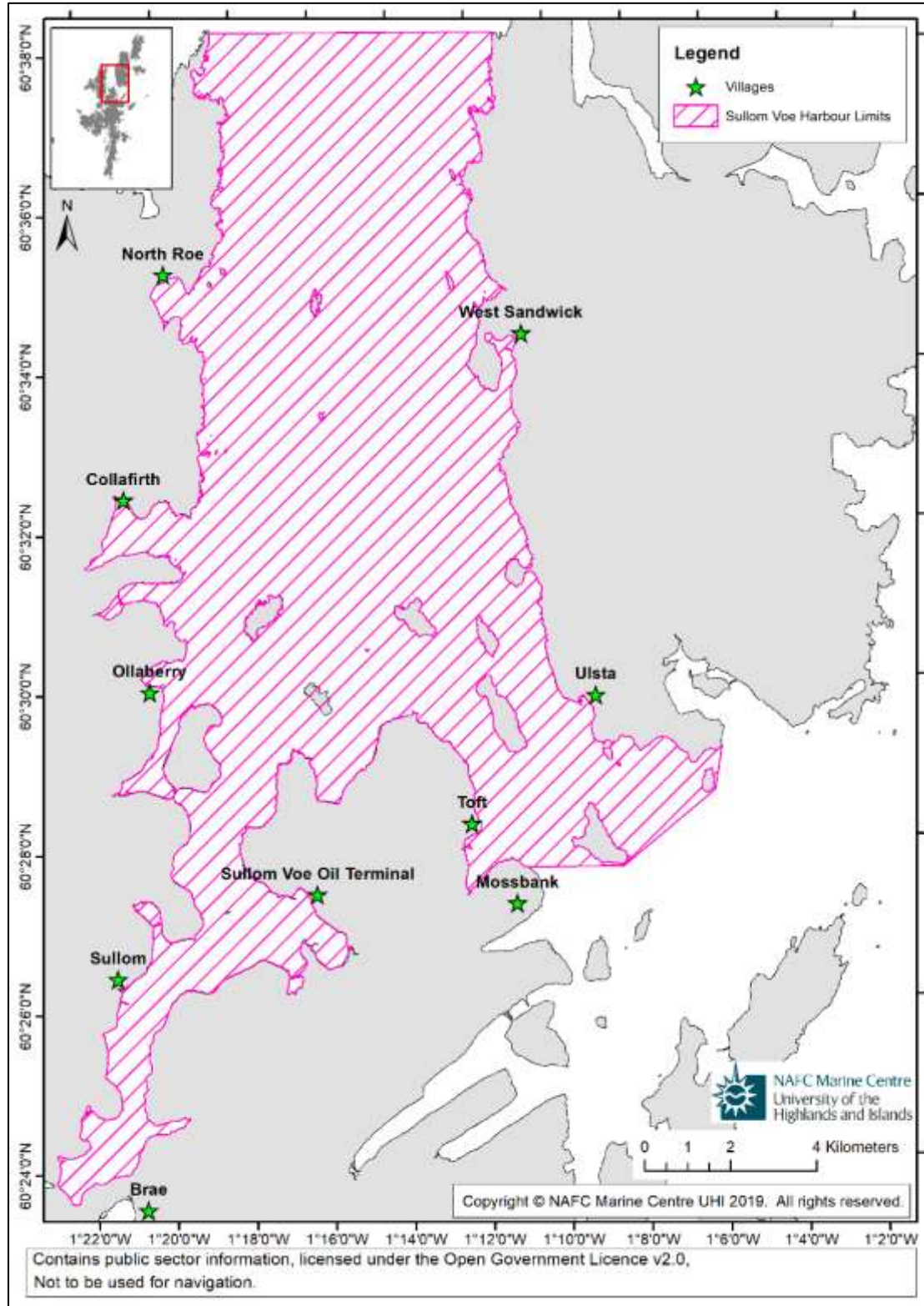


Figure 2:1) is used for the SEA process which incorporates the requirements of the Strategic Environmental Assessment Directive outlined in the Practical Guide¹¹.

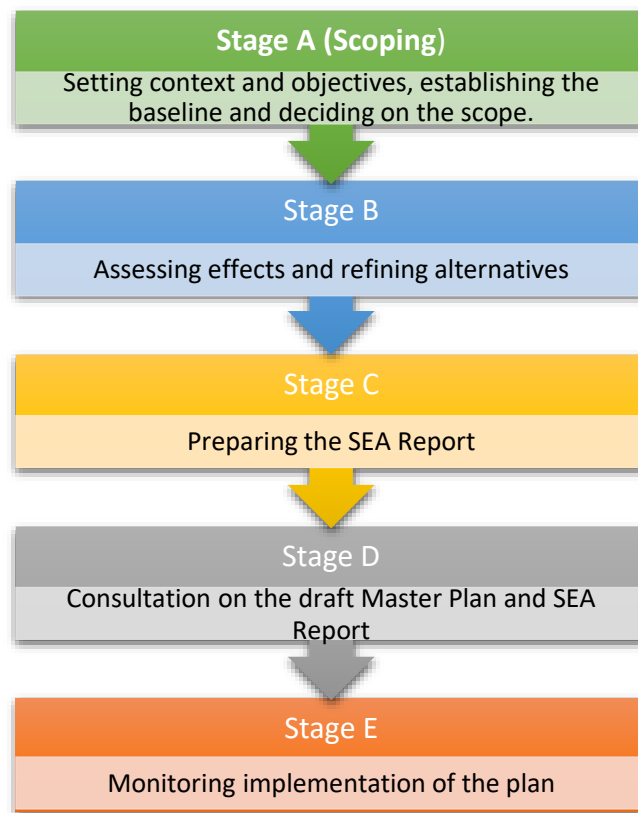


Figure 4:1: Five Stage SEA Approach

This report comprises the **scoping stage (Stage A)**, its aim is to identify the scope and level of detail of the information to be included in the SEA Report (Stage C). It will set out the context, objectives and approach of the assessment.

Stage B will include the identification of the likely environmental, social and economic effects of the draft Master Plan and will use significance criteria to evaluate the predicted effects. It will also outline the potential measures to mitigate environmental, social and economic effects and introduce proposals of measures to monitor the environmental, social and economic effects throughout the implementation of the Plan. In addition, Stage B will develop and refine alternatives, assessing the effects (direct, indirect and cumulative) of the proposed options (as outlined in [section 3.2](#)). **Stage C** presents the findings of the SEA process in an Environmental Report.

Following Stage C, the Environmental Report is subject to public consultation (**Stage D**). Following this there will be incorporation of comments received from consultation and findings of the SEA/SA into the draft Master Plan. In the final stage (**Stage E**) it is important that there is monitoring of the

¹¹ https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/7657/practicalguidesea.pdf

environmental, social and economic effects of the draft Master Plan throughout the period of its implementation and that there is a response to any adverse effects.

4.1 SA/SEA ACTIVITIES TO DATE

SEA/SA is an iterative assessment process that plans are required to undergo as they are being developed to ensure that potential significant environmental effects arising from the plan/programme are identified and assessed, mitigation is proposed and findings communicated to plan-makers to enable improvements to be made. The key SEA/SA activities undertaken so far are outlined in Table 4.1.

Table 4.1:SA/SEA activities undertaken to date.

Key Activity	Date	Comments
SA/SEA Scoping Report produced	December 2019	
Consultation on SEA Scoping	December 2019	SEA Scoping Report submitted to the SEA Gateway for the statutory 5-week consultation period.
Review of Responses to Scoping	January 2020- March 2020	The NAFC Marine Centre reviewed the comments received from the CA's and these have been addressed in this Environmental Report.
Environmental Report	February 2021	The draft Master Plan is assessed against the SEA objectives and the potential implications of development on the marine environment. Mitigation, environmental enhancement and monitoring are detailed in this Environmental Report.

4.2 ADDITIONAL INFORMATION REVIEWED

This Sustainability Appraisal follows the mechanisms of SEA and SA therefore the following information was reviewed as part of the SA Report:

- [Environmental Assessment \(Scotland\) Act 2005](#)
- [Strategic Environmental Assessment Guidance, 2013](#)
- [A Practical Guide to the Strategic Environmental Assessment Directive, 2005](#)
- [Integrating an Ecosystems Approach into Strategic Environmental Assessment Information Note, 2016](#)

4.3 TOPICS CONSIDERED IN THE SUSTAINABILITY ASSESSMENT

In accordance with Schedules 2 and 3 of the [Environmental Assessment \(Scotland\) Act 2005](#) the environmental issues to be addressed in the SA are included in Table 4.2. These SA topics will form

the basis of an assessment identifying potential environmental and socio-economic effects of the draft Master Plan on the marine and coastal environment.

Table 4.2: Scoping of SA Topics

SEA Topic	Scoped In	Scoped Out	If scoped out, why?
Physical Aspects			
Soils, Geology and Coastal Processes	✓		
Cultural Heritage	✓		
Landscape and Seascape	✓		
Environmental and Ecological Aspects			
Biodiversity, Flora and Fauna	✓		
Air	✓		
Waste	✓		
Water	✓		
Climate Change	✓		
Socio-Economic Aspects			
Population and Human Health	✓		
Economy	✓		
Material Assets	✓		

The type and duration of effects will be investigated as part of the SA as follows:

- Positive and negative effects;
- Short, medium and long term effects;
- Permanent and temporary effects; and
- Secondary, cumulative and synergistic effects.

4.4 SA/SEA OBJECTIVES AND GUIDING QUESTIONS

In accordance with SEA Guidance, the use of SEA Objectives are a suitable means to assess the impacts of the draft Master Plan. These objectives and indicators provide a series of questions against each of the SEA Objectives, categorised as the SA Guiding Questions (see Table 4.3). Establishing appropriate objectives and guide questions is an important part of assessing the sustainability of the draft Master Plan. The objectives present the preferred social, economic and environmental outcome. By appraising the draft Master Plan against the criteria, it is apparent where they will contribute sustainably, where there may be an adverse effect and where there may be a positive effect.

The range of potential environmental and socio-economic effects under consideration will be informed primarily by the SEA Directive and Regulations. Annex I of the SEA Directive and Schedule 2 of the SEA Regulations require that the assessment includes information on the:

“likely significant effects on the environment, including on issues such as: biodiversity; population; human health; fauna; flora; soil; water; air; climatic factors; material assets; cultural heritage, including architectural and archaeological heritage; landscape; and the inter-relationship between the issues referred to”.

Therefore, these are the main topics assessed within the SA. Many of the SA topics are interrelated – an effect where one topic may also result in a direct or indirect effect in relation to other topics.

Table 4.3: SA Topics, Objectives and Guiding Questions

Topic	SEA Objective	Guiding Questions Will the Master Plan.....	Proposed SEA Indicators
Physical Aspects			
Soils, Geology and Coastal Processes (Geodiversity, seabed/soils, coastal erosion)	<ul style="list-style-type: none"> To protect, maintain and where appropriate, enhance the physical quality and integrity of the seabed and coastal zone and the benefits they provide to people. To maintain integrity of sediment and coastal processes. To protect natural features which protect against coastal erosion and flooding. Prevent new activities which exacerbate natural coastal erosion. Reduce levels of sediment contamination which could cause impacts on marine species. 	<ul style="list-style-type: none"> Enable the protection and/or enhancement of natural features that help protect important assets on vulnerable shores from erosion? Protect and enhance designated coastal features for geomorphology? Ensure the protection of the structural integrity and physical processes of seabed/coastal areas in designated or sensitive areas? Affect marine and coastal processes and/or erosion rates? Assist in the reduction of sediment contamination which could cause impacts on marine species? 	<ul style="list-style-type: none"> Condition of coastal geological and geomorphological SSSIs, MPAs, geological Local Nature Conservation Sites and geosites identified by Geopark Shetland [Source: NatureScot, SIC and Shetland Amenity Trust (SAT)]. Condition of features which protect coastal erosion. Areas of coast subject to coastal change (National Coastal Change Assessment). Monitoring data on sediment contamination (SEPA, Marine Scotland, SOTEAG).
Cultural Heritage (Historic Environment)	<ul style="list-style-type: none"> To protect, maintain and, where appropriate, enhance the quality and local distinctiveness of the historic environment and associated benefits for people. 	<ul style="list-style-type: none"> Improve understanding and knowledge of the marine historic environment, promoting its contribution to local culture and tourism opportunities? Protect and maintain the historic environment within the Sullom Voe 	<ul style="list-style-type: none"> Number of applications where consideration of impacts on historic or cultural features has been documented by the applicant. Number of applications where there are potential impacts on a site

	<ul style="list-style-type: none"> To protect against damage to known and undiscovered coastal and marine archaeology and the benefits they provide for people. 	Harbour Area's coastal and marine areas?	<p>designated for historical environment (Source: SIC and SAT).</p> <ul style="list-style-type: none"> Condition of sites designated for the historical environment (Source: SAT). Monitoring/mapping/recording of any new sites of historical importance discovered as part of any developments or projects (Source: NAFC Marine Centre UHI, SIC and SAT).
Landscape and Seascape	<ul style="list-style-type: none"> To protect, maintain and, where appropriate, enhance the seascape/ landscape and visual amenity of the area and associated benefits for people. 	<ul style="list-style-type: none"> Enable the protection, maintenance and enhancement of designated and non-designated landscapes and seascapes? Improve understanding and knowledge of seascape/ landscape within the Sullom Voe Harbour Area and its contribution to local culture and tourism opportunities? 	<ul style="list-style-type: none"> Condition of National Scenic Areas and Local Landscape Areas (Source: NatureScot/ SIC). Number of applications for development with potential impacts on seascape/ landscape designations (Source: SIC and NatureScot). Proximity of existing and proposed developments i.e. any trends for clustering of developments (Source: SIC). Visitor survey results (Source: NAFC Marine Centre UHI, Visit Scotland).
Environmental and Ecological Aspects			

<p>Biodiversity, Flora and Fauna</p>	<ul style="list-style-type: none"> • To protect, maintain and where appropriate enhance marine and coastal ecosystems, their interactions and the benefits/resources they offer to people. • To prevent damage where possible to important/ protected habitats and species. • To promote people's enjoyment, understanding and appreciation of the natural heritage and need for its protection and enhancement. 	<ul style="list-style-type: none"> • Avoid negative impacts on protected species and habitats? • Avoid negative impacts which reduce habitats or species ability to provide ecosystem services? • Protect and where possible enhance marine and coastal ecosystems and their interactions? • Safeguard and promote existing and new opportunities for people to appreciate and connect with the coastal and marine environment within the Sullom Voe Harbour Area? 	<ul style="list-style-type: none"> • Number and proportion of developments permitted with an unmitigated impact on designated sites, species or habitats (Source: SIC, Marine Scotland and NatureScot). • Reported condition of designated features within SACs, SPAs, SSSIs, MPAs, LNCS in and adjacent to the Master Plan area (Source: NatureScot/ SIC). • Fish stock assessments (Marine Scotland, ICES, SSMO) • Current extent and records of important habitats and species (Source: NatureScot/ JNCC, Marine Scotland, NAFC Marine Centre UHI, SSMO). • Tourism figures for wildlife visitor attractions i.e. wildlife watching tours, outdoor recreation etc. (Source: Visit Shetland and SIC Economic Development (ED)). • Reported sightings of INNS around Shetland (Source: Marine Scotland, SEPA, NatureScot, NAFC Marine Centre UHI).
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Waste	<ul style="list-style-type: none"> To minimise the generation of waste and encourage greater re-use and recycling of materials. 	<ul style="list-style-type: none"> Promote the re-use and recycling of materials, and aim to minimise waste where possible? Ensure adequate waste management measures are in place to prevent or minimise the creation of marine litter? 	<ul style="list-style-type: none"> Number of applications where a waste management plan/ strategy has been undertaken and waste management measures included (Source: Marine Scotland, SIC.) Number of reported instances of waste disposal/ dumping at sea (SIC, Lerwick Port Authority (LPA), SEPA, Maritime and Coastguard Agency (MCA)).
Water (Water quality, coastal flooding)	<ul style="list-style-type: none"> To protect, maintain and enhance where possible, the quality of the water environment. Ensure there is no deterioration in the status of any water body and that Good Environmental Status and Good Ecological Status of the Shetland Marine Region is achieved meeting requirements of the WFD and MSFD. To avoid pollution of the coastal and marine water environment. To avoid increasing flood risk from inappropriate development within areas vulnerable to flooding. 	<ul style="list-style-type: none"> Avoid pollution of the coastal and marine water environment? Maintain and/or improve the ecological status and environmental status of the waters within the Sullom Voe Harbour Area? Avoid increasing flood risk from inappropriate developments in areas vulnerable to flooding? 	<ul style="list-style-type: none"> Number of water bodies achieving 'Good Ecological Status' (GES) as required by WFD and RBMP (Source: SEPA, SIC). Marine waters achieving GES¹² under the MSFD - current status on eutrophication, contamination, marine litter (Source: Marine Scotland).
Air	<ul style="list-style-type: none"> To protect, maintain and where appropriate, enhance air quality and the benefits they provide to people. 	<ul style="list-style-type: none"> Enable the protection and/or enhancement of air quality? 	<ul style="list-style-type: none"> Number of low carbon developments approved (i.e. renewable sites).

¹² 'Good environmental status' under the Marine Strategy Framework Directive

	<ul style="list-style-type: none"> Prevent new activities which increase emissions from other industries. 	<ul style="list-style-type: none"> Prevent increase in fuel consumption for other sectors? 	<ul style="list-style-type: none"> Number of applications where there is a significant impact on navigation leading to increased fuel use.
Climatic Factors (Climate change)	<ul style="list-style-type: none"> To support climate change mitigation through the sustainable development of marine renewable energy as an alternative source to greenhouse gas (GHG) emitting developments. To reduce the vulnerability of Shetland and its marine environment and resources to the effects of climate change (e.g. sea level rise, coastal erosion, flooding, and introduction of non-native species (INNS)) by ensuring that adaptation to such impacts is built into plans for future development where appropriate. 	<ul style="list-style-type: none"> Support climate change mitigation by promoting marine renewable energy developments? Contribute to the adaptation to climate change? 	<ul style="list-style-type: none"> Number of applications permitted for marine renewable energy developments and overall renewable energy generation (Source: SIC and Marine Scotland). Percentage of electricity generated from marine renewables (Source: SIC and Marine Scotland). Number of applications where a flood risk assessment has been undertaken and flood prevention measures included (Source: SIC). Number of developments subject to flooding (Source: SIC).
Socio-Economic Aspects			
Population and Human Health (Social consideration, noise, mental and physical health)	<ul style="list-style-type: none"> To promote prosperity and quality of life benefits for the people and communities through appropriate levels of development within the draft Master Plan area. To protect and where appropriate enhance access to marine leisure and recreational assets. 	<ul style="list-style-type: none"> Maintain quality of life benefits for the people and communities around the Sullom Voe Harbour Area? Promote access to coastal and marine resources for tourism and recreation? Help to avoid adverse effects on human health through poor planning resulting in water pollution and nuisance effects such as noise? 	<ul style="list-style-type: none"> Life expectancy for local population (i.e. livelihood viability). Consult with local sports clubs, SIC, Visit Shetland etc. to determine number and frequency of users for marine recreational and leisure amenities. Number of marine amenities closed/reduced due to development (Source:

	<ul style="list-style-type: none"> To avoid adverse effects on human health from water pollution and nuisance effects e.g. noise. 	<ul style="list-style-type: none"> Contribute to the growth of marine activity and development without detriment to another? Help to promote employment creation and therefore support the local economy? Promote engagement in marine planning? 	<p>SIC Economic Development and Visit Shetland).</p> <ul style="list-style-type: none"> Number of incidents reported on pollution, waste or contamination to marine and coastal waters around Shetland (Source: SEPA, SIC and LPA). Number of incidents on noise disturbance reported (Source: SIC, Marine Scotland and NatureScot).
Economy (employment, connectivity, transportation, industry e.g. fishing, aquaculture)	<ul style="list-style-type: none"> Protect features or qualities of the marine environment on which marine industries are dependent. To protect existing and future marine users from incompatible development. To maintain or improve the connectivity and accessibility of remote island and coastal communities. To protect mariners and marine environment from navigational risks. 	<ul style="list-style-type: none"> Provide clear links between ecosystem health and the industries which are dependent upon them allowing effective protection and management? Promote co-existence and co-use of marine space? Assist in inter-island and remote community connectivity? Safeguard fishing opportunities by identifying and protecting important fish habitats, nursery grounds and fishing grounds? 	<ul style="list-style-type: none"> Water quality (Source: Food Standards Agency (FSA)/SEPA). Unemployment/Employment statistics (Source: Scottish Government). Income (Source: Scottish Government). Aquaculture production statistics (Source: Marine Scotland). Fisheries landings (Source: Marine Scotland). Renewable energy production (Source: Marine Scotland). Area available to fisheries (Source: Shetland Shellfish Management Organisation (SSMO)/ NAFC Marine Centre UHI). Number and proportion of marine development applications objected

			<p>to by other marine users (Source: SIC/ Marine Scotland).</p> <ul style="list-style-type: none"> • Number of applications providing an assessment of the impact on navigation (Source: SIC/ Marine Scotland). • Number and cause of marine related accidents (vessels lost) (Source: MCA/ Marine Accident Investigation Branch).
<p>Material Assets (natural and built)</p>	<ul style="list-style-type: none"> • To protect existing and future marine users from incompatible development. • To promote the efficient and effective sustainable use of environmental resources. • To maximise the sustainable use of existing infrastructure. 	<ul style="list-style-type: none"> • Promote the efficient and effective sustainable use of environmental resources. • Promote the sustainable use of existing infrastructure wherever possible? 	<ul style="list-style-type: none"> • Number of reported navigational accidents as a result of a marine development (construction or operation) (Source: MCA, LPA and SIC). • Number of applications refused on grounds of incompatibility with other marine users (Source: SIC). • Number of applications where there are potential impacts on the marine environment as a result of infrastructure development (Source: SIC). • Number of applications opting to use/ share existing infrastructure

4.5 ASSESSING IMPACTS

The draft Master Plan is assessed against the SA Objectives taking into account the characteristics of the impacts i.e. type of impact, likely magnitude of impacts and the sensitivity of the receptor. The overall Significance of Impact is determined from a combination of these factors.

The following parameters are used to indicate the character of the impact, as appropriate:

Predictable/ Unpredictable	Short/ Medium/ Long-term
Direct/ Indirect	One-off/ Intermittent/ Continuous
Positive/ Adverse	Certain/ Uncertain (identification of impact)
Temporary/ Permanent	Avoidable/ Unavoidable
Reversible/ Irreversible	Small/ Large
Localised/ Widespread	Individual/ Cumulative

4.5.1 MAGNITUDE OF IMPACTS

The magnitude refers to the scale of the impact in relation to the environmental baseline. The magnitude of impacts are assessed as **major**, **moderate**, **minor** or **negligible**.

4.5.2 RECEPTOR SENSITIVITY

The sensitivity of the receptor should be assessed as **major**, **moderate** or **minor**. The method for this will be specific to the environmental medium under consideration.

4.5.3 SIGNIFICANCE OF IMPACT

Impact magnitude and receptor sensitivity are combined to indicate significance. Impact significance range is described in terms of major/ moderate or minor/ negligible and combinations (e.g. minor-moderate), adverse and positive. The scale of impacts used in the assessment is provided in Table 4.4 below.

Table 4.4: Significance of impacts and proposed symbols to be used in the framework for the assessment

Symbol	Description of Impact
✓✓✓	Major positive impact
✓✓	Moderate positive impact
✓	Minor positive impact
=	Neutral or no impact
x	Minor negative impact
xx	Moderate negative impacts
xxx	Major negative impact
?	Uncertain impact
N/A	Not applicable – no relationship with SA Objective

The draft Master Plan has been assessed against the SA Objectives that have been 'scoped in'. Section 5 gives more detail on the results of the assessment of the draft Master Plan.

The assessment presents the overall residual impact of each element assuming general and specific mitigation is applied during implementation of the Master Plan.

5 SUSTAINABILITY APPRAISAL

The purpose of this section is to identify the likely significant economic, social and environmental effects (both negative and positive) and where there are negative effects, set out measures to avoid or mitigate them.

The draft Master Plan has been assessed against the SEA Objectives with the impact appraised against the SA criteria, detailing the nature of the impact (scale, duration etc.) with comments describing the potential effects. Where appropriate mitigation measures are identified in order to address adverse effects and enhance positive effects. A summary of the appraisal findings and any mitigation measure required is shown in Table 5.1.

The potential effects of the draft Master Plan on each of the SA Topics are reported. Sections 5.1.1-5.1.3 provide information on Physical SA Topics, Sections 5.2.1-5.2.5 provide information on Environmental and Ecological SA Topics. Effects on Socio-Economic SA Topics are discussed in Sections 5.3.1-5.3.3.

Table 5.1: Appraisal findings for each impact against the SA Topic.

SA Topic	Impact	Nature of the Impact (scale, duration etc)	Comments	Any specific mitigation/monitoring
Soils, Geology and Coastal Processes	=/✓	Long term, local, individual, and cumulative	Potential impacts include physical damage to the seabed, sediment disturbance, and coastal erosion.	<p>Mitigation: Most sensitive species and habitats have been excluded during zoning. Less sensitive habitats have been identified as potentially incompatible. Impacts will be assessed during the application process.</p> <p>Monitoring: Number of applications permitted and predicted impacts on soils, geology and coastal processes.</p>
Cultural Heritage	X/=	Long term, indirect and direct	A range of cultural heritage has been considered including, fisheries, scheduled monuments (coastal) and views from Monastic sites.	<p>Mitigation: Important fisheries areas have been excluded from search (mobile fisheries) and identified as potentially incompatible with development (static gear). Views from monastic sites, visually important areas for communities and areas used for recreation have been mapped.</p> <p>All developments will need to adhere to policies within the LDP and draft SIRMPP which protect cultural heritage. In addition, developments must adhere to the Historic Environment Policy Statement (HEPS) 2019.</p>

SA Topic	Impact	Nature of the Impact (scale, duration etc)	Comments	Any specific mitigation/monitoring
				Monitoring: Number of applications permitted which impact a protected site, or a culturally important activity.
Landscape and Seascape	X/✓	Long term, direct, localised, reversible, individual, and cumulative	The most sensitive locations have been considered and mapped, including designated sites and community identified areas. New development has the potential to cause localised impact which will be considered at a project level, including the potential for cumulative impact.	Mitigation: Areas identified for high landscape and seascape value have been identified as potentially incompatible with development. Additionally, all developments will need to adhere to policies within the LDP and draft SIRMP which consider landscape and seascape. Monitoring: Number of applications permitted which are considered to impact landscape, seascape and visual amenity.
Biodiversity, Flora and Fauna	X/✓✓	Long term, direct, localised, individual, and cumulative	The most sensitive species and habitats have been considered and mapped, including designated sites and priority marine features. New development has the potential to cause localised impact which will be considered at a project level, including the potential for cumulative impact.	Mitigation: Most sensitive species and habitats have been excluded during zoning. Less sensitive habitats have been identified as potentially incompatible. Impacts will be assessed during the application process. Monitoring: Number of applications permitted which are considered to impact biodiversity, including protected sites.

SA Topic	Impact	Nature of the Impact (scale, duration etc)	Comments	Any specific mitigation/monitoring
			All developments will need to adhere to policies within the LDP and draft SIRMP which contain a range of policies which protect biodiversity.	
Air	=/✓	Reversible, cumulative, long term	The impacts on shipping were considered during the zoning process, and navigation routes were protected. Potential sites for low carbon energy production were identified.	Mitigation: No further mitigation required. Monitoring: Kw of renewable energy production. Number of applications which impact shipping.
Waste	=	Localised		Mitigation: This draft Master Plan does not specifically address waste issues as all developments are expected to comply with the existing policies in the draft SIRMP, the SIC LDP and via River Basin Management Planning, and Controlled Activities Regulations (CAR). Monitoring: Predicted waste levels associated with consented development.
Water	✓✓	Positive, permanent		Pipelines and shipping routes have been considered and excluded to avoid accidental damage. Sensitive species and habitats have been considered and

SA Topic	Impact	Nature of the Impact (scale, duration etc)	Comments	Any specific mitigation/monitoring
				excluded. Water quality impacts due to individual development is considered within the licencing process.
Climatic Factors	=/✓	Cumulative, long term	Potential sites for low carbon energy production were identified.	<p>Mitigation: The impacts on shipping routes were considered during the zoning process, and navigation routes were protected.</p> <p>Monitoring: Kw of renewable energy production. Number of applications which impact shipping.</p>
Population and Human Health	✓	Direct and indirect, individual and cumulative, localised negative impact.	Creation of new economic activities could protect existing jobs, create new employment opportunities, and support rural communities.	<p>Mitigation: Recreation activities have been identified and mapped. Flora and fauna which support tourism and wellbeing have been excluded from development areas. Measures to reduce risk of pollution events (e.g. protection of pipelines) have been implemented which could impact health and wellbeing.</p> <p>Monitoring: Number of new developments, number of jobs created and population levels in local communities.</p>

SA Topic	Impact	Nature of the Impact (scale, duration etc)	Comments	Any specific mitigation/monitoring
Economy	✓✓	Direct and indirect	New development has the potential to increase economic opportunity in the area, however, impacts on existing industries and the environment have the potential to negatively impact existing economic activity.	<p>Mitigation: Existing industries considered and protected (e.g. fisheries, shipping). Ecosystem components which support marine industries were protected.</p> <p>Monitoring: Number of new developments, number of jobs created. Objections to development proposals from other sectors.</p>
Material Assets	✓✓	Direct and indirect		<p>Mitigation: The zoning process has protected existing assets such as pipelines, fishing grounds, shipping and the terminal area.</p> <p>Monitoring: Objections to development proposals from other sectors.</p>

5.1 PHYSICAL SA TOPIC APPRAISAL

5.1.1 SOILS, GEOLOGY AND COASTAL PROCESSES

The geological diversity in the Shetland Islands has been recognised by achieving European and UNESCO Global Geopark status in recognition of its internationally important geological heritage. In 2018 there were 71 Geoparks in the European Geopark Network and 140 in the Global Network¹³. An important aspect of the Shetland Geopark is its diversity of Geosites – sites important for their geology or geomorphology¹⁴. Within the Sullom Voe Harbour Area there are currently nine Geosites of coastal geological or geomorphological significance. There are an additional two Geosites located within 270 metres of the Sullom Voe Harbour Area (Table 5.2).

Table 5.2: Geosites within the Sullom Voe Harbour Area.

Site	Feature	Significance	Status
West Sandwick- Yell (29)	Sand dune and machair	Local	N/A
Ness of Sound (30)	Double tombolo Nesting Fault	Local	N/A
Ell Wick (104)	Red leucocratic Eastern Granite has been faulted against diorite	Local	N/A
Back of Ollaberry (40)	Exposure of Walls Boundary Fault Best shear fault exposure in UK	National	N/A
Maggie Kettle's Loch (46)	Tsunami deposit in peat related to Storegga Slide	International	LNCS
Quoys of Garth, Garths Voe (47)	Pollen record Tsunami deposit in peat related to Storegga Slide	International	SSSI, GCR
Houb of Scatsta (49)	Tsunami deposit in peat related to Storegga Slide	International	N/A
Valayre Quarry and Burn of Valayre (51)	Valayre Gneiss (boundary between Moine and Dalradian supergroups in Shetland)	National	SSSI, GCR
Brig of Collafirth (36)	Ronas Hill granophyre and andesite xenoliths	Local	N/A
Geosites adjacent to Sullom Voe Harbour Area			
Fethaland (32)	Steatite and magnetite	National	SSSI, GCR
Virdins Quarry (53)	Possibly globally unique features of magma mixing	International	N/A

¹³ UNESCO Global Geoparks (<http://www.unesco.org/new/en/natural-sciences/environment/earth-sciences/unesco-global-geoparks>)

¹⁴ Geopark Shetland (<https://www.shetlandamenity.org/geopark-shetland>)

More detailed Shetland wide baseline environmental information relating to 'Soils, Geology and Coastal Processes' can be found in Section B *Condition of the region- Protected areas* within the 'Shetland Islands Marine Region State of the Environment Assessment, 2017.

There are existing pressures in the marine and coastal environment on coastal processes (and therefore soils and geology) from existing activities and uses of the waters around Shetland. In addition, climatic change may also influence these factors through increased storminess and sea level rise.

Will the Master Plan...

- **Enable the protection and/or enhancement of natural features that help protect important assets on vulnerable shores from erosion?**

The draft Master Plan did not explicitly consider erosion when creating the development zones as no areas of coastal erosion have been identified. The impact of development on erosion and the wider geodiversity of the Harbour Area will be assessed at a project level during the licensing process against policies within the National Marine Plan (NMP) and at a local level using the draft SIRMP, SIC LDP and relevant legislation. The following policies within the draft SIRMP assist in protecting natural features within the Harbour Area:

MP GEOD1: Safeguarding Marine Geodiversity (page 79) protects the marine and coastal geodiversity within the Sullom Voe Harbour Area, including Geosites.

Policies *MP CLIM1: Climate Change Mitigation* and *CLIM2: Climate Change Adaptation* (page 38) aim to minimise the cause and effects of climate change through mitigation and adaptation. Climate change is one of the biggest threats to the coastal environment, with sea levels rising there is the potential for geological features and the structural integrity of the coast to be at risk. Increased development within the Harbour Area may result in an increase in boat traffic leading to an increase in emissions although this is not expected to be significant.

MP INNS1: Reducing the Spread of Invasive Non-Native Species (INNS) (page 25) require potential developments to demonstrate that the potential risks of introducing or spreading INNS have been adequately considered. The introduction of INNS has the potential to impact habitats and species which stabilise sediments or reduce the spread of species that destabilise sediments. The Harbour Area already has a large volume of boat movements to and from the Sullom Voe Oil and Gas Terminal. These ocean-going vessels are at risk of transporting INNS from one port to another, this is mitigated by adherence to National and local INNS reduction policies. In line with this, all new vessel movements and infrastructure relating to developments must also comply with these policies.

Policy *MP CD1: Coastal Defence Construction* (page 141) deals with the installation of new flood defences and coastal protection works. As part of this policy developers must demonstrate that they have considered the wider implications of exacerbating flooding or coastal erosion processes elsewhere. This will ensure that any defence construction will be sustainable with minimal adverse effects on coastal processes.

Priority Marine Features (PMFs) can play an important role in stabilising the seabed and reducing the risk of erosion. During the zoning stage of the draft Master Plan, the following PMFs were classed as ‘features not compatible with development’:

- Horse mussels (*Modiolus modiolus*)
- Dune areas
- Important mud habitat
- Saltmarsh area

SSMO closed areas (of which there are three within the Harbour Area) were also classed as ‘features not compatible with development’ as they protect PMFs including horse mussel beds and maerl beds. SSMO closed areas are also protected within the draft SIRMP.

In addition, the Kelp areas and Rock areas were classed as ‘features potentially incompatible with development’. Impact on these areas from development will be assessed at a project level in accordance with the policies set out within the NMP and the draft SIRMP.

- **Protect and enhance designated coastal features for geomorphology?**

Geomorphology within the Harbour Area is well documented and protected under Geosite designation, three of which are also designated SSSIs and one is within a LNCS (Table 5.2). Being land-based designations, they were not included in the assessment at the zoning stage of the draft Master Plan. These sites are however protected at project level under policy *MP GEOD1: Safeguarding Marine Geodiversity* within the draft SIRMP (page 79). Development will only be permitted where appropriate measures are taken to protect marine and coastal geological and geomorphological resources and sites.

In addition, all of the following policies within the draft SIRMP provide protection to designated sites ensuring that development has due regard to the integrity of the area and the qualities for which each site has been identified and avoids or mitigates any negative impacts on the site:

- *MP MPA1: Plans or projects that may affect SACs, SPAs (collectively known as European sites) and Ramsar Sites* (page 44).
- *MP COAST1: Developments in or near SSSIs* (page 53).
- *MP COAST2: Development on or near to a Local Nature Conservation Site (LNCS)* (page 54).

- **Ensure the protection of the structural integrity and physical processes of seabed/ coastal areas in designated or sensitive areas?**

Priority Marine Features (PMFs) can play an important role in stabilising the seabed and reducing the risk of erosion. During the zoning stage of the draft Master Plan, the following PMFs were:

‘Not compatible with development’:

- Horse mussels
- Dune areas
- Important mud habitat
- Saltmarsh area

‘Potentially incompatible with development’:

- Kelp area
- Rock area

In addition, SSMO Closed areas (of which there are three within the Harbour Area, two for horse mussel beds and one for seagrass beds) were also classed as ‘not compatible with development’.

The Sullom Voe SAC is, in part, designated for its rock and sediment features. During the zoning process the Sullom Voe SAC was deemed ‘potentially incompatible with development’ as there is the potential for development within this area that would not have an adverse effect on the features for which it is designated. This assessment will take place at project level with potential developments having to comply with all policies within the draft SIRMP including:

- *MP MPA1: Plans or projects that may affect SACs, SPAs (collectively known as European sites) and Ramsar Sites (page 44).*
- *MP COAST1: Developments in or near SSSIs (page 53).*
- *MP COAST2: Development on or near to a Local Nature Conservation Site (LNCS) (page 54).*

They will limit the impact potential developments may have on the structural integrity and physical processes of the seabed and coastal areas of the sites.

There are multiple pipes and cables situated on the seabed within the Harbour Area. Damage to these has the potential to cause damage to the benthos and intertidal substrate. During the zoning process these cables and pipelines (including a 250m buffer zone) were deemed to be features ‘not compatible with development’. In addition, policy *MP ACBP1: Avoidance of Cables and Pipelines* within the draft SIRMP aims to reduce the risk of damage to cables and pipelines by directing developments away from these areas.

- **Affect marine and coastal processes and/or erosion rates?**

The draft Master Plan did not explicitly consider erosion when creating the development zones as no areas of coastal erosion have been identified. The impact of development on erosion and coastal processes within the Harbour Area will be assessed at a project level against policies within the National Marine Plan (NMP) and at a local level using the draft SIRMP. The following policies within the draft SIRMP assist in protecting coastal processes and erosion rates:

- *MP INNS1: Reducing the Spread of Invasive Non-Native Species (INNS) (pages 25)*
- *MP CD1: Coastal Defence Construction (pages 141)*
- *MP CD2: Coastal Defence Demolition (pages 141)*
- *MP CLIM1: Climate Change Mitigation (pages 38)*
- *MP CLIM2: Climate Change Adaptation (pages 38)*

The caveats in these policies will ensure any impacts on soil, geology or coastal processes will be minimal or neutral.

- **Assist in the reduction of sediment contamination which could cause impacts on marine species?**

The following important habitats and protected areas were deemed ‘not compatible with development’ during the zoning process of the draft Master Plan:

- Horse mussels
- Dune areas

- Important mud habitat
- Saltmarsh area
- SSMO Closed area
- Seal haul out sites
- Yell Sound Coast SAC (designated to protect European Otters and Harbour Seals)

In addition, kelp areas, rock areas, seal haul out 500m buffer zone and the Sullom Voe SAC were classed as ‘Potentially incompatible with development’. Impact on these areas from development will be assessed at a project level in accordance with the policies set out within the NMP and the draft SIRMP.

5.1.2 CULTURAL HERITAGE

The coast and seas within the Shetland Marine Region host a rich and diverse historic and cultural heritage and are a key part of what gives the islands their unique character. It helps give a sense of place, well-being and cultural identity and enhances regional and local distinctiveness. Historic assets within the Harbour Area include terrestrial Scheduled Monuments and Listed Buildings located on or near the coastline, and Submerged Recorded Sites.

Scheduled Monuments

Within the Harbour Area there are 11 Scheduled Monuments, most of which are coastal with only two being further inland, approximately 150 m from the coast (Table 5.3). One of the two adjacent sites is a coastal monument (Infield, broch) which lies 900 m south of the Sullom Voe Harbour Area limits near Mossbank. The second adjacent site (Ladie Hill, cairn) is an inland site 500 m from the coastline, southeast of Sullom Voe.

Table 5.3: Scheduled Monuments within and adjacent to the Sullom Voe Harbour Area

Site	Features	Importance
Fedeland, fishing station and prehistoric house at Isle of Fethaland (SM6072)	Finest surviving example of a ‘haaf’ fishing station	National
Kame of Isbister, settlement, Burravoe (SM3880)	Prehistoric domestic and defensive: settlement	
Birrier, settlement 250 m NW of Loch of Birriesgirt (SM3966)	Ecclesiastical: monastic settlement	
Meishie o’ Stanes, two cairns 120 m N of Collafirth Pier (SM3568)	Two burial cairns of the Neolithic or Bronze age	National
Skeo Knowe, mound 200 m E of Nissetter (SM3562)	Prehistoric ritual and funerary: mound	
The Kames, coastal defence battery 100 m SE of Calback Ness (SM10756)	WWII coastal defence battery	National
Holm of Copister, broch 850 m SW of Southerness (SM2091)	Iron age broch and remains of two outer defences	National
Norden, burnt mound 160 m ESE of (SM3557)	Burnt mound	National

Auchensalt, burnt mound 85 m E of (SM3556)	Burnt mound	National
Fugla Ness, broch 330 m NNW of (SM2080)	Iron Age broch	National
Head of Brough, broch, West Yell (SM2071)	Iron Age defended settlement and broch with external defences	
Scheduled Monuments adjacent to Sullom Voe Harbour Area		
Infield, broch 215 m SE of (SM2058)	Iron Age broch	National
Ladie Hill, cairn 325 m E of 1 Gossaford (SM3558)	Burial cairn from Neolithic or Bronze Age	National

Listed Buildings

Within the Sullom Voe Harbour Area there are 16 listed buildings all of which are coastal being no more than 60m from the sea. Some are listed for their piers, sea walls, and beach steps. There are three coastal listed buildings adjacent to the Sullom Voe Harbour Area, two at Mossbank (Mossbank Lighthouse and Mossbank Bød), which lie only 900 m from the Sullom Voe Harbour Area limits and one at Garth (Garth Pony Pund) which is more inland, approximately 500 m from the shore (Table 5.4).

Table 5.4: Listed Buildings within, and adjacent to, the Sullom Voe Harbour Area

Site	Description	Category
North Roe, North Haa, including walls and outbuildings (LB44559)	Early 19 th century Haa	C
North Roe Methodist Church, including railings (LB44558)	1878 mission chapel and house	C
North Roe, Post Office (LB44560)	Circa 1900 traditional houses with post office	C
North Roe, Telephone kiosk (LB44561)	Sir Giles Gilbert Scott 1953. Standard K6 telephone kiosk	B
North Roe, Lochend House, including outbuilding and garden wall (LB44557)	Late 18 th century Haa	C
Ollaberry, Ollaberry Kirkyard Monument (LB18687)	John Forbes, sculptor, 1754	B
Ollaberry, Ollaberry Böds, including retaining wall and steps (LB44563)	Early 19 th century trading booths including rubble retaining wall to sea with rough stone steps to beach	C
Ollaberry, Ollaberry Pier, including derrick and walls (LB44564)	19 th century harl-pointed random rubble pier.	B
Ollaberry, Ollaberry House (Haa of Ollaberry), including outbuilding and boundary walls (LB18691)	1789 Haa	B
Ollaberry, Bardister Haa, with outbuilding and garden walls (LB44562)	Late 18 th century Haa	B
Brae, Voxter House (now Voxter Centre), including walled garden (LB44526)	1869 former manse and walled garden	B

Mossbank, Mossbank Haa, including outbuildings and wall (LB44531)	18 th century Haa	C
Mossbank, Erlangen including garden wall (LB44529)	Early 19 th century, 2 storey and attic, 3 bay symmetrical house	C
Ulst, Pier House (LB18679)	Later 19 th century single storey and loft 5-bay symmetrical former pier building (now shop)	C
West Yell, West Yell Schoolhouse, including playground and garden walls and toilet buildings (LB45325)	Mid-19 th century former school buildings	C
West Sandwick, North Haa (West Sandwick House), including garden walls, gates and gatepiers, walled garden and pier (LB18648)	17 th century Laird's house	A
Listed Buildings adjacent to Sullom Voe Harbour Area		
Mossbank, Mossbank Lighthouse (LB44532)	Lighthouse	C
Mossbank, Mossbank Böd (LB44530)	Early 19 th century trading booth	C
Garth, Pony Pund, including gates and adjoining outbuildings (LB44527)	Later 19 th century square pony pund	B

Submerged Recorded Sites

There are 51 Submerged Recorded Sites within the Harbour Area including wrecks, shipwreck graves, and aircraft. There are also numerous submerged recorded sites in the marine environment adjacent to the Harbour Area.

There is the potential within the Harbour Area for there to be undiscovered submerged archaeology as the marine environment in this area is flooded land the potential therefore to find submerged terrestrial archaeology is high.

Many of these historical assets are unique and valuable, and some are not well understood and cannot be replaced if lost or damaged. The marine historic environment requires careful and active management to ensure that it persists.

More detailed environmental baseline information on the condition of 'Cultural Heritage' can be found in the *Historic Environment & Cultural Heritage* chapter of the 'Shetland Islands Marine Region State of the Environment Assessment', 2017.

Will the Master Plan....

- **Improve understanding and knowledge of the marine historic environment, promoting its contribution to local culture and tourism opportunities?**

Historic heritage and archaeology are a key part of what gives Shetland its distinctive and unique character and the Sullom Voe area is no different. They are important not only to local residents by giving them a sense of cultural identity but are also important for the local tourism economy. Impacts on historical assets within and adjacent to the Harbour Area will be assessed at project level in accordance with the policies relating to historical assets within the draft SIRMP and the

Shetland Islands Council's Local Development Plan¹⁵. By offering this level of specific protection these sites they will be safeguarded for future study and research allowing our knowledge and understanding of them to grow.

Fishing is an important part of Shetland's culture and cultural heritage. Whitefish and squid trawling, and scallop dredging were deemed 'not compatible with development' and static gear fishing (creels and pots) was deemed as being 'potentially incompatible with development' during the zoning process of the draft Master Plan. This serves to protect fishing for both economic and cultural reasons.

- **Protect and maintain the historic environment within the Sullom Voe Harbour Area's coastal and marine areas?**

During the zoning process of the draft Master Plan, Scheduled Monuments and archaeological views were classed as 'potentially incompatible with development'. Scheduled monuments are terrestrial and therefore impacts from marine developments are expected to be indirect, for example, from terrestrial development such as the construction of roads and piers for access to a marine development, impacts from these therefore will be assessed against policies within the SIC LDP.

Important archaeological views were identified between two Monastic sites in the north and four brochs/round houses in the east and southeast. Unsympathetic developments may have an adverse impact on these views. Any potential impacts on archaeological views will be assessed at project level in accordance with policies set out within the draft SIRM and the SIC LDP.

5.1.3 LANDSCAPE AND SEASCAPE

Shetland's seascape has been formed over millions of years and has created a diverse and unique environment which is valued highly by residents and visitors to the islands. It is an intrinsic part of island life economically and culturally.

For the purposes of this report, references to seascape should be taken as meaning landscapes with views of the coast or seas, and coasts and the adjacent marine environment with cultural, historical and archaeological links with each other.

The coasts of Shetland can be split broadly into two categories: inner and outer coast. Two seascape character types have been mapped at a regional level: 'low, rocky island coasts' and 'remote high cliffs'. Within these, twelve coastal character types have been identified with a further three sub types. More information on the character types found within the Harbour Area can be found within the **Shetland Coastal Character Assessment (CCA)**¹⁶.

The high rock cliffs and steep banks that can be found at the north end of Yell Sound provide unrestricted views of dramatic scenery and are classified as 'isolated coast' within the CCA. This level

¹⁵ Shetland Islands Council (2014) Local Development Plan. <https://www.shetland.gov.uk/planning/LocalDevelopmentPlan.asp>

¹⁶ NAFC Marine Centre (2017) Shetland Coastal Character Assessment. <https://www.nafc.uhi.ac.uk/research/marine-spatial-planning/shetland-coastal-character-assessment/>

of visual amenity is important to local communities and visitors alike allowing them to experience, and feel connected with, the natural environment.

Yell Sound is currently classified as an ‘undeveloped island sound’ within the Shetland CCA, with several offshore coastal and tidal islands. These have been classified as having a high level of wildness during an assessment carried out by NatureScot (formally SNH)¹⁷. Wildness offers people psychological and spiritual benefits and is an important aspect of what gives the local area its distinctive atmosphere.

Designations connected to Landscape and Seascape within the Harbour Area include:

National Scenic Areas

Defined as areas “of outstanding scenic value in a national context” for which special protection measures are required¹⁸. Seven separate areas of coastal landscape in Shetland have been identified as of “outstanding scenic interest” and designated as NSAs. One of these seven areas is Fethaland at the north end of the Sullom Voe Harbour Area.

Local Landscape Areas

Proposed LLAs (pLLAs) have been introduced locally to help protect and enhance some of Shetlands’ unique environment. There are 17 pLLAs in Shetland, three of which run along the coastal areas within the Sullom Voe Harbour Area and one outside, but adjacent to it (Table 5.5). These are terrestrial areas designated for their exceptional landscape which may include coastal landscapes and seascapes.

Table 5.5: Local Landscape Areas (LLA) within the Sullom Voe Harbour Area.

Site	Features	Development Guidelines ¹⁹
West Sandwick to Gloup Holm (17)	<ul style="list-style-type: none"> – Highly isolated – Wide views – Limited active settlement, isolated pockets of historic settlement – Cultural heritage 	<ul style="list-style-type: none"> – Encourage sustainable and responsible recreational access – Seek to retain the unsettled isolation of this area, retaining its cultural and natural views
Ronas Hill (1)	<ul style="list-style-type: none"> – Shetland Landmark, highest point of the islands – Distinctive red granite geology – Largely empty, uninhabited hills and moors – Rocky plateau, steep cliffs 	<ul style="list-style-type: none"> – Ronas Hill and north shore of Ronas Voe should remain an area of very limited human influence – Carefully consider the siting and design of any proposed development along south shore of Ronas Hill – Seek to ensure that new and existing fish farms and particularly the associated onshore components can be assimilated into the landscape

¹⁷ SNH- Landscape policy: wild land (www.nature.scot/professional-advice/landscape/landscape-policy-and-guidance/landscape-policy-wild-land)

¹⁸ SNH-National Scenic Areas (www.nature.scot/professional-advice/safeguarding-protected-areas-and-species/protected-areas/national-designations/national-scenic-areas/national-scenic-areas)

¹⁹ Shetland Islands Council (2012). Draft Supplementary Guidance: Local Landscape Areas. Shetland Local Development Plan 2012.

		– Encourage sustainable and responsible recreational access into the landscape
Nibon and Mangaster (2)	<ul style="list-style-type: none"> – Rugged landscape of rocky coastal hills interspersed with numerous lochans – Sequence of long views along voes and sudden opening of wide panoramas – Intricate coastal edge – Panoramic views across St Magnus Bay 	<ul style="list-style-type: none"> – Seek to retain undeveloped wildness character: any development should be at the smallest scale, and should be sensitively sited and designed – Encourage sustainable and responsible recreational access into this landscape. – Maintain the wider setting of the NSA through control of development
Local Landscape Areas adjacent to Sullom Voe Harbour Area		
Lunna Ness and Lunning (12)	<ul style="list-style-type: none"> – Attractive settlements around Vidlin Voe with a distinctive pattern – Long, narrow and remote headland of Lunna Ness – Rugged moorland hills around Lunna Ness – Historic features and associations at Lunna, including the ancient kirk and the Shetland Bus 	<ul style="list-style-type: none"> – Seek to preserve the distinctive character of the settlement around Vidlin Voe – Ensure that any development is appropriate in scale, siting, and design and that it complements the landscape character of the area – Protect the undeveloped nature of Lunna Ness, while continuing to promote responsible access to sites in the area

Scenic Areas

In public consultation events communities were invited to identify places which they considered to have high visual amenity value, three locations were identified.

Wildland Scotland Areas

Wild Land Scotland Areas, designated by NatureScot (formally SNH), describe the most extensive areas of land which are considered to have the highest level of wildness.

NatureScot describe wild land as:

- Being a big part of Scotland's identity
- Bringing significant economic benefits – attracting visitors and tourists
- Offering people psychological and spiritual benefit
- Providing increasingly important havens for Scotland's wildlife²⁰

There is one area in Shetland designated as a Wild Land Scotland Area: Ronas Hill and North Roe (42), which does not include the coastal boundary of, but is adjacent to, the Sullom Voe Harbour Area, and has been included as the site offers panoramic views of the surrounding area, including the Sullom Voe Harbour Area.

²⁰ NatureScot Landscape policy: wild land (www.nature.scot/professional-advice/landscape/landscape-policy-and-guidance/landscape-policy-wild-land)

Baseline environmental information for the Shetland Marine Region relating to 'Landscape and Seascape' can be found in Section B *Condition of the region* within the 'Shetland Islands Marine Region State of the Environment Assessment', 2017.

Will the Master Plan....

- **Enable the protection, maintenance and enhancement of designated and non-designated landscapes and seascapes?**

National Scenic Areas designated for their coastal landscapes along with three areas within the Harbour Area defined by the local communities as having significant scenic qualities, were classed as features which could be 'potentially incompatible with development' as during the zoning process as the value of their natural coastal features could be impacted by adjacent unsympathetic development. These areas were then identified in each of the zones as areas of potential impact. Proposed Local Landscape Areas (pLLA) and Wildland Scotland areas were not explicitly considered during the zoning process due to the distance from these designations and the Sullom Voe Harbour Area.

The level and nature of any impact on NSA, pLLA, Wildland Scotland Area and community identified scenic areas will be assessed as part of the individual development application process in accordance with relevant policies within the following plans:

draft SIRMP:

- *MP VIS1 Safeguarding National Scenic Areas (NSAs) and Local Landscape Areas (LLAs)* (page 82)
- *MP VIS2 Safeguarding Seascape Character and Visual Amenity* (page 83)

SIC Local Development Plan:

- GP3 All Development: Layout and Design (page 22-23)
- NH1 International and National Designations (page 24)
- NH4 Local Designations (page 27)

- **Improve understanding and knowledge of the seascape/ landscape within the Sullom Voe Harbour Area and its contribution to local culture and tourism opportunities?**

The designated National Scenic Area which covers the northwest coast of the Harbour Area includes Fethaland, a popular walking route for both locals and tourists due to its dramatic coastal features. This area was specifically acknowledged during the zoning process and is protected from unsuitable development by policy *MP VIS1: Safeguarding National Scenic Areas (NSAs) and Local Landscape Areas (LLAs)* (page 82) within the draft SIRMP and *NH1 International and National Designations* (page 24) within the SIC LDP.

The consultation phases of the draft Master Plan allowed the local community to voice their opinion on scenic areas of high value to them, thus in itself improving the knowledge and understanding of seascape/ landscape areas of significance within the Harbour Area. These areas were subsequently mapped and identified during the zoning process and will need to be taken into account as part of the planning application process in accordance with the relevant policies set out within the draft SIRMP and SIC LDP.

Within the Harbour Area, kayaking was identified as being an important recreational activity for locals and tourists. This is in part due to the seascape/ landscape of the area. During the zoning process, kayaking was deemed to be a use which could be 'potentially incompatible with development' resulting in any impacts to this activity having to be investigated at application level in accordance with policies set out within the draft SIRMP.

Shetlanders have fished the waters around their islands for thousands of years and, over time, fisheries and its associated industries have shaped the current landscape and seascape use. Scallop dredging, squid and whitefish trawling within the Harbour Area were classified as being 'not compatible with development' and thus protected from development and static fishing (creels and pots) were classified as being 'potentially incompatible with development'. All potential developments will need to comply with policy *MP FISH1: Safeguarding Fishing Opportunities* (page 104) within the draft SIRMP which looks to safeguard fishing opportunities thus safeguarding the landscape and seascape associated with it.

5.2 ENVIRONMENTAL AND ECOLOGICAL SA TOPIC APPRAISAL

5.2.1 BIODIVERSITY, FLORA AND FAUNA

The [Scottish Government's Nature Conservation Strategy](#) sets out its vision and framework for marine nature conservation based on a three-pillar approach:

- Species conservation
- Site protection
- Wider seas policies and measures

Species Protection

Marine and coastal species are protected through several pieces of legislation. Nationally, species are protected through the **Nature Conservation (Scotland) Act 2004**²¹ and the **Wildlife and Natural Environment (Scotland) Act 2011**²². Together they provide a framework that protects animals, plants and certain habitats in Scotland. This legislation reflected the requirements of the **European Habitats Directive**²³ which affords protection to a number of species listed in a series of Annexes, this protection has remained in force after the UK's departure from the EU. Species listed in Annex IV are called 'European protected species' (EPS), these include otters, whales, dolphins and porpoises. In addition, both grey and harbour seals are protected under Annex V and the **Marine (Scotland) Act 2010**²⁴. All species of bird are protected by Scottish legislation, which reflected the requirements of the **EU Birds Directive**²⁵.

Site Protection

A network of Marine Protected Areas (MPAs) helps to protect nationally important marine wildlife and habitats. Developing Scotland's network of MPAs is part of a wider strategy to meet the Scottish

²¹ www.legislation.gov.uk/asp/2004/6/contents

²² www.legislation.gov.uk/asp/2011/6/contents/enacted

²³ ec.europa.eu/environment/nature/legislation/habitatsdirective/index_en.htm

²⁴ www.legislation.gov.uk/asp/2010/5/contents

²⁵ ec.europa.eu/environment/nature/legislation/birdsdirective/index_en.htm

Government's commitment to a "clean, healthy, safe, productive and biologically diverse marine and coastal environment that meets the long-term needs of people and nature".

Designated sites within and adjacent to the Harbour Area include:

- Special Areas of Conservation (SACs)
- Special Protected Areas (SPAs)
- Ramsar Site
- Sites of Special Scientific Interest (SSSIs)
- Habitat Closed Areas (SSMO closed areas)
- Local Nature Conservation Sites (LNCSs)
- Protected Seal Haul-out sites

Wider Seas Measures

Wider seas measures to protect species and habitats include marine planning and measures to protect the qualities of the marine environment which provide for biodiversity. This includes maintaining water quality.

Table 5.6: Protected designations within and adjacent to the Harbour Area, their features and condition.

Designation	Site Name	Qualifying Features	Site Condition
SAC	Yell Sound Coast (UK0012687)	European Otter (<i>Lutra lutra</i>)	-Unfavourable, no change
		-Harbour Seal (<i>Phoca vitulina</i>)	-Unfavourable, declining
	Sullom Voe (UK0030273)	-Reefs	-Favourable, maintained
		-Lagoons	
		-Shallow inlets and bays	
SPA	Otterswick and Graveland (UK9002941)	-Breeding Red-throated Diver (<i>Gavia stellate</i>)	-Unfavourable, declining
	East Mainland Coast (UK9020311)	Breeding- -Red-throated Diver (<i>Gavia stellate</i>) Non-breeding- -Great Northern Diver (<i>Gavia immer</i>) -Slavonian Grebe (<i>Podiceps gruitus</i>)	-Condition not yet assessed
SSSI	Yell Sound Coast (1686)	-European Otter (<i>Lutra lutra</i>)	-Unfavourable, no change
	Graveland (8110)	-Breeding Red-throated Diver (<i>Gavia stellate</i>)	-Unfavourable, declining
	Uyea- North Roe Coast (1586)	-Moine	-Favourable, maintained
	Voxter Voe and Valayre Quarry	-Moine	-Favourable, maintained

(1591)

SSMO Closed Area	Ness of Queryfirth, Yell Sound (area 04)	Horse Mussel bed (<i>Modiolus modiolus</i>)
	Sullom Voe (area 05)	Horse Mussel bed (<i>Modiolus modiolus</i>)
	Haggrister (area 19)	Seagrass bed
Seal Haul Out	Point of Bugarth (SH-020)	
	Head of Calsta (SH-032)	
	Little Holm (SH-028)	
	Skea Skerries (Yell Sound) (SH-019)	
	Lamba (SH- 007)	Protected seal haul out site
	Tinga Skerry (SH-022)	
	Sligga Skerry & North End of Bigga (SH-009)	
	Little Roe (SH-008)	
	Ungam (SH-006)	

Adjacent to Sullom Voe Harbour Area

SAC	East Mires and Lumbister (UK0019795)	-Blanket bog	-Favourable, maintained
	Ronas Hill- North Roe (UK0019797)	-Oligotrophic to mesotrophic standing waters with vegetation of the <i>Littorelletea uniflorae</i> and/or of the <i>Isoëto- Nanajuncetea</i> -	-Favourable, maintained
		-Natural dystrophic lakes and ponds	-Favourable, maintained
		-Alpine and boreal heaths	-Unfavourable, recovering
		-Blanket bog	-Unfavourable, declining
		-North Atlantic wet heaths	-Unfavourable, recovering

		with <i>Erica tetralix</i>	
		-European dry heaths	-Unfavourable, no change
		-Siliceous scree of the montane snow level	-Favourable, maintained
SPA	Ramna Stacks & Gruney (UK9002021)	Breeding Leach's Petrel (<i>Oceanodroma leucorhoa</i>)	-Favourable, maintained
	Ronas Hill- North Roe and Tington (UK9002041)	Breeding Great Skua (<i>Stercorarius skua</i>)	-Favourable, maintained
		Breeding Red-throated Divers (<i>Gavia stellate</i>)	-Favourable, declining
Ramsar	Ronas Hill- North Roe and Tington (916)	-Supports:- -Multiple Habitats Directive Annex 1 wetland features -Shetland endemic <i>Hieracia</i> -Harbour seal (<i>Phoca vitulina</i>) -European otter (<i>Lutra lutra</i>) -Arctic water flea (<i>Eurycercus glacialis</i>) -Breeding- Red-throated diver (<i>Gavia stellate</i>) -Northern fulmar (<i>Fulmarus glacialis</i>) -Whimbrel (<i>Numenius phaeopus islandicus</i>) -Arctic skua (<i>Stercorarius parasiticus</i>) -Great skua (<i>Catharacta skua</i>) -Black guillemot (<i>Cephus grylle</i>)	
	Otterswick (8109)	-Breeding Red-throated Divers (<i>Gavia stellate</i>)	-Unfavourable, declining
SSSI	Ramna Stacks (1328)	-Breeding Guillemot (<i>Uria aalge</i>)	Unfavourable, declining
		-Breeding Leach's Petrel (<i>Oceanodroma leucorhoa</i>)	-Unfavourable, declining
		-Breeding seabird colony	
	Dales Voe (486)	-Saltmarsh	-Favourable, maintained
	Burn of Valayre (277)	-Scrub woodland	-Unfavourable, no change

	North Roe Meadows (1239)	-Vascular plant assemblage	-Unfavourable, declining
	East Mires and Lumbister (587)	-Blanket bog -Breeding bird assemblage	-Favourable, maintained
	The Ayres of Swinister (1528)	-Coastal geomorphology of Scotland	-Favourable, maintained
	Clothister Hill Quarry (367)	-Mineralogy of Scotland	-Favourable, maintained
	Ronas Hill- North Roe (1370)	-Blanket bog -Montane assemblage -Arctic Water Flea (<i>Eurycercus glacialis</i>) -Breeding bird assemblage	-Unfavourable, recovering -Favourable, maintained
LNCS	West Sandwick (28)	-Coastal dunes/ Dune grassland	-Favourable
	Ollaberry Meadow (10)	-Coastal unimproved, herb rich meadow -supports Quaking Grass (<i>Briza media</i>)	-Unfavourable
	Maggie Kettle's Loch (46)	-Coastal tsunami deposit	-Favourable
	Brodigarth (41)	-Breeding Whimbrel (<i>Numenius phaeopus</i>) -Red-throated Diver (<i>Gavia stellate</i>)	-Unfavourable, declining -Favourable
	Burn of Twa-Roes (34)	-Native tree species -UKBAP Hawkweed (<i>Hieracium breve</i>)	-Favourable
	Voxter Wood (39)	-Valuable educational resource	-Favourable

Will the Master Plan...

- **Avoid negative impacts on protected species and habitats?**

During the zoning process the following designated sites and vulnerable species and habitats were classed as:

‘Not compatible with development’:

- Yell Sound Coast SAC
- SSMO Closed Areas
- Seal Haul Out Sites

‘Potentially incompatible with development’:

- Sullom Voe SAC
- Kelp area

- Horse mussels
- Dune area
- Important mud habitat
- Saltmarsh area
- Rock area
- Seal Haul Out Site 500m buffer zone

Impacts on these sites will be assessed at application level in accordance with policies set out within the draft SIRMP including those within *Policy Section B - Healthy and Diverse* which specifically protect vulnerable species and habitats.

The port of Sullom Voe is a major deep-water harbour and is owned and operated by Shetland Islands Council as Harbour Authority. The Sullom Voe Harbour Area was created to protect shipping coming in and out to the Sullom Voe Oil and Gas Terminal. The Sullom Voe Port Authority are legally responsible for port and harbour operations and for safeguarding shipping. In consultation with the Harbour Master, shipping routes in and out of the Sullom Voe Harbour Area were deemed 'not compatible with development' to prevent collisions/incidents which in turn will protect biodiversity and ecological status of the area.

The Inter-island ferry connecting the northern isles to mainland Shetland runs across the southeast end of the Harbour Area. Yell ferry operations were deemed 'not compatible with development' and the Yell ferry route was deemed 'potentially incompatible with development' during zoning to, in part, protect species and habitats from impacts of collision/incidents.

Damage to oil and gas pipelines has the potential to cause widespread environmental impacts. The five cables and pipelines located within the Harbour Area were classified as 'not compatible with development' including a 250m buffer zone to protect them from damage.

- **Avoid negative impacts which reduce habitats or species ability to provide ecosystem services?**

The previous guiding question explains the levels of protection offered to different designated areas, species and habitats during the zoning process of the draft Master Plan. Specific impacts on ecosystem services will be assessed at application level in accordance with policies set out within the draft SIRMP which include:

- *MP WAT1: Water Ecology* and *WAT2: Improving Water Quality and Ecology* (page 21) protect the quality of marine and coastal water bodies from the adverse effects of development and encourage the improvement of their ecological and environmental status.
- *MP INNS1: Reducing the Spread of Invasive Non-Native Species* (page 25) mitigates the chance of introducing non-native species into an area which could compete with native species for food and space, cause habitat alteration and changes in water quality, and transmit disease and parasites.
- *MP NOISE1: Minimising Levels of Surface Underwater Noise and Vibration* (page 30) assists in safeguarding marine biodiversity from the negative effects of noise such as, masking biologically relevant signals, behavioural reactions, impacts to hearing organs and injury and even death to marine life.
- *MP WST1: Waste Minimisation* (page 28) protects Shetland's biodiversity from the adverse effects of marine waste/litter.

- *MP CLIM1: Climate Change Mitigation and CLIM2: Climate Change Adaptation* (page 38) aim to minimise the cause and effects of climate change through mitigation and adaptation.

- **Protect and where possible enhance marine and coastal ecosystems and their interactions?**

Table 5.7 Table 5.7 provides details of the species and habitats offered protection through the zoning process of the draft Master Plan. In addition to these, all potential developments must comply with all policies within *Policy Framework Section (b) Healthy and Biologically Diverse* within the draft SIRMP which directly protect species and habitats from inappropriate development.

Table 5.7: Species and habitats protected through zoning

Exclusion	Type	Protects...
'Not compatible with development'	Protected Area	Yell Sound Coast SAC
		SSMO Closed Areas
	Protected Feature	Horse Mussels
		Dune Area
		Important Mud Habitat
		Saltmarsh Area
'Potentially incompatible with development'	Protected Area	Seal Haul Out Sites
		Sullom Voe SAC
	Protected Feature	Kelp Area
		Rock Area
		Seal Haul Out Site- 500m buffer

- **Safeguard and promote existing and new opportunities for people to appreciate and connect with coastal and marine environment within the Sullom Voe Harbour Area?**

Fishing within the Harbour Area is a long-established activity, as well as being economically important, it maintains the strong cultural connection between Shetlanders and the marine environment. Scallop dredging, squid and whitefish trawling areas were deemed to be 'not compatible with development' and static gear fishing (creels and pots) was deemed as being 'potentially incompatible with development' during the zoning process. In addition to this, all potential developments will need to comply with policy *MP FISH1: Safeguarding Fishing Opportunities* (page 104) within the draft SIRMP. These measures will limit damage to habitats or fish stocks ensuring a sustainable fishery for future generations.

Shetland's rich biodiversity, flora and fauna are valued by locals and attract tourists to the isles. There are areas of high scenic value within the Harbour Area such as NSAs and LLAs. Yell Sound is also an important area for cetaceans, seals, otters and breeding seabirds. The ferry between mainland Shetland and Yell runs within the Harbour Area and is used by tourists and locals wishing to visit the isles of Yell, Unst and Fetlar. The protection of these assets through the zoning process of the draft Master Plan (Table 5.7 Table 5.7) will assist in allowing for their continued appreciation by local communities as well as serve to continue to attract tourists to the area.

5.2.2 WASTE

Marine litter is a global problem which can cause considerable harm to marine wildlife (e.g. entanglement and ingestion) and to humans (e.g. sewage-related debris). Significant quantities of marine litter appear in the seas and on beaches around Shetland every year. Marine litter comes from a variety of sources both locally and internationally from land, ships or carried on ocean currents from distant shores. The most common type of marine litter found is plastics which can remain for centuries in the marine environment often as small micro-particles (<5mm) and pose a serious risk to marine life through ingestion and the subsequent toxic effects.

There are two key strategies that cover marine litter; the UK Marine Strategy and **A Marine Litter Strategy for Scotland**²⁶ developed by Marine Scotland.

The other form of 'waste' which has the potential to enter the marine environment is hazardous substances. They can accumulate in the marine environment at concentrations which could pose health risks to both humans and wildlife. Hazardous substances are released into the environment as a result of human activity such as, manufacturing, pest control and the burning of fossil fuels.

A full environmental assessment of the impact of waste on the Shetland Marine Region can be found in Section B *Condition of the region* within the 'Shetland Islands Marine Region State of the Environment Assessment', 2017.

Will the Master Plan...

- **Ensure adequate waste management measures are in place to prevent or minimise the creation of marine litter? Promote the re-use and recycling of materials, and aim to minimise waste where possible?**

Marine litter/waste was not explicitly considered as part of the zoning process of the draft Master Plan as this will be dealt with at development application level in accordance with the following policies:

draft SIRMP policies:

- *MP WST1: Waste Minimisation* (page 28) ensures waste from any potential developments is kept to a minimum and promotes the idea of 'avoid, reduce, re-use and recycle. Applications for potential marine-related developments are required to include a waste minimisation and management plan.
- *MP DEV2: Decommissioning of Assets* (pages 101-102) requires all marine-related developments to include a decommissioning plan to ensure the removal of redundant equipment thus limiting negative effects on the marine environment through waste/ marine litter.

SIC LDP policies:

- *W5 Waste Management Plans and facilities in all new developments* (page 54) requires terrestrial developments to submit a Site Waste Management Plan (SWMP) as part of the application process.

²⁶ <https://www.gov.scot/publications/marine-litter-strategy-scotland/>

5.2.3 WATER

Shetland's water resource underpins the productivity of many of its key industries, including fishing, aquaculture and tourism. It supports healthy and biologically diverse seas which are important for a number of ecosystem goods and services ranging from climate regulation to marine recreation, and fisheries.

The **Water Environment and Water Services (Scotland) Act (WEWS) 2003**²⁷, outlines a planning, management and reporting system based on 'River Basin Districts' and 'International River Basin Districts' for Scotland's water environment. It impacts on the management of water quality and water resources, affects conservation, fisheries, flood defence, planning and environmental monitoring. The initial focus was to achieve '*good ecological status*' for all waters (rivers, lakes, estuaries, ground waters and coastal waters out to 3 nautical miles) by 2015. For the Shetland area this objective was achieved. Improving and maintaining water quality in the Shetland Islands will be the focus of subsequent River Basin Management Plans.

The **UK Marine Strategy**²⁸ aims to achieve '*good environmental status*' (GES) of the UK marine environment by the end of 2020. GES involves protecting the marine environment, prevention of deterioration, restoration where practicable and sustainable use of marine resources.

The framework of policies within the draft SIRMP which all potential marine developments must adhered to, consider how activities can shape the Marine Region to support the goals of these Directives, as well as those of other relevant pieces of legislation.

Baseline environmental information for the Shetland Marine Region relating to 'Water' can be found in Section B *Condition of the region* within the 'Shetland Islands Marine Region State of the Environment Assessment', 2017.

Will the Master Plan...

- **Avoid pollution of the coastal and marine water environment?**

To protect sensitive habitats from impacts of development including risks from pollution, the following sites/ designations were:

'Not compatible with development':

- Yell Sound Coast SAC
- SSMO Closed Areas
- Horse mussels
- Dune areas
- Important mud habitat
- Saltmarsh area
- Seal haul out sites
- Navigation and ferry operations
- Pipes and cables

'Potentially incompatible with development':

- Kelp area
- Seal haul out 500m buffer zone
- Yell ferry route

²⁷ <https://www.legislation.gov.uk/asp/2003/3/contents>

²⁸ <https://www.gov.uk/government/publications/marine-strategy-part-one-uk-initial-assessment-and-good-environmental-status>

By protecting shipping routes, ferry operations and pipelines within the Harbour Area from incompatible developments the risk of collisions and incidents and subsequent environmental consequences are significantly reduced.

Issues relating to water quality and pollution risks will be assessed as part of the individual application process in accordance with policies set out within the draft SIRMP including those relating directly to water quality-

- *MP WAT1: Water Ecology* (page 21)
- *MP WST1: Waste Minimisation* (page 28)
- *MP PORT1: Harbour Plans* (page 32)
- *MP SHIP1: Safeguarding Navigation Channels and Port Areas* (page 32)
- *MP ACBP1: Avoidance of Cables and Pipelines* (page 36)
- *MP DEV2: Decommissioning of Assets* (pages 101-102)

- **Maintain and/or improve the ecological status and environmental status of the waters within the Sullom Voe Harbour Area?**

The introduction of a Master Plan for the Sullom Voe Harbour Area is not expected to improve ecological/ environmental status of its waters but through compliance with the policies within the draft SIRMP, water quality shall not be allowed to deteriorate and developments are actively encouraged to contribute to the improvement of water quality through the following policies:

- *MP WAT1: Water Ecology* (page 21)
- *MP WAT2: Improving Water Quality and Ecology* (page 21)

- **Avoid increasing flood risk from inappropriate developments in areas vulnerable to flooding?**

There were no areas specifically identified as vulnerable to flooding in the harbour area. All developments within the Harbour Area will have to go through the planning application process and thus conform to all policies with the draft SIRMP. Policies *MP CLIM1* and *CLIM2* (page 38) aim to minimise the cause and effects of climate change through mitigation and adaptation to protect areas vulnerable to sea level rise and for the overall benefit to the environment and community. Climate change is one of the biggest threats to the coastal environment, with sea levels and sea temperatures rising, extreme weather events such as storm surges and increased flooding and coastal erosion there is the potential for there to be significant impact to Shetland's water bodies.

5.2.4 AIR

Developments have the potential to contribute to air pollution directly but also lead to indirect impacts, for example, re-routing shipping can increase fuel use. In contrast, developments can also reduce overall carbon use by providing low carbon alternatives (e.g. renewables).

Baseline environmental data for the Shetland Marine Region relating to 'Air' can be found in Section B *Condition of the region* within the 'Shetland Islands Marine Region State of the Environment Assessment', 2017.

Will the Master Plan...

- **Enable the protection and/or enhancement of air quality?**

Due to its nature, air was not specifically considered during the zoning process of the draft Master Plan. Impacts of development on air quality will be considered at application level in accordance with the policies set out in the draft SIRMP including:

- *MP NOISE1: Minimising Levels of Surface and Underwater Noise and Vibration* (page 30)
- *MP CLIM1 and CLIM2: relating to climate change mitigation and adaptation* (page 38)

The Sullom Voe Harbour Area has the potential for the generation of renewable energy, and this draft Master Planning process may assist in site identification for the sector. It is believed that increasing the development of marine renewable resources is imperative to facilitating the delivery of international and national commitments on greenhouse gas emissions and renewable energy. Policies *MP NRG1, NRG2 and NRG3* (page 122-123) relate to renewable energy proposals including exploratory and prototype renewable energy proposals.

- **Prevent increase in fuel consumption for other sectors?**

Altering navigation routes can potentially impact fuel consumption leading to increased release of pollutants such as carbon and nitrogen. Navigation and the Yell ferry operations were classed as 'not compatible with development' and the Yell ferry route was classed as 'potentially incompatible with development' during the zoning process to protect these important routes within the Harbour Area.

At application level, policies *MP PORT1: Harbour Plans* and *MP SHIP1: Safeguarding Navigation Channels and Port Areas* (page 32) within the draft SIRMP require developers to consider the impacts of fuel consumption.

5.2.5 CLIMATIC FACTORS

Understanding the impacts and effects of climate change is key to maintaining a safe marine environment. The [UK Climate Change Risk Assessment](#) and [Marine Climate Change Impacts Partnership](#) provide scientific evidence of impacts and projections. Adaptation is necessary to address the potential impacts of these changes which are already occurring. Sea level rise, increased land and sea temperatures, extreme weather events, such as storm surges and increased flooding and coastal erosion will lead to increased vulnerability for development and significant change along parts of the Shetland coast.

Current monitoring indicates that an increase in sea temperatures around the coast of Scotland has already occurred, with a rise in surface sea temperature in Shetland of approximately 1°C since 1990²⁹.

Baseline environmental information for the Shetland Marine Region relating to 'Climatic Factors' can be found in Section B *Condition of the region* within the 'Shetland Islands Marine Region State of the Environment Assessment', 2017.

Marine planning in Shetland is based on an ecosystem approach, which ensures that the use of the marine environment is spatially planned where appropriate and requires current and future marine

²⁹ [ICES Marine Data](#)

related activities to address and include provision for the impacts of climate change. All new and modified developments will have regard to climate change projections, and include provision for the mitigation of and adaptation to climate change impacts.

Will the Master Plan...

- **Support climate change mitigation by promoting marine renewable energy developments and contribute to the adaptation to climate change?**

All potential developments will need to comply with the policies set out within the draft SIRMP including those directly relating to climate change:

- *MP CLIM1: Climate Change Mitigation* (page 38)
- *MP CLIM2: Climate Change Adaptation* (page 38)

The Sullom Voe Harbour Area has the potential for the generation of renewable energy. It is believed that increasing the development of marine renewable resources is imperative to facilitating the delivery of international and national commitments on greenhouse gas emissions and renewable energy, and the transition to a low carbon economy. Policies *MP NRG1*, *NRG2* and *NRG3* (page 122-123) within the draft SIRMP relate to renewable energy proposals including exploratory and prototype renewable energy proposals.

5.3 SOCIO-ECONOMIC SA TOPIC APPRAISAL

5.3.1 POPULATION AND HUMAN HEALTH

The marine and coastal environment around Shetland including the Sullom Voe Harbour Area is important to local residents and visitors. It is used for a variety of leisure and recreational activities from swimming, sailing and scuba diving to hiking, climbing and wildlife watching. The coast also provides inspiration for a range of artistic, cultural and community activities and informal activities such as dog walking. These activities support and enhance the local community through social interaction, improving quality of life and providing benefits to physical and mental well-being.

Baseline environmental information for the Shetland Marine Region relating to 'Population and Human Health' can be found in Section A *Overview* (Human habitation) and Section C *Productive* (Leisure, recreation and tourism) within the 'Shetland Islands Marine Region State of the Environment Assessment', 2017.

Will the Master Plan...

- **Maintain quality of life benefits for the people and communities around the Sullom Voe Harbour Area?**

The extensive consultation phases of the draft Master Plan gave local communities within the Harbour Area opportunity to inform the Plan of areas/activities that they value. This led to fishing areas (an important historical and cultural industry in the area) to be classed as 'not compatible with development (whitefish and squid trawling and scallop dredging) and 'potentially incompatible with development' (static fishing). Marine based recreational activities and scenic

areas specifically identified by local communities being classified as ‘potentially incompatible with development’.

- **Promote access to coastal and marine resources for tourism and recreation?**

Marine recreation within the Harbour Area was identified as:

- Kayaking
- Rowing
- SCUBA diving
- Surfing

As part of the zoning process all of these were deemed to be ‘potentially incompatible with development’

One of the features that draw tourists to Shetland is the diversity of wildlife and stunning scenery. During zoning designated protected areas were deemed ‘not compatible with development’ (Yell Sound Coast SAC and SSMO Closed Areas) and ‘potentially incompatible with development’ (Sullom Voe SAC) in addition to this the following specific sensitive habitats were also classified as:

‘Not compatible with development’:

- Horse mussels
- Dune area
- Important mud habitat
- Saltmarsh area
- Seal haul out site

‘potentially incompatible with development’:

- Kelp area
- Rock area
- Seal haul out site 500 m buffer
- National Scenic Areas
- Scenic areas

The coastal and marine areas within the Harbour Area are rich with historical heritage sites including scheduled monuments, listed buildings and submerged recorded sites. During the zoning process scheduled monuments and archaeological views were classified as ‘potentially incompatible with development’

In addition to these measures, all potential developments within the Harbour Area will need to comply to all policies within the draft SIRMP and the SIC LDP.

- **Help to avoid adverse effects on human health through poor planning resulting in water pollution and nuisance effects such as noise?**

The Sullom Voe Harbour Area is an important shipping route for oil tankers to the Sullom Voe Oil and Gas Terminal. The ferry connecting the northern isles to mainland Shetland passes across Yell Sound. Therefore, safe shipping was a priority during the zoning process of the draft Master Plan. Navigation operations and Yell ferry operations were existing uses deemed to be ‘not compatible with development’ and the Yell ferry route was deemed as being ‘potentially incompatible with development’.

There are seven pipelines running through the Sullom Voe Harbour Area into the Sullom Voe Oil and Gas terminal along with two submarine utility cables. To avoid damage to these and minimise risks of pollution, these cables and pipelines (including a 250m buffer zone) were deemed ‘not compatible with development’.

All potential applications within the Harbour Area, as with the whole of Shetland, must go through a rigorous marine planning process which includes complying with all policies set out within the draft SIRMP and the SIC LDP and its associated Supplementary Guidance. There are specific policies within the draft SIRMP relating to: noise (*MP NOISE1* page 30), water ecology and improving water quality (*MP WAT1 & WAT2* page 21), climate change mitigation and adaptation (*MP CLIM1 & CLIM2* page 38), waste minimisation (*MP WST1* page 28) and decommissioning of assets (*MP DEV2* page 101-102).

- **Contribute to the growth of marine activity and development without detriment to another?**

The process of creating potential development zones within the draft Master Plan seeks to facilitate growth, whilst protecting existing industry. Through consultation with industry, organisations and the general public areas of existing use have been mapped, to identify areas suitable for growth.

- **Help to promote employment creation and therefore support the local economy?**

Creating zones for potential developments whilst protecting existing marine industries within the Harbour Area will provide new employment opportunities and protect existing jobs within a remote rural area where employment opportunities are limited.

- **Promote engagement in marine planning?**

The consultation process for the draft Master Plan engaged with a wide range of participants from industry, government and non-government organisations, and the general public some of whom may not have engaged with or been aware of marine planning in the past.

All potential developments within the Harbour Area will need to comply with all policies within the draft SIRMP including policy *MP COM1: Community Considerations* (page 94) which requires developers to engage directly with the local community through a consultation process. All relevant local stakeholders, community councils, community groups and other marine and coastal users should be consulted. Policy *MP DEV1: Marine Developments* (page 101) ensures that any proposal for marine-related development must take into consideration the impacts on other marine users. It requires developers to engage in pre-application discussions with adjacent marine users and the local community councils.

5.3.2 ECONOMY

Fishing, crofting and the production of knitwear are the oldest traditional industries in the isles. In the 15th century islanders first started to internationally trade with German merchantmen. Trade focused on the sale of salt fish, butter and wool.

In the 1970s Shetlands economic prosperity boomed, first with increased profitability of the traditional industries such as fishing and knitwear, then with the discovery of oil in the east Shetland basin and the subsequent building of Sullom Voe Terminal. During the construction phase up to 7000 workers were accommodated in Shetland. The Sullom Voe Terminal development led to increased employment opportunity and pay. Shetland also benefited through a charge on every barrel of oil brought through the terminal. This income has been used to invest in new industries and improve infrastructure.

During the 1980s the development of aquaculture created a new industry in Shetland and is now one of Shetland's largest employers. Pelagic, demersal and shellfish fishing have remained important industries creating both direct and indirect employment across Shetland. Boats have remained in local ownership which has benefited the local community by helping to retain profits within Shetland.

New large-scale infrastructure projects have created significant employment opportunities, with construction of the 'Shetland Gas Plant' from 2010 to 2016, at its peak employing over 2000 workers.

Tourism is currently of high economic value to the isles employing 865 FTE³⁰ in 2017 and was worth approximately £23.1m³¹ and it is considered that there is significant scope for growth.

It is expected that in the future marine renewables could also provide employment opportunities as Shetland has significant wave and tidal resource, with the council revealing plans in 2020 to create a Shetland Energy Hub.

Baseline environmental information for the Shetland Marine Region relating to 'Economy' can be found in Section A *Overview* (Human habitation) and Section C *Productive* within the 'Shetland Islands Marine Region State of the Environment Assessment', 2017.

Will the Master Plan...

- **Provide clear links between ecosystem health and the industries which are dependent upon them allowing effective protection and management?**

Maintaining clean, safe and healthy waters around Shetland, including within the Harbour Area is key to the marine environment continuing to fulfil its role in the provision of goods and services including those required by local industries i.e. jobs, fisheries, food, marine transportation, trade and energy. Ecosystem health was fully considered during the zoning process of the draft Master Plan. Protected areas and sensitive species and habitats that make up marine ecosystems were considered during the zoning process to protect habitats which support economic activity. In addition, shipping channels, cables and pipelines are protected which will reduce the risk of accidental damage or collisions which could cause harmful pollutants to enter the marine environment.

All potential developments must comply with all policies within the draft SIRMP which include a number of policies which directly and indirectly protect ecosystem health such as climate change adaptation and mitigation, water quality, prevention and reduction of invasive non-native species waste management and the decommissioning of assets.

- **Promote co-existence and co-use of marine space?**

The process of creating the draft Master Plan and consulting with industry, organisations and communities has ensured that all the aspects of the marine environment valued by these diverse groups has been considered. These collective views were directly used to create the zones for potential developments within the draft Master Plan. While areas considered unsuitable for development were excluded from search during zoning, where co-existence was considered possible these areas were included within development zones. Where co-use with existing users

³⁰ Shetland Islands Council. Shetland Employment Survey 2017

³¹ VisitScotland and Shetland Islands Council. Shetland Islands Visitor Survey 2017

may be possible these were classified 'features/ uses potentially incompatible with development' but not excluded from search.

In addition, all potential developments must comply with all policies within the draft SIRMP including Policy *MP DEV1: Marine Developments* (page 101) which specifically requires potential marine developments comply with all policies included in Policy Framework Sections (a) and (b) which includes consideration of other sectors. It promotes co-use and co-location and provides a clear development steer, which should help to provide transparency, minimise delays, reduce conflict and therefore potentially costs.

- **Assist in inter-island and remote community connectivity?**

The inter-island ferry runs across Yell Sound connecting the northern isles of Yell, Unst and Fetlar with the Shetland mainland. This service is essential for commuting locals, transportation of goods and for tourism. During the zoning process, Yell ferry operations were classified as 'not compatible with development' and the Yell ferry route was classified 'potentially incompatible with development' to protect this lifeline service.

There are two submarine utility cables providing the northern isles of Yell, Unst and Fetlar with electricity and telecommunications. These services are essential for the connectivity of these remote island communities and allows for economic stability and growth in these areas. For this reason, during zoning these cables (including a 250m buffer zone) were deemed to be in areas 'not compatible with development' to prevent damage from potential development.

- **Safeguard fishing opportunities by identifying and protecting important fish habitats, nursery grounds and fishing grounds?**

Fishermen and the organisations supporting them (SSMO and Shetland Fishermen's Association) were directly approached as part of the consultation process for the draft Master Plan. The outcome was the identification of significant fishing areas within the Harbour Area. During the zoning process, scallop dredging, squid and whitefish trawling were deemed to be 'not compatible with development' and fishing with static gear (creels and pots) was classified 'potentially incompatible with development' to protect this industry which is so important to this remote rural community.

In addition, all potential developments within the Harbour Area must comply with all policies within the draft SIRMP including *MP FISH1: Safeguarding Fishing Opportunities* which specifically relates to the protection of fishing areas.

In addition, by providing zoned areas for potential development, the draft Master Plan will have a positive economic impact through job creation and increased income into the local economy which, being a remote area, has limited job opportunities.

5.3.3 MATERIAL ASSETS

Material assets are mostly linked to existing marine and coastal development. Within the Harbour Area they include marine industry related assets such as, utility cables and oil and gas pipelines, and coastal infrastructure relating to industry, recreation and tourism such as moorings, piers, marinas,

ferry terminals etc. They are critical for the running of many industries as well as for connectivity and transportation links for the local community.

Baseline environmental information for the Shetland Marine Region relating to 'Material Assets' can be found in Section C *Productive* within the 'Shetland Islands Marine Region State of the Environment Assessment', 2017.

Will the Master Plan...

- **Promote the efficient and effective sustainable use of environmental resources.**

The Master Planning process seeks to promote efficient and effective use of environmental resource through the zoning process which considers other uses, users and the environment. Important fishing areas within the Harbour Area were mapped during the consultation phases. Scallop dredging, and squid and whitefish trawling were deemed to be 'not compatible with development', and fishing with static gear (creels and pots) was classified as 'potentially incompatible with development' to protect this economic and culturally important resource. In addition to this, fishing opportunities are protected within the draft SIRMP under policy *MP FISH1: Safeguarding Fishing Opportunities* (page 104) which sets out the key considerations for developers to protect important fishing grounds. In safeguarding marine fisheries, the existing infrastructure which supports this industry is also protected.

- **Promote the sustainable use of existing infrastructure wherever possible?**

All potential developments will need to comply with all policies within the draft SIRMP including the following policies which encourage the use of existing infrastructure.

- *MP DEV1: Marine Developments* (page 101)
- *MP DEV2: Decommissioning of Assets* (page 101-102)
- *MP WST1: Waste Minimisation* (page 28)

5.4 ASSESSING ALTERNATIVES

There is a requirement to consider appropriate alternatives to the draft Master Plan as part of the SEA/SA process.

In terms of alternatives to the draft Sullom Voe Harbour Area Master Plan two scenarios are considered:

- a) 'Do-nothing' scenario, i.e. continue under the current approach to management including using existing Aquaculture Policy and the Shetland Islands Regional Marine Plan;
- b) Create spatial guidance for future and existing use within the Sullom Voe Harbour Area to identify prospective areas of use and clearly identify existing constraints (environmental, existing users/ uses)

The assessment of alternatives is integral to the SEA process. In considering the effects of these in relation to each of the main SA topic areas, the assessment will take full account of the options proposed and the likely effects on the environment in the absence of the draft Master Plan.

Each option is considered against SA topics, whether it is likely to show a positive impact (✓), neutral (=) or negative impact (x).

5.4.1 OPTION 1- DO NOTHING SCENARIO

The 'do-nothing' scenario, i.e. continue under the current approach to management including using existing Aquaculture Policy and the Shetland Islands Regional Marine Plan, means that finfish and shellfish aquaculture development would not be permitted in Sullom Voe but other development types would, subject to conditions within the draft SIRMP. Opportunities to implement area specific guidance would not be achieved. Economic benefits from aquaculture development would not be possible.

The impact of this option on each SA topic is considered in the table below:

Topic	Impact ✓/=/x
Soils, Geology and Coastal Processes	X
Cultural Heritage	X
Seascape and Landscape	X
Biodiversity, Flora and Fauna	X
Air	=
Waste	X
Water	X
Climatic Factors	=
Population and Human Health	X
Economy	X
Material Assets	X

5.4.2 OPTION 2- CREATE SPATIAL GUIDANCE

Creating a spatial guidance document in the form of the draft Master Plan for the Sullom Voe Harbour Area allows for the creation of zoned areas through the identification of existing uses and constraints. It allows for the guidance of potential developments to the most appropriate areas whilst avoiding conflict with other marine users.

The impact of this option on each SA topic is considered in the table below:

Topic	Impact ✓/=/x	Change from 'do nothing' ✓/=/x
Soils, Geology and Coastal Processes	=/✓	✓
Cultural Heritage	X/=	✓
Seascape and Landscape	X/✓	✓
Biodiversity, Flora and Fauna	X/✓✓	✓

Air	=/✓	✓
Waste	=	✓
Water	✓✓	✓
Climatic Factors	=/✓	✓
Population and Human Health	✓	✓
Economy	✓✓	✓
Material Assets	✓✓	✓

Option 2 will provide positive impacts across all topic areas. The draft Master Plan will assist the development applications process by identifying suitable areas for development and potential constraints at the feasibility and pre-application stage leading to reduced delays and costs. By guiding development types to the most suitable areas within the Harbour Area, current uses, natural resources and community values are protected. The policy will be consistent across all potential development types and not limited to aquaculture, ensuring a consistent approach. **Option 2 is therefore the preferred option.**

6 CUMULATIVE EFFECTS

Cumulative effects can be defined as effects that occur where several individual activities which each may not have a significant effect, combine to have a significant effect. The [Environmental Assessment \(Scotland\) Act 2005](#) requires that the cumulative environmental effects of the draft Master Plan are identified and evaluated. Professional judgement has been used to derive the potential cumulative effects of the draft Master Plan in-combination with other plans or projects.

This part of the SA will focus on the potential cumulative effects of the draft Master Plan, draft SIRMP, the National Marine Plan (NMP), the Shetland Islands Council Local Development Plan (SIC LDP) and wider legislative framework. The draft Master Plan sits beneath the draft SIRMP and SIC LDP which in

turn sit beneath the NMP and alongside other planning, legislative and regulatory regimes (

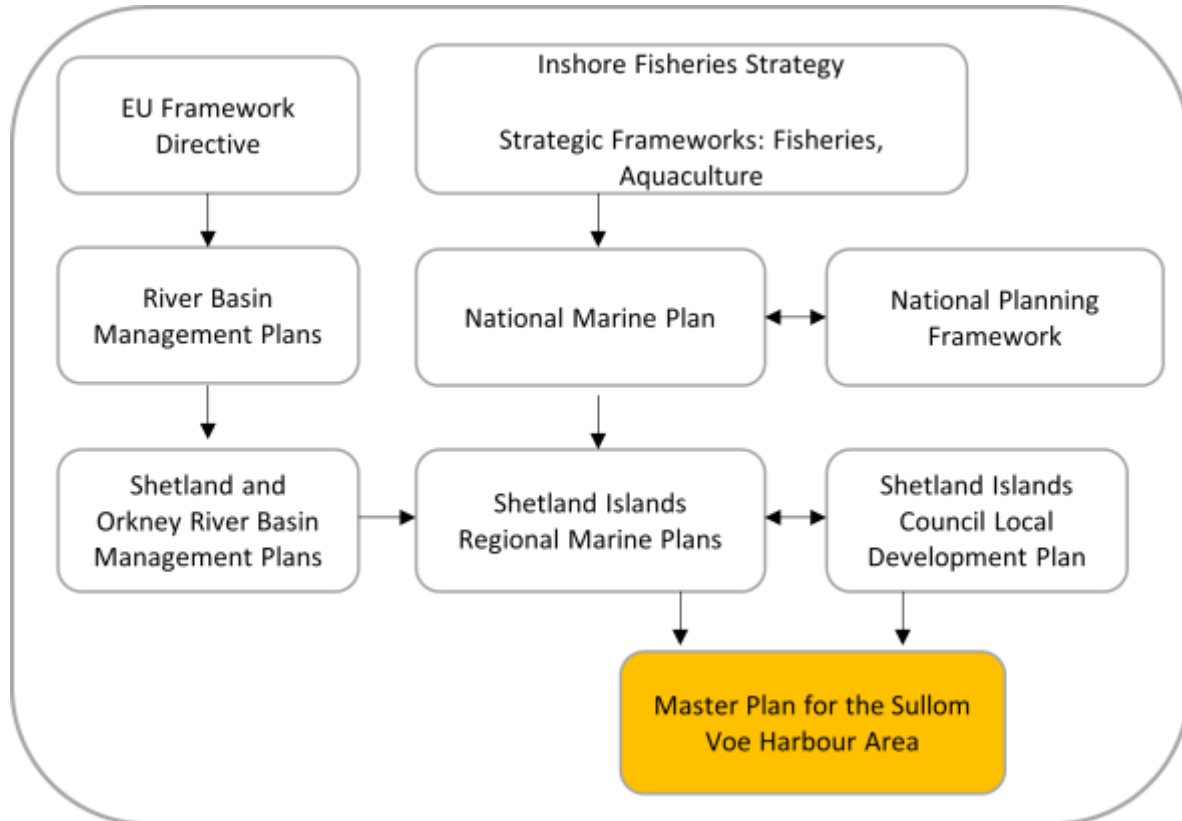


Figure 6:1). The draft SIRMP and the SIC LDP work together to set out a framework of social, economic and environmental policies which identify the issues to be taken into account when making decisions about projects and/ or activities in the marine and terrestrial environments. A review of the draft Master Plan, draft SIRMP and SIC LDP against the SEA objectives demonstrates how the plans will work together (**Error! Reference source not found.**).

The draft Master Plan, draft SIRMP, NMP and the SIC LDP include a presumption for sustainable development and use. While the draft Master Plan and policies within the draft SIRMP, NMP and SIC LDP encourage economic growth, these have the potential to result in effects on the qualifying interest of European sites. This is balanced by policy requirements which prohibit impacts on European sites.

The cumulative effect of this policy framework is that economic growth is supported, focusing on the right type of development in the right place. The policy frameworks work together to avoid the potential adverse effects of development in both coastal and marine environments. This draft Master Plan uses these legislative and policy frameworks to provide more detailed spatial guidance on where development may occur. In this way the cumulative effect of the policy framework is to reduce potential impacts on the environment and other users and uses. The proposal of the developments within the identified zones does not guarantee development success, as developers are still required to adhere to the wider legislative and policy frameworks. Cumulative effects of specific proposals will be assessed at the individual licence application level.

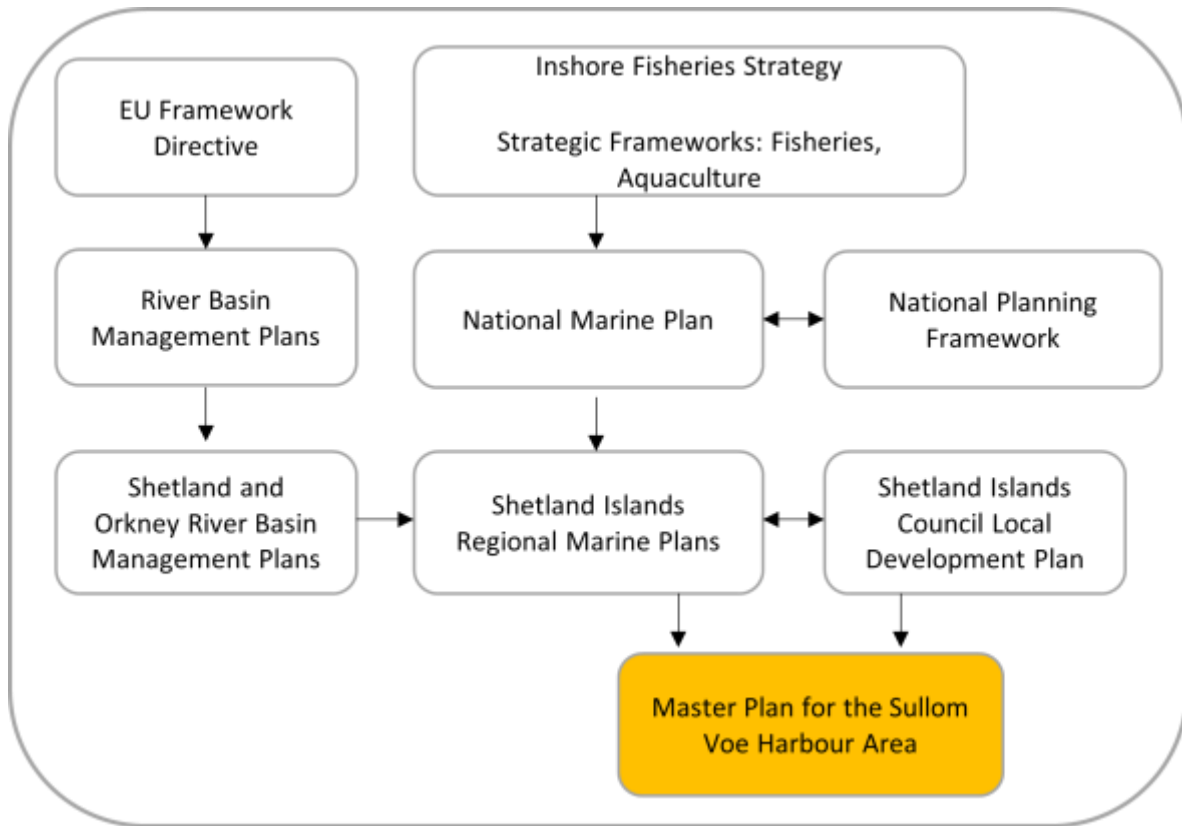


Figure 6:1 Master Plan policy context (terrestrial and other planning/regulatory regimes).

Table 6.1. Cumulative Effects of the draft Master Plan, draft SIRMP and SIC LDP.

Will the Master Plan, draft SIRMP and SIC LDP...	Relevant SA Topic
Support the development of a sustainable marine economy?	<p>All three plans support economic growth and will support proposals that will result in economic benefits to the local community including safeguarding and creation of jobs. They note that economic benefits should be a consideration in decision-making and emphasise the need for fairness and transparency in decision-making. Applications for development which contribute to the development of strong, healthy, vibrant and sustainable rural communities will be supported.</p> <p>Community considerations were taken into account during the consultation phases of the draft Master Plan and both the draft SIRMP and SIC LDP have general policies in place to protect the community and existing marine users. They note that developments should be planned to meet the economic and social needs of Shetland, (including the Sullom Voe Harbour Area) in a manner that does not compromise the ability of future generations to meet their own needs and to enjoy the area's high-quality environment.</p> <p>All marine users of the Harbour Area had the opportunity to engage with the draft Master Plan consultation process and zoned areas were created based on these consultation responses. In addition, all policies within the draft SIRMP require developers to consider and consult with other marine users in the area early in the application process.</p>
Contribute to the growth of any marine industry without detriment to another?	
Safeguard and/or create jobs that support new or existing communities?	
Remove or avoid barriers to new marine enterprise opportunities?	
Maintain or improve the accessibility and connectivity of remote island and coastal communities?	<p>All the plans recognise the importance of good connectivity within the remote, rural communities not only for business and industry but for the population's health and well-being. Measures were taken during the zoning process of the draft Master Plan to protect connectivity. Utility cables including a 250m buffer zone were excluded from potential development areas to protect them from damage. The draft SIRMP and SIC LDP have policies both protecting existing connectivity infrastructure and for the development of new and updated connectivity developments.</p> <p>The plans recognise that the continuation and development of an efficient and integrated transport system is essential to meet the long-term social and economic needs of Shetland. During the zoning of the draft Master Plan, Yell ferry operations were excluded from potential development areas and the area covering the Yell Ferry route is only suitable for developments which will not conflict with the safe operation of the ferry. The draft SIRMP and SIC LDP have policies regarding transport links including ports, harbours and ferry terminals. The plans will work together to provide cohesive links between marine transport and the terrestrial infrastructure required for them.</p>
Promote access to the coastal and marine resource for tourism and recreation?	
Contribute to the resilience and cohesion of coastal and island communities?	

Will the Master Plan, draft SIRMP and SIC LDP...	Relevant SA Topic
	It is recognised by all plans that tourism is of great value to the isle's economy and that good access to Shetland's marine and coastal attractions (natural heritage, historic assets and leisure activities) is maintained and promoted for the benefit of both visitors and residents.
Avoid disturbance of key species as a result of marine activities?	Designated protected areas as well as undesignated sensitive species and habitats were either completely avoided during the creation of potential development zones or only developments that will not have an impact on these areas will be potentially accepted. Developments will be assessed at application level.
Safeguard marine and coastal ecosystems and their interactions?	Both the draft SIRMP and the SIC LDP have policies in place to protect internationally, nationally and locally important natural heritage sites. The plans will work together to protect both the terrestrial, coastal and marine habitats and species within these protected sites.
Avoid pollution of the coastal and marine water environment?	As the Sullom Voe Harbour Area is an important shipping route in and out of the Sullom Voe Oil and Gas Terminal, and an incident involving these vessels has the potential to have catastrophic environmental impacts, the shipping routes were completely excluded from any potential development zones during the creation of the draft Master Plan.
Maintain and/ or improve the ecological status of Scottish waters?	<p>All potential developments within the Harbour Area will be assessed at application level and both the draft SIRMP and SIC LDP have policies in place to protect, preserve and improve water quality in marine and freshwater environments ensuring there is no deterioration in the ecological status of a watercourse or waterbody.</p> <p>Likewise, both plans have policies relating to waste. All potential developments must have consideration of waste/ redundant equipment relating to the development and must have a waste management plan in place. They are also encouraged to adopt the waste hierarchy of reduce, re-use or recycle.</p>
Avoid adversely impacting on air quality, with particular regard to known existing concentrations of transport and industrial related pollution close to the coast?	As all new potential developments within the zoned areas of the draft Master Plan will have to go through the full application process, the draft Master Plan itself will not have a direct effect on air quality. The draft SIRMP will help to protect existing marine transport links including ferries, ports and navigation routes. The SIC LDP does not have the equivalent terrestrial specific policies.
Reduce greenhouse gas emissions from vessels and other marine activities?	All plans acknowledge the need to address climate change. The draft SIRMP has policies which specifically relate to climate change and the need for developers to consider climate change adaptation and mitigation in their applications.

Will the Master Plan, draft SIRMP and SIC LDP...	Relevant SA Topic
Contribute to adaptation to climate change?	The Sullom Voe Harbour Area has the potential to site marine renewable energy devices within the zoned areas set out in the draft Master Plan and contribute towards national targets set by the Scottish Government. Any new developments will need to comply with policies in both the draft SIRMP and SIC LDP relating to renewable energy. All plans support appropriate development in this sector.
Improve understanding and knowledge about the marine historic environment?	The historic environment was directly considered during the creation of the potential development zones within the draft Master Plan. Zones were created to avoid negative impact on Scheduled Monuments and what were identified during consultation as important archaeological views. Both the draft SIRMP and the SIC LDP (including Supplementary Guidance 'Historic Environment') include policies to promote the care and protection of the designated and non-designated historic environment around the isles. The historic assets are recognised as having particular value to both the local community and in attracting visiting tourists. The draft SIRMP and SIC LDP will presume in favour of the protection, conservation and enhancement of all elements of Shetland's historic environment.
Protect the site and setting of marine and coastal historic environment features?	
Ensure that the value and special qualities of designated landscapes is protected?	Landscape and seascape within the Sullom Voe Harbour Area were identified as being of high value to local communities and one of the reasons tourists are attracted to the area. Impacts on landscape and seascape were taken into account during the creation of the potential development zones. Both the draft SIRMP and SIC LDP include policies to protect landscape and seascape, both designated and non-designated. They apply to all potential developments within terrestrial, coastal and marine environments. All potential developments must not adversely affect the integrity of the area, qualities or protected features for which they are designated and must have taken into account the existing character and quality of the local landscape/ seascape. Reference is also made to 'wildness' and 'open space'. The SIC LDP has a supplementary guidance document relating specifically to open space.
Recognise and respect the value of wider (non-designated) landscapes and seascapes?	
Encourage sectors to take into account the relative sensitivities of different seascapes?	
Avoid exacerbating coastal erosion?	There are no areas of coastal erosion within the Sullom Voe Harbour Area, so this was not explicitly considered during the zoning process.
Maintain the integrity of coastal processes?	The draft SIRMP has policies that deal specifically with coastal defence construction and coastal defence demolition to maintain the integrity of the coast and to avoid erosion. The draft SIRMP also has policies to

Will the Master Plan, draft SIRMP and SIC LDP...	Relevant SA Topic
Maintain and protect the character and integrity of the seabed?	<p>protect the seabed and coastal processes. The SIC LDP has the equivalent terrestrial policies relating to soils and geodiversity which will include the coastal zone.</p> <p>Both plans have policies on climate change (which has the potential to have a significant effect on coastal erosion through sea level rise and an increase in extreme weather events).</p>

7 MITIGATION

Schedule 3 (8) of the [Environmental Assessment \(Scotland\) Act 2005](#) requires that mitigation measures are integrated into the plan making process. Environmental protection and best environmental practice were fully considered during the zoning process and creation of the draft Master Plan. During the zoning process, areas were either classed as ‘not compatible with development’ or ‘potentially incompatible with development’, resulting in discreet areas where development may be permitted.

Each potential new development will need to comply with all policies within the draft SIRMP and SIC LDP, developers will need to adhere to all relevant mitigation measures within each of the policies. It also directs developers to the key consultees who can provide guidance and best practice guidelines and it is strongly advised that developers consult with these agencies early in the application process.

This assessment has not identified any significant effects arising from the draft Master Plan; therefore, the focus of further monitoring will be on unanticipated effects. It is anticipated that the SIC will continue to work closely with key stakeholders, including the Shetland Marine Planning Partnership, Government agencies, community and industry representatives.

8 MONITORING

Section 19 of the [Environmental Assessment \(Scotland\) Act 2005](#) sets out the requirements for monitoring of the Master Plan’s implementation. Shetland Islands Council, as the responsible authority, is required to monitor the significant environmental effects of the implementation of the Master Plan for which it has carried out an environmental assessment. A formal review will be conducted within 5 years of the Master Plan being adopted.

The review will determine how the Plan is being implemented and will monitor and appraise the environmental and socio-economic effects of its implementation and how it can be improved to address any shortfalls. The use of ‘indicators’ to measure how the environmental baseline has altered will be an effective tool in determining change. Indicators can comprise both quantitative (facts and figures) and qualitative (descriptive) information. The indicators selected will monitor change that results from implementing the Master Plan but will also take account of changes as a result of other external factors. They will therefore provide a mechanism to highlight unforeseen as well as expected changes. The indicators that will be used to monitor the Master Plan for each SEA/SA Topic can be found in Table 4.3.

9 CONCLUSIONS

The zoning process has been designed to protect known environmental, socio-economic and cultural assets. The draft Master Plan provides area specific clarity to policies within the draft SIRMP and the SIC LDP. Whilst applications will be permitted within the zoned areas, these applications will still have to adhere to the wider policies within relevant plans, policies and regulations. These Environmental Report highlights a reduction in potential environmental impacts due to this zoning process.

10 NEXT STEPS

The areas identified as potentially suitable for development will be subject to public consultation, alongside this Environmental Report. If adopted, applications for development will then be permitted. All development proposals will need to adhere to all relevant policies and legislation, and will be assessed by the Shetland Islands Council, Marine Scotland and other relevant agencies as appropriate e.g. Nature Scot.

11 LINKS TO IMPORTANT PLANS, GUIDANCE AND LEGISLATION

[Environmental Assessment \(Scotland\) Act 2005](#)

[Marine \(Scotland\) Act 2010](#)

[HM Government. 2011. UK Marine Policy Statement. HM Government, Northern Ireland Executive, Scottish Government and Welsh Assembly Government.](#)

[The Scottish Government. 2013. Strategic Environmental Assessment Guidance.](#)

[HM Government. 2005. A practical guide to the Strategic Environment Assessment Directive. HM Government, Northern Ireland Executive, Scottish Government and Welsh Assembly Government.](#)

[Scottish Government. 2016. Strategic Environment Assessment: integrating an ecosystem approach.](#)

[Shetland Islands Council. 2014. Shetland Local Development Plan](#)

[Scottish Government. 2015. Scotland's National Marine Plan. A Single Framework for Managing Our Seas.](#)

[Scottish Government. 2013. Scotland's National Marine Plan. Sustainability Appraisal Report](#)

[NAFC Marine Centre. 2012. A Marine Spatial Plan for the Shetland Islands. \(3rd Edition\)](#)

[NAFC Marine Centre. 2014. A Marine Spatial Plan for the Shetland Islands. \(4th Edition\)](#)

[NAFC Marine Centre. 2014. Shetland Islands' Marine Spatial Plan \(4th Edition\). Strategic Environment Assessment-Environmental Report](#)

[NAFC Marine Centre. 2014 Shetland Islands' Marine Spatial Plan \(4th Edition\). Strategic Environmental Assessment-Post Adoption Statement](#)

[NAFC Marine Centre. 2019. Draft Shetland Islands Regional Marine Plan \(draft SIRMP\).](#)

[Kelly, C., Gray, L., Shucksmith, R. and Tweddle, J. 2012. Review of the Marine Spatial Plan for the Shetland Islands. NAFC Marine Centre.](#)

[Shucksmith, RJ \(2017\) Shetland Islands Marine Region State of the Marine Environment Assessment. NAFC Marine Centre UHI. Report for the Shetland Islands Marine Planning Partnership. pp172](#)

[Scottish Government. 2018. Sectoral Marine Plan for Offshore Wind Encompassing Deep Water Options-Strategic Environmental Assessment Screening and Scoping Report.](#)

12 APPENDIX A

12.1 RELATIONSHIP WITH OTHER PLANS, PROGRAMMES, STRATEGIES AND ENVIRONMENTAL OBJECTIVES

Name of PPS, Convention, Treaty or Directive	Overview of key objectives	Implications and/or relationship with the Sullom Voe Harbour Area Master Plan
Marine – Overarching		
United Nations Convention on the Law of the Sea (UNCLOS)	UNCLOS provides an overarching framework for the marine environment. It sets national jurisdictions and establishes rights of navigation and the legal regime of the high sea. It provides the legal basis for the protection and sustainable development of the marine environment and addresses environmental control, scientific research economic activities and the settlement of disputes. UNCLOS introduced the concept of Exclusive Economic Zones (EEZ). UNCLOS covers virtually all uses of the sea including navigation and over-flight, resource exploration and exploitation, conservation and pollution fishing and shipping.	Sullom Voe Harbour area is an important navigational route for ferries, fishing vessels and freight (it is part of the Inshore Traffic Route). Consideration will need to be given to protecting the right of navigation.
The OSPAR Convention	The 1992 Convention for the Protection of the Marine Environment of the North East Atlantic aims to contribute to the control and prevention of marine pollution within the waters of the North East Atlantic (which includes all UK waters), as well as scientific co-operation in assessing the quality of these waters. Annex V of the OSPAR convention also provides for the adoption of programmes and measures to assist management of human activities that can have an adverse impact on the marine environment. Marine spatial planning was included in the OSPAR Biodiversity Committee's work programmes in 2003-04. Currently there are five annexes in force which deal with: prevention and elimination of pollution from land-based sources by dumping or incineration and from offshore sources; assessment of the quality	The Master Plan must consider measures to prevent pollution and protect and conserve the ecosystem of the maritime area and include provision for priority species and habitats. Activities will be required to be compliant with national legislation implementing OSPAR recommendations and decisions.

	of the marine environment; and protection and conservation of the ecosystem and biological diversity of the marine area.	
Guidelines for an Integrated Approach to Maritime Policy: Towards Best Practice in Integrated Maritime Governance and Stakeholder Consultation. (COM/2008/395)	These guidelines aim to provide a holistic approach on how to handle maritime affairs as an increasing number of governments in Europe, and all over the world, are signing up to a new, cross-cutting, integrated approach to the governance of maritime affairs. Member States should develop their own national integrated maritime policies, embracing economic, social, cultural and environmental contexts, with active stakeholder participation and being implemented through marine spatial planning.	The Master Plan should consider how best to support the implementation of a holistic approach to marine governance.
Safeguarding Our Seas: A Strategy for the Conservation and Sustainable Development of our Marine Environment. Defra (2002).	This report sets out a vision for the marine environment - clean, healthy, safe, productive and biologically diverse oceans and seas. It is underpinned by the principles of sustainable development, integrated management, the conservation of biological diversity, robust science, the precautionary principle and stakeholder involvement. It outlines an ecosystem-based approach to marine management to better integrate marine protection objectives with sustainable social and economic goals. It covers the broad spectrum of policies that affect the marine environment.	Consider the Master Plan in the context of the UK policy for the marine environment.
Seas the Opportunity: A Strategy for the Long-Term Sustainability of Scotland's Coasts and Seas. Scottish Government (2005)	This is founded on the same 5 sustainable development guiding principles as the Securing the Future – UK Government sustainable development strategy (2005): living within environmental limits, ensuring a strong, healthy and just society, using sound science responsibly, promoting good governance and achieving a sustainable economy. It specifically states that this will be delivered through developing the concept of marine spatial planning.	Consider the Master Plan in the context of the UK policy for the marine environment and ICZM.
Marine and Coastal Access Act, 2009 and Marine Scotland Act, (2010).	The 2009 and 2010 Acts provide a statutory framework for a more simplified marine planning and licensing system. The main management measures introduced as part of the 2010 Marine Act include marine planning, marine licensing, marine conservation, seal conservation, and enforcement.	The Marine Scotland Act provides measures for marine environmental protection and management and the Master Plan should conform to the legislative requirements within the Acts.

UK Marine Policy Statement (MPS) (2011) Also see: Statutory Guidance to the UK Marine Policy Statement from 1 January 2021)	The MPS is the framework for preparing Marine Plans and taking decisions affecting the marine environment. It will contribute to the achievement of sustainable development in the UK marine area. It has been prepared and adopted for the purposes of section 44 of the Marine and Coastal Access Act 2009.	The Master Plan should conform to the UK MPS as set out in the 2010 Act.
Scotland's National Marine Plan (2015)	The overall aim of the NMP is to provide a planning framework to manage competing demands for the use of the sea whilst protecting the marine environment. The NMP includes national objectives to achieve clean and safe; healthy and biologically diverse; and productive seas. The NMP also includes sectoral objectives, challenges and policies for fisheries and aquaculture; energy; tourism and recreation; marine transport; telecommunication and cables, natural and built heritage; water and aggregates and disposal.	The NMP provides a framework and sets objectives which inform the development of regional marine planning. The Master Plan will need to align with those contained within the NMP.
Shetland Islands Regional Marine Plan (draft SIRMP)	The draft SIRMP provides an overarching policy framework to guide marine development, seeking to balance economic development with environmental and cultural use.	The Master Plan will need to ensure compliance with the policies within the draft SIRMP
Coast Protection Act, (1949)	The Coast Protection Act 1949 (part I) empowers Local Authorities with coastlines (termed 'Coast Protection Authorities' in the Act) to carry out coast protection work inside and outside their area as necessary, subject to the approval of the Scottish Government.	Consider the aims of the legislation for coastal protection.
Food and Environment Protection Act, (1985)	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 area. However, Part II has largely been repealed under the Marine Scotland Act, 2010 and now applies only to certain reserved activities carried on in the Scottish Marine Area.	Consider the Master Plan in relation to certain reserved activities carried out in the marine area.
Zetland County Council Act (1974)	Under the Zetland County Council Act 1974 (the Act of 1974), as amended, the Shetland Islands Council has a duty to promote the conservancy of, and control of development in, the coastal area of Shetland, with the exception of those areas under the jurisdiction of Lerwick Port Authority or Broonies Taing Pier Trust. The Council's Works Licence Policy, adopted as a standalone policy	Consider how the Master Plan will enforce local regulations.

	document, provides guidance to all involved in the process of considering proposals that fall within the scope of the Act of 1974. In general terms, that means the placing of 'works', as defined by the Act of 1974, in the sea, on the seabed or on the foreshore below Mean High Water Springs (MHWS) and out to 12 nautical miles. 'Works' means developments of all types, excluding those for the purposes of marine fish farming.	
Sustainable Development		
United Nations Conference on Environment and Development (UNCED, Earth Summit), the 'Rio Declaration'	UNCED reviewed the linkages between economic and social development and environmental protection and adopted Agenda 21. Chapter 17 of this agenda provides for 'protection of the oceans all kinds of seas including enclosed and semi-enclosed seas, and coastal areas and the protection, rational use and development of their living resources'.	The Master Plan should consider the UK's international priorities for sustainable development arising from this declaration.
World Summit on Sustainable Development (WSSD)	<p>The commitments made at the WSSD have contributed to the development of Marine Spatial Planning (MSP) at both the international and European level. As well as establishing a UN system for marine monitoring by 2004, the WSSD included a number of commitments relevant to MSP, including:</p> <ul style="list-style-type: none"> • Encouraging the ecosystem approach to marine management by 2010 • Setting up representative marine protection networks by 2012 <p>Restoring depleted fish stocks to maximum sustainable yields by 2015 'where possible'.</p>	The Master Plan should be founded on the principles of the ecosystem approach and the precautionary approach.
Securing the Future – UK Government Sustainable Development Strategy (2005)	<p>Principles for sustainable development and shared priorities agreed across the UK, including the Devolved Administrations. The Strategy contains:</p> <ul style="list-style-type: none"> • An integrated vision building on the 1999 strategy – with stronger international and societal dimensions; • Five principles – living within environmental limits, ensuring a strong, healthy and just society, using sound science 	The Master Plan should consider how best to support the Government's Sustainable Development Strategy

	<p>responsibly, promoting good governance and achieving a sustainable economy; and</p> <ul style="list-style-type: none"> • Four agreed priorities – sustainable consumption and production, climate change, natural resource protection and sustainable communities and an outcome focused indicator set and commitments to look at new indicators. 	
Choosing Our Future: Scotland's Sustainable Development Strategy (2005) and Scotland and the sustainable development goals: a national review to drive action	This strategy sets out the measures the Scottish Government will take to implement the UK Government sustainable development strategy (see above). It provides a framework for the Scottish Governments strategies on climate change, transport and renewable energy, green jobs, and biodiversity. The theme that runs through the framework is how to live sustainably.	The Master Plan should consider how best to support economic growth and ensure sustainable development.
Environment		
Aarhus Convention (1998)	<ul style="list-style-type: none"> • The Aarhus Convention establishes a number of rights of the public (individuals and their associations) with regard to the environment: - access to environmental information; public participation in environmental decision-making; and access to justice. The convention is not only an environmental agreement; it is also a convention about government accountability, transparency and responsiveness. 	The Master Plan should consider how best to ensure inclusivity and transparency in the development and dissemination of the plan.
Environmental Assessment (Scotland) Act (2005)	<ul style="list-style-type: none"> • This Act transposes the SEA Directive into Scottish legislation. It requires the preparation of an environmental report and a consultation exercise, and the taking into account of the environmental report and the result of the consultation exercise in decision making. 	Consider the Master Plan in the context of the UK policy for SEA.
Environmental Impact Assessment Regulations (various)	<p>The provisions of the EIA Directive have been transposed in part into Scottish legislation as follows:</p> <ul style="list-style-type: none"> • The Town and Country Planning (Environmental Impact Assessment) (Scotland) Regulations 2017; • The Electricity Works (Environmental Impact Assessment) (Scotland) Regulations 2017; 	The Master Plan should consider how it can best inform on effective EIA using MSP.

	The Marine Works (Environmental Impact Assessment) (Scotland) Regulations 2017.	
The Town and Country Planning (Scotland) Act, (1997)	Under this Act planning permission is required from the local authority for coastal developments (piers, jetties, slipways, marinas etc.) located above the level of mean low water springs (MLWS), and for marine fish farm developments.	The Master Plan will be used as a resource when assessing planning applications and will need to help the alignment of coastal and marine issues.
The Planning Etc. (Scotland) Act, (2006)	This act establishes the National Planning Framework, a strategy for Scotland's spatial development with the objective of contributing to sustainable development. It includes management development and planning permission for marine fish farms.	Consider how the Master Plan can guide sustainable development.
Planning Circular: The relationship between the statutory land use planning system and marine planning and licensing (2013)	All developments and activities which take place in Scotland's seas have implications onshore too – ranging from changing infrastructure requirements to the impacts on communities of economic growth or decline. The Scottish Government has produced a circular which explores the linkages between the marine and terrestrial planning systems and provides guidance about joint working.	Consider how the Master Plan can inform on how to integrate land and marine planning.
National Planning Framework for Scotland, (2014) Scotland's third national planning framework	<p>The third National Planning Framework for Scotland (NPF3) was published in June 2014. It set out a strategy for the spatial development of Scotland to 2030, providing a framework for planning focusing on sustainability, carbon, natural reliance and connectivity. Its vision for Scotland is:</p> <ul style="list-style-type: none"> • A successful, sustainable place. We have a growing low carbon economy which provides opportunities that are more fairly distributed between, and within, all our communities. We live in high quality, vibrant and sustainable places with enough, good quality homes. Our living environments foster better health and we have reduced spatial inequalities in well-being. There is a fair distribution of opportunities in cities, towns and rural areas, reflecting the diversity and strengths of our unique people and places. 	Ensure the Master Plan aligns with national planning framework policy framework, including low carbon technology, condition of natural and cultural assets.

	<ul style="list-style-type: none"> • A low carbon place. We have seized the opportunities arising from our ambition to be a world leader in low carbon energy generation, both onshore and offshore. Our built environment is more energy efficient and produces less waste and we have largely decarbonised our travel. • A natural, resilient place. Natural and cultural assets are respected, they are improving in condition and represent a sustainable economic, environmental and social resource for the nation. Our environment and infrastructure have become more resilient to the impacts of climate change. • A connected place. The whole country has access to high-speed fixed and mobile digital networks. We make better use of our existing infrastructure and have improved internal and international transport links to facilitate our ambition for growth and our commitment to an inclusive society. 	
Scottish Planning Policy 2014	Scottish Planning Policy (SPP) is the statement of the Scottish Government's policy on nationally important land use planning matters. The SPP sets out an overview of the key components and overall aims and principles of the planning system including cross-cutting policies which align with the vision set out in the NPF3. Relevant subject specific policies include historic environment, valuing natural environment, supporting aquaculture, managing flood risk and drainage.	The Master Plan should align with national policy and support vision including sustainable place, low carbon, natural reliance, and connected place.
Shetland Islands Council Local Development Plan 2014 (SIC LDP)	The SIC LDP sets out a vision and spatial strategy for the development of land over the next 10-20 years. The spatial strategy is to meet the sustainable economic and social needs of Shetland's dispersed settlement pattern by identifying allocated land sites with development potential and Areas of Best Fit.	The Master Plan will need to complement the SIC LDP, particularly for coastal issues, and help to promote integrated land and marine planning.
Supplementary Guidance for Aquaculture Policy – SIC LDP	The purpose of this policy is to provide guidance to all involved in the process of considering proposals for new or amended fish farm developments.	Consider how the Master Plan can support conformity to the SG policies.
Amended Draft Shetland Islands Regional Marine Plan (draft SIRM)	Both the amended draft SIRM and the adopted SIMSP sets out a policy framework to guide marine development and activity.	Ensure compliance with policies within the Shetland Marine Plan.

and Shetland Islands' Marine Spatial Plan (SIMSP) 4 th Edition- SG LDP		
Works Licence Policy	The Council's Works Licence Policy provides the detailed development policy framework that underpins the Local Development CST1 Coastal Development on all marine developments, including dredging but excluding those connected with marine fish farming, below MHWS out to 12 nautical miles. In determining applications for marine developments, the Council will also have regard to the draft SIRMP which sets out the spatial development strategy for all marine resource users.	Consider how the Master Plan can guide activities which require a works licence.
Name of PPS, Convention, Treaty or Directive	Overview of key objectives	Implications and/ or relationship with the Sullom Voe Harbour Area Master Plan
SEA Specific Topics		
Soil, geology and coastal processes		
Scottish Soil Framework	Provides an overarching policy framework for protection of soils in Scotland in-line with the European Directive. Includes coastal areas.	The Master Plan should have regard to developments which may have the potential to impact on coastal processes.
Scotland's Geodiversity Charter 2018-2023	The Charter sets out why geodiversity is important, and presents a vision that geodiversity is recognised as an integral and vital part of our environment, economy, heritage and future sustainability to be safeguarded for existing and future generations in Scotland.	The Master Plan should consider developments which may have the potential to impact on geology.
Cultural and Historical Heritage		
UNESCO Convention on Protection of Underwater Cultural Heritage (2001)	This Convention aims to ensure and strengthen the protection of Underwater Cultural Heritage (UCH) over 100 years old, promoting in situ protection and preventing commercial exploitation. Responsible non-intrusive access to observe or document in situ UCH is encouraged to create public awareness, appreciation and protection of the heritage.	The Master Plan should consider how best to preserve and promote UCH, in particular wreck sites, in the region.
International Council on Monuments and Sites (ICOMOS) Charter on the Protection and Management of Underwater Cultural Heritage	The Charter is intended to encourage the protection and management of Underwater Cultural Heritage (UCH) in inland and inshore waters, shallow seas and in the deep oceans. It includes submerged sites and structures, wreck sites and wreckage and	The Master Plan should consider how best to preserve and promote UCH, in particular wreck sites, in the region.

	their archaeological and natural context. It acts as a supplement to the ICOMOS Charter for the Protection and Management of Archaeological Heritage.	
Ancient Monuments and Archaeological Areas Act, (1979)	An Act to consolidate and amend the law relating to ancient monuments; to make provision for the investigation, preservation and recording of matters of archaeological or historical interest and (in connection therewith) for the regulation of operations or activities affecting such matters; to provide for the recovery of grants under section 10 of the Town and Country Planning (Amendment) Act 1972 or under section 4 of the Historic Buildings and Ancient Monuments Act 1953.	The Master Plan should consider the protection of archaeological heritage within Sullom Voe Harbour Area.
Protection of Wrecks Act, (1973)	An Act to secure the protection of wrecks in territorial waters and the sites of such wrecks, from interference by unauthorised persons, and for connected purposes. It protects the sites of historic wrecks and prohibits approaching dangerous wrecks.	The Master Plan should consider the protection of Underwater Cultural Heritage.
The Planning (Listed Buildings and Conservation Areas) (Scotland) Act, (1997)	An Act to consolidate certain enactments relating to special controls in respect of buildings and areas of special architectural or historic interest. This includes buildings such as lighthouses but can only be applied to those parts of the structure or building above the MLW mark.	The Master Plan should consider the protection of archaeological heritage around the within Harbour Area.
Historic Environment Policy for Scotland (HEPS) (2019)	HEPS is a policy statement directing decision-making that affects the historic environment. HEPS should be taken into account whenever a decision will affect the historic environment, including the development of plans and policies.	The Master Plan should consider the protection of archaeological heritage within Harbour Area.
Landscape/ Seascape		
Scotland's Landscape	Produced by the Scottish Landscape Forum and NatureScot, the Charter sets an agenda for landscape planning and management. It reflects the key principles of the European Landscape Convention and emphasises the need to maintain distinctiveness and sense of place within Scotland. It calls on public bodies to recognise the importance of landscape in decision making, encourage involvement of communities in managing landscape change, recognise the need for landscape expertise within	The Master Plan should consider protection measures to maintain the distinctiveness of the landscape and seascape characters found within Harbour Area.

	planning, and raise awareness of the role of local and national designations in safeguarding landscapes.	
NatureScot (formally SNH): The special qualities of the National Scenic Areas (NSA).	<p>NatureScot surveyed all the NSAs and, for each one, produced an up-to-date list of the landscape qualities that make each one special.</p> <p>'Special qualities' are defined here as 'the characteristics that individually or combined, give rise to an area's outstanding scenery'. The identification of these will help to safeguard the National Scenic Areas for future generation to enjoy.</p>	The Master Plan will have regard to the NSA Special Qualities Statements for Shetland.
Shetland Coastal Character Assessment	<p>The Coastal Character Assessment (CCA) of the Shetland Islands was prepared by the NAFC Marine Centre UHI with guidance from NatureScot (formally SNH) as part of ongoing development of the Shetland Island's Marine Spatial Plan (SIMSP).</p> <p>The aim of the study was to gather information about the various coastal character types found around Shetland, the experiences the coast currently offers to local people and visitors, and any sensitivity to development, both inland and out to sea.</p> <p>The objectives of the study were to:</p> <ul style="list-style-type: none"> • Identify and map different coastal character types at a local level; • Describe the key features and character of each area which relates to the experience of the place; • Identify any areas around the coast sensitive to onshore and/or offshore development; and • Relate the study to other published documents such as the Shetland Landscape Character Assessment (LCA) and the Shetland Local Development Plan (LDP). 	The Master Plan should consider Shetland's coastal character when guiding development.
Biodiversity		
Bonn Convention on the Conservation of Migratory Species of Wild Animals (1979)	This is an intergovernmental treaty concerned with the conservation of wildlife and habitats on an international scale. It aims to conserve terrestrial marine and avian species throughout	The Master Plan should consider the implications of the plan on migratory species and comply with the aims of this convention.

	their range through international co-operation. The UK is party to the convention and to several agreements which have been concluded to date under the auspices of the convention e.g. ASCOBANS (small cetaceans - <i>Odontoceti</i>), AEWA (migratory birds) and EUROBATS (bats).	
Convention Concerning the Protection of the World Cultural and Natural Heritage (1972)	This convention aims to encourage the identification, protection and preservation of cultural and natural heritage around the world considered to be of outstanding value to humanity.	The Master Plan should consider its implications in relation to the identification, protection and preservation of World Heritage Sites
Convention on Biological Diversity (1992)	The 1992 Convention on Biological Diversity objective is the conservation of biological diversity, the sustainable use of its components and the fair and adequate sharing of benefits from the use of genetic resources. The UK Biodiversity Action Plan (and its various subsidiary plans) is part of the convention.	The Master Plan should be founded on the principles of the ecosystem approach and the precautionary approach. It should also consider the implications of the UK Biodiversity Action Plan (BAP) and the local BAP's.
Wildlife and Countryside Act, (1981)	This Act consolidates and amends existing national legislation to implement the Convention on the Conservation of European Wildlife and Natural Habitats (Bern Convention) and Council Directive 79/409/EEC on the Conservation of Wild Birds (Birds Directive) in Great Britain. It is complimented by the Wildlife and Countryside (Service of Notices) Act 1985, which relates to notices served under the 1981 Act, and the Conservation (Natural Habitats, &c.) Regulations 1994 (as amended), which implement Council Directive 92/43/EEC on the conservation of natural habitats and of wild fauna and flora (EC Habitats Directive). In Scotland the most recent amendment to this Act is the Nature Conservation (Scotland) Act (2004). The Act provides for designation of Marine Nature Reserves, for which byelaws must be made to protect them. The Act was also reviewed and updated in 2008.	The Master Plan should consider its implications on protected species and habitats.
The Conservation (Natural Habitats, &c) amendment (Scotland)	These regulations are the means through which the Habitats Directive is transposed into Scottish law. They have been amended many times since they came into force in 1994, with the	The Master Plan should consider its implications on protected species and habitats.

Regulations 1994. (amendments in 2004 and 2007)	major amendments occurring in 2004 and 2007. The regulations relate to the NATURA 2000 network of protected sites. The 2007 amendment relates to the creation of marine national parks.	
Nature Conservation (Scotland) Act (2004)	Imposes a wide-ranging duty on Scotland's public sector to conserve biodiversity and protect the nation's natural heritage. The strategy includes sectoral implementation plans which identify specific actions covering marine, rural and urban issues. The Act provides the principal legislative components of a new, integrated, system for nature conservation within Scotland and makes it an offence to intentionally or recklessly disturb a dolphin, whale (cetacean) or basking shark, and requires the production of a new code of guidance covering whale and dolphin watching and similar activities.	The Master Plan should consider its implications on protected species and habitats.
Conservation (Natural habitats &c.) Amendment (Scotland) Regulations 2007	Part IVA sets out the requirement for the Appropriate Assessment of land use plans. This is required where a land use plan 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. The Assessment should be undertaken prior to the plan being given effect and should include consultation with the appropriate nature conservation body (NatureScot). Notes that the opinion of the general public should be taken into account if appropriate.	Consider the impacts of the Master Plan on NATURA 2000 sites
Wildlife and Natural Environment (Scotland) Act 2011	Draws together and updates legislation on nature conservation; in particular it updates much of the Wildlife and Countryside Act 1981 (WCA). Includes legislation relating to Non-Native Species (NNS).	Consider the impact of the Master Plan on the spread of NNS and updated legislative requirements relating to the WCA.
Biodiversity: UK Action Plan (1994)	Emphasises the importance of biodiversity and notes the impact of human development and the use of land on the health of ecosystems. Includes the overall goal of conservation and enhancement of biodiversity within the UK to contribute to the conservation of global biodiversity. Also aims to increase public awareness and involvement in conservation.	Consider the Master Plan in the context of the UK policy for the marine environment, especially in relation to biodiversity

Consultation on the 2020 Challenge for Scotland's Biodiversity (2012)	Responds to the EU Biodiversity Strategy and the Aichi Targets set by the United Nations Convention on Biological Diversity. Aims to increase the general level of biodiversity 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.	Consider the Master Plan in the context of the UK policy for the marine environment, especially in relation to biodiversity.
The Marine (Scotland) Act 2010	It establishes a new power for 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. The Act allows for three different types of MPAs to be set up: <ul style="list-style-type: none"> • Nature Conservation MPAs • Demonstration and Research MPAs • Historic MPAs The 2010 Act also introduced improved protection for seals.	Consider the impacts of the Master Plan on MPAs and the ability of the Master Plan to facilitate and enhance management of activities within the MPA network.
The Non-Native Species Framework Strategy for Great Britain (2008)	Aims to protect against the adverse impacts of invasive non-native species. Notes that this is considered to be a significant threat to biodiversity world-wide, and that the distribution of species could be affected by climate change over the coming years. Also reflects on the significant level of expenditure already required to control invasive species. Calls for a more preventative approach.	The Master Plan should consider how to reduce the spread of NNS.
The Great Britain Invasive and Non-Native Strategy, (2015)	An updated version of the 2008 strategy, this updated version provides updated aims and objectives and highlights required action to take over 5 years till 2020.	The Master Plan should consider how to reduce the spread of NNS.
Managing Invasive Species in Scotland's Water Environment: A Supplementary Plan to the River Basin Management Plans.	Developed by SEPA to support the work of the Water Framework Directive for water bodies to improve the ecological quality of water bodies, this plan provides guidance on a co-ordinated approach for organisations with a role in risk assessment, monitoring, classification, data collection and prevention and control mechanisms. To reduce the risk posed by NNS on ecological quality of water bodies.	The Master Plan should consider how to reduce the spread of NNS.
Shetland Local Biodiversity Action Plan	The LBAP identifies locally important habitats and species and highlights and promotes actions to conserve these.	The Master Plan should have regard to locally important marine species and habitats.

Waste		
Zero Waste Plan	The Zero Waste Plan aimed to achieve a significant shift in the way our waste is managed. Its key measures included waste prevention, reducing landfill, improving management and contributing to renewable energy. The Plan set new targets of 70% of waste to be recycled and a maximum of 5% to be sent to landfill by 2025. Measures also relate to improving information to inform future decisions and measuring the carbon impacts of waste to prioritise recycling for resources which could provide the most significant benefits.	Consider the Master Plan's role in waste prevention and management.
A Marine Litter Strategy for Scotland.	<p>This aims to develop current and future measures to reduce litter entering the marine and coastal environment. There are 5 strategic directions in the strategy including:</p> <ul style="list-style-type: none"> • Improve public and business attitudes and behaviours around marine and coastal litter, in co-ordination with the national litter strategy. • Reduce marine and coastal based sources of litter, in coordination with land sourced litter being reduced by the national litter strategy. • Contribute to a low carbon economy by treating 'waste as a resource' and seizing the economic and environmental opportunities associated with the Zero Waste Plan. • Improve monitoring at a Scottish scale and develop measures for strategy evaluation. <p>Maintain and strengthen stakeholder co-ordination at the UK, EU and international scales.</p>	Consider the role of the Master Plan in reducing litter.
Water		
Environmental Protection Act (1990)	This Act aims to control pollution arising from industrial and other processes to air, land and water. It includes any release into a sewer and accords with the Sewerage (Scotland) Act 1968.	Consider the Master Plan in the context of this Act for the marine environment.
Environment Act (1995)	This Act establishes the Scottish Environment Protection Agency (SEPA), the criteria for the establishment of National Parks and	Consider the Master Plan in the context of the Act for the marine environment.

	includes Shetland Islands general provisions on fisheries and the control of pollution of water in Scotland.	
Pollution Prevention and Control Act (1999)	This Act provides provisions for implementing EC Directive 96/61/EC (IPPC). It regulates activities which are capable of causing any environmental pollution and preventing or controlling emissions capable of causing any such pollution.	The Master Plan should consider any implications regarding pollution and control of related activities.
The Pollution Prevention and Control (Scotland) Regulations (2012).	The Pollution Prevention and Control (PPC) Regulations permit and regulate many industrial activities that may pollute our environment. The fundamental philosophy behind the regulations is that environmental issues should be addressed in an integrated way in order to achieve the highest level of environmental protection.	The Master Plan should consider any implications regarding pollution and control of related activities.
Urban Wastewater Treatment (Scotland) Regulations (1994) Statutory Instrument 1994 No. 2842 (S.144) Amendment Regulations 2003	These regulations relate to the collection, treatment and discharge of urban wastewater and the treatment of wastewater from certain industrial sectors. By 2005 the Local Authority responsible will have collecting systems in place for every agglomeration with a population of between 2,000 and 15,000. The amendment regulations place a duty to maintain up-to-date information on sensitive areas and high dispersion areas on the Scottish Government and SEPA. The implementation of this Directive will be a basic measure of the Water Framework Directive.	Consider any implications regarding pollution and control of related activities in the Master Plan.
Water Environment and Water Services (Scotland) Act (2003)	The WEWS Act gave Scottish Ministers powers to introduce regulatory controls over water activities in order to protect, improve and promote sustainable use of Scotland's water environment. This includes wetlands, rivers, lochs, transitional waters (estuaries), coastal waters and groundwater. It implements the WFD in Scotland, River Basin Management Planning, protection of the water environment and establishes a duty to provide water and sewerage services.	Consider the Master Plan in the context of the arrangements for the protection of the water environment.
Water Environment (Controlled Activities) (Scotland) Regulations (2011) (CAR)	In accordance with the Water Environment (Controlled Activities) (Scotland) Regulations 2011 (CAR), a licence is required for activities involving discharges of pollutants; water abstraction; impoundments of rivers, lochs, wetlands and transitional water;	The Master Plan supports the protection and improvement in ecological status of marine waters.

	engineering works in inland waters and wetlands; and any other activity which directly or indirectly has or is likely to have a significant adverse impact on the water environment including coastal waters out to 3 nautical miles. Applications for new fish farm developments, outfalls, etc. are examples of activities that may require a CAR licence.	
Scotland River Basin Management Plan 2015-2027 and The Orkney and Shetland Area Management Plan	Managed by SEPA, these plans aim to improve the ecological quality of our rivers, lochs, estuaries, coastal waters and groundwater, where improvement is needed, whilst also avoiding deterioration in ecological quality. The plans build on the previous river basin management plans which ran until 2015.	Consider how the Master Plan can support these aspirations.
Water Resources (Scotland) Act 2013	An Act of the Scottish Parliament to make provision for the development of Scotland's water resources; to bring large-scale water abstraction under Ministerial control; to extend Scottish Water's functions and to authorise grants and loans in favour of related bodies; to permit the taking of steps for the sake of water quality; to create contracts for certain non-domestic water and sewerage services; to protect the public sewerage network from harm and to allow for maintenance of private sewage works; to enable the making of water shortage orders; and for connected purposes.	Consider how the Master Plan can support aspirations relating to water abstraction and sewage.
Shetland Marine Pollution Contingency Plan	There are various oil spill response plans covering the marine and intertidal areas of the Shetland Islands including: <ul style="list-style-type: none"> • Sullom Voe Harbour Oil Spill Plan • Scalloway Harbour Oil Spill Response Contingency Plan • Sullom Voe Harbour Authority Port Marine Safety Code • SEPA Emergency Plan • Shetland Islands Council COMAH Plan • Shetland Islands Council Pipeline Safety Plan • Shetland Islands Council's Coastline Survey • WRCC Oil Spill Plan for Shetland • AFEN Coastal Protection Plan 	Consider how the Master Plan can support oil spill response plans for the Sullom Voe Harbour Area.

	<ul style="list-style-type: none"> Shetland Port Waste Management Plan <p>Various bodies are involved in the Shetland area e.g. Shetland Islands Council, MCA, NatureScot, SEPA, Northlink and other private vessels. The jurisdiction of the various statutory bodies in Scotland depends on where the spill is located.</p>	
Climatic Factors		
UN Framework Convention on Climate Change	<p>This is an international environmental treaty produced at the United Nations Conference on Environment and Development (UNCED) held in Rio de Janeiro in 1992. The treaty is aimed at reducing emissions of greenhouse gases in order to combat global warming. More recently, a number of nations approved an addition to the treaty: the Kyoto Protocol, which legally binds developed countries to emission reduction targets. The Protocol's first commitment period started in 2008 and ended in 2012. At COP17 in Durban, governments of the Parties to the Kyoto Protocol decided that a second commitment period, from 2013 onwards, would seamlessly follow the end of the first commitment period. The second commitment is known as the Doha Amendment and runs 2013-2020 bridging the gap between the 1st Kyoto agreement and the start of the new global agreement (the Paris Agreement).</p>	The Master Plan will seek to help determine consent for new developments and activities which will reduce greenhouse gas emissions and adhered to the objectives set out within the Treaty.
Marine Climate Change Impacts Partnership (MCCIP)	The United Kingdom Marine Climate Change Impacts Partnership (MCCIP) brings together scientists, government, its agencies and NGOs to provide co-ordinated advice on climate change impacts around our coast and in our seas.	Consider how the Master Plan can consider and manage the impacts of climate change around the coast.
Changing Our Ways – Scotland's Climate Change Programme (2006)	Provides national interpretation of broader climate change objectives, presenting Scotland's vision for the longer term – climate change and sustainable development. It aims to quantify the "Scottish Share" or 'equitable contribution' in carbon terms and show leadership in setting Scottish targets.	The Master Plan will seek to guide development and activities to reduce greenhouse gas emissions
The Climate Change (Scotland) Act, (2009)	The Act is a key commitment of the Scottish Government and is the most far-reaching environmental legislation considered by the Parliament. The Act sets out the statutory framework for	The Master Plan will seek to help determine consent for new developments and activities which will reduce greenhouse gas emissions.

	greenhouse gas emissions reductions in Scotland and outlines the duties on Scottish Ministers and public bodies.	
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. The plan aims to achieve 4 transformational outcomes:</p> <ul style="list-style-type: none"> • A largely decarbonised electricity generation sector by 2030; • A largely decarbonised heat sector by 2050 with significant progress by 2030; and • Almost complete decarbonisation of road transport by 2050, with significant progress by 2030. <p>A comprehensive approach to ensure that carbon is factored into land use decisions.</p>	The Master Plan will consider how it can promote the decarbonisation of electricity generation.
UK Climate Change Risk Assessment (CCRA) – Scotland (2012)	The CCRA report for Scotland provides evidence to support the Scottish Government’s climate change adaptation programme. It describes and, where possible, quantifies the risks from climate change facing Scotland up until 2100.	The Master Plan will seek to ensure that new marine developments will not contribute to or exacerbate the adverse impacts of climate change and will assist in the identification of climate risk.
Scotland's Climate Change Adaptation Framework (2009)	The Framework sets the strategic direction for Scottish Government actions but, because many adaptation decisions are taken at a local level by individual organisations, action from across all sectors is needed. The Framework has been developed with a series of accompanying Sector Action Plans, which outline the key issues and planned activity for adapting.	The Master Plan will seek to help determine consent for new developments and activities which will consider greenhouse gas emissions and ensure that new marine developments will not contribute to or exacerbate the adverse impacts of climate change.
Climate Change Adaptation Framework Sector Action Plans (Scottish Government, 2011)	<p>Series of sectoral plans focusing on required activities to adapt to climate change. The Marine and Fisheries Sector Action Plan is of particular relevance. It states:</p> <p>‘As a management mechanism, marine planning will need to be responsive to climate change to ensure that decision making can take account of a changing marine environment. It will also be necessary to regularly consider the monitoring programmes in place to assess the state of the seas to ensure the relevant information is being collected.’</p>	The Master Plan will need to consider the changing impacts of marine planning when considering current and future use of the marine environment.

Flood Risk Management Scotland Act 2009 and National Flood Risk Assessment	The Act introduces a more sustainable, modern and co-ordinated approach to flood risk management. The outcomes of the National Flood Risk Assessment will help us to target actions for flood risk management in those areas where we can have the greatest impact.	The Master Plan should consider any future proposals for development within the Sullom Voe Harbour Area in terms of impacts on climate change.
Shetland Local Plan District- Flood Risk Management Strategy	Assessment of flood risk to commercial and domestic properties within Shetland.	Consider how the Master Plan can support measures which reduce flooding risk.
Population and human health		
Bathing Water Directive 2006	Its purpose is to preserve, protect and improve the quality of the environment and to protect human health.	Consider how the Master Plan can support measures to ensure clean and safe water for bathing.
Land Reform (Scotland) 2003 & Scottish Outdoor Access Code	This Act establishes the right of access for everyone, but only if they are exercised responsibly. It places a duty on landowners to manage their land and conduct the ownership of it to respect right of access. NatureScot (formally SNH) have drawn up and issued a 'Scottish Outdoor Access Code' to provide guidance for recreational land users and landowners.	Consider how the Master Plan can support responsible recreational use of the Sullom Voe Harbour Area and support the right of access.
Community Empowerment (Scotland) Act 2015	The Community Empowerment Act aims to empower community bodies through the ownership of land and buildings and by strengthening their voices in decision making. The Act does a number of things including: extending the community right to buy, making it simpler for communities to take over public sector land and buildings, and strengthening the statutory base for community planning. Crucially it can help empower community bodies through the ownership of land and buildings and strengthening their voices in the decisions and services that matter to them.	Consider how communities can influence the development of the Master Plan.
Shetland Core Path Plan (2009) adopted as SG to the SIC LDP	The purpose of the Core Path Plan (CPP) is to designate a system of paths to provide the basic framework of routes (which are) sufficient for the purpose of giving the public reasonable access throughout their area (and which will) link into and support wider networks of other paths and routes.	Consider how the Master Plan can support access and the Core Path Plan.

The Scottish Marine Tourism Strategy Action Plan	This is a strategic framework to promote the sustainable growth of Scotland's marine tourism sector and seeks to develop and grow marine tourism in line with the targets set out in the National Tourism Strategy (Tourism Scotland 2020).	Consider how the Master Plan can facilitate and promote sustainable tourism development.
Tourism Development Framework for Scotland (refresh 2016)	In 2000, the Scottish Executive published a "New Strategy for Scottish Tourism", and then in 2016 a refresh "Tourism Development Framework for Scotland".	Consider how the Master Plan can support responsible tourism and recreational use of the Sullom Voe Harbour Area.
Shetland Sport and Recreation Strategy 2012-2017	Policies relating to healthy communities.	Consider how the Master Plan can support recreational use of the Sullom Voe Harbour Area.
The Government Economic Strategy, 2015	The Economic Strategy gives priority to increasing sustainable economic growth. The Government will focus actions on priorities of sustainable growth: <ul style="list-style-type: none"> • Investing in our people, infrastructure and assets; • Culture of innovation; • Promote inclusive growth; • Infrastructure Development and Place; • To enable Scotland to take advantage of international opportunities. 	The Master Plan can help to achieve the Scottish Government strategy including protecting natural resource and helping to achieve a low carbon economy.
Scottish Marine Wildlife Watching Code	The Scottish Marine Wildlife Watching Code is designed for all those who watch marine wildlife around Scotland both recreationally and commercially. It was developed by NatureScot in conjunction with recreational users, general public, charter boat and land-based tour operators to whom it applies.	Consider how the Master Plan can support responsible recreational use of the Sullom Voe Harbour Area.
Scottish Canoe Association – Paddlers Access Code	The Scottish Canoe Association is recognised as the governing body of canoeing /kayaking in Scotland. It has three key principles for canoeists: <ul style="list-style-type: none"> • To care for the environment • Take responsibility for your own actions • Respect the interests of other people 	Consider how the Master Plan can support responsible recreational use of the Sullom Voe Harbour Area.

British Sub-Aqua Club Diver Code of Conduct	There is a local BSAC club (ZSAC Dive Club) within the area and many of the divers visiting Shetland are BSAC members. BSAC have a dive code of conduct which describes best practice and also includes their wrecks code of practice for wreck divers.	Consider how the Master Plan can support responsible recreational use of the Sullom Voe Harbour Area.
Material Assets- Fisheries		
Common Fisheries Policy Plan of Action for the Conservation and Management of Sharks	Marine fisheries conservation is an area of exclusive European Community competence. The CFP sets fisheries policy at a community level and limits the extent to which Member states can develop their own fisheries measures. Article 6 of the treaty requires that environmental protection must be integrated into community policies to promote sustainable development. The CFP was amended in 2002 through Council Regulation 2371/2002 on the conservation and sustainable exploitation of fisheries resources under the CFP. The CFP also encompasses the Action Plan for the Conservation and Management of Sharks.	The Master Plan should consider the CFP policies in regard to the fishery resource and its sustainable management.
Inshore Fishing (Scotland) Act 1984 (as amended)	This Act regulates fishing in inshore waters by way of prohibiting combinations of the following: <ul style="list-style-type: none"> • all fishing for sea fish; • fishing for a specified description of sea fish; • fishing by a specified method; • fishing from a specified description of fishing boat; • fishing from or by means of any vehicle, or any vehicle of a specific description; and • fishing by means of a specified description of equipment. 	The Shetland Islands are an important area for both local and national fishing vessels as a fishery ground and refuge. The Master Plan provides spatial information on important fishing grounds
Sea Fisheries (Shellfish) Act, 1967 (as amended)	This Act has been amended many times. From the mid-nineties regulating orders under this Act were considered as a means of enabling more local area management of inshore shellfish fisheries. Several Orders also under this Act have been used specifically for the localised cultivation of shellfish, including the Shetland Regulatory Order.	The Shetland Islands are an important area for both local and national fishing vessels as a fishery ground and refuge. The Master Plan provides spatial information on important fishing grounds within the Harbour Area.
Future Fisheries: management strategy 2020-2030	Sets out The Scottish Governments approach to managing Scotland's sea fisheries from 2020 to 2030, as part of the wider Blue Economy.	The Shetland Islands are an important area for both local and national fishing vessels as a fishery ground and refuge. The Master Plan

	The strategy set the vision for Scotland to be a world class fishing nation, delivering responsible and sustainable fisheries management. It Details a 12-point action plan to deliver the aspirations, principles and outcomes detailed within the strategy.	provides spatial information on important fishing grounds.
The Shetland Islands Regulated Fishery (Scotland) Order (2012)	In operation since 2000 and managed by the Shetland Shellfish Management Organisation. Fishery data collection by the NAFC Marine Centre UHI on Shetlands' shellfish stocks has produced time series data since 2000 (18 years of data in 2018). Annual stock assessments inform the management of the fishery and issuing of licences.	Consider how the Master Plan can support the aspirations of the SSMO.
Material Assets- Aquaculture		
A Fresh Start: A Renewed Strategic Framework for Scottish Aquaculture. Scottish Government (2009)	The strategic framework describes the economic, environmental, social and stewardship aspects of the overarching principle of sustainability for Scottish aquaculture. It lists objectives, timescales and the bodies responsible to carry them out.	The Master Plan should consider how it can promote a sustainable aquaculture industry and good stewardship.
Delivering Planning Reform for Aquaculture 2 (DPRFA2)	DPRFA2 sets out how the aquaculture industry, statutory consultees, and the planning authorities continue to work together to refine the planning system for aquaculture. The benefits as it relates to marine planning include up-to-date development plans which provide the industry and communities with greater certainty – particularly for new and previously unused sites.	The Master Plan should consider how it can provide planning certainty for aquaculture by providing a clear development steer.
Aquaculture Growth to 2030 – a Strategic Plan for farming Scotland's seas.	This provides a strategic plan for farming Scotland's seas. It notes the priorities for the sector include: <ul style="list-style-type: none"> • industry leadership and ambition • enabling and proportionate regulation • accelerating innovation • skills development • finance • infrastructure 	The Master Plan should consider how it can provide planning certainty for aquaculture by providing a clear development steer.

Locational Guidelines for the Authorisation of Marine Fish Farms in Scottish waters. Scottish Government (update quarterly)	The main purposes of the Locational Guidelines are to provide guidance on the factors to be taken into account when considering proposals for new marine fish farms or modifications to existing operations.	The Master Plan should consider carrying capacity constraint when guiding new or expanding aquaculture developments.
Statutory Instrument 1998 No. 994. The Food Safety (Fishery Products and Live Shellfish) (Hygiene) Regulations 1998	This instrument designates areas which are suitable or prohibited for the production or collection of live shellfish. It also covers the transportation and storage of live shellfish after dispatch. In the UK, the Shellfish Hygiene Directive and relevant Regulations are the responsibility of the Food Standards Agency (FSA). This includes responsibility for the designation of harvesting areas, setting standards and reporting the classification of harvesting areas according to the presence of faecal indicator organisms.	The Master Plan should consider how it can support high standards of water quality to promote the safe production of shellfish.
Town and Country Planning (Marine Fish Farming) (Scotland) Order, (2007)	This order applies to marine fish farms which will now be subject to statutory planning controls, for the preparation of a development plan in the area for marine fish farms and for the purposes of preparing a National Park Plan. It designates marine planning zones for relevant planning authorities for marine fish farming and introduces transitional arrangements where an application for a Works Licence has not been determined before planning controls have come into force.	The Master Plan should consider how it can support the sustainable development of aquaculture in the Sullom Voe Harbour Area.
Aquaculture & Fisheries (Scotland) Act 2013	The purpose of the Aquaculture and Fisheries Act is to ensure that farmed and wild fisheries - and their interactions with each other - continue to be managed effectively, maximising their combined contribution to supporting sustainable economic growth with due regard to the wider marine environment.	The Master Plan should consider how it can promote compliance with this legislation and promote sustainable growth of the sector.
SEPA policies on the regulation of marine fish farming (Policy No.s 17, 29, 40)	SEPA have three policies relating to the regulation of fish farming in marine waters. In addition to this, they have produced a comprehensive manual on how fish farms are regulated.	The Master Plan should consider how it can promote compliance with SEPA policies and regulations and promote sustainable growth of the sector.
The Aquatic Animal Health (Scotland) Regulations, (2009)	In Scotland, the Aquatic Animal Health (Scotland) Regulations 2009 (2009 Regulations) implement the Council Directive 2006/88/EC on animal health requirements for aquaculture animals and products thereof, and on the prevention and control	The Master Plan should consider how it can promote compliance with these regulations.

	of certain diseases in aquatic animals. The 2009 Regulations requires the authorisation of all Aquaculture Production Businesses (APB's) and replaces previous legislation (The Registration of fish and Shellfish Farming Business (Scotland) Order 1985- as amended) that required the registration of fish and shellfish farming businesses. The authorisation procedure will be undertaken on behalf of the Scottish Ministers by the Fish Health Inspectorate (FHI) based at the Marine Scotland, Marine Laboratory in Aberdeen.	
Circular SEDD 1/2007: Planning Controls for marine Fish Farming	<p>This Circular has been issued to explain and give guidance to planning officers, developers, communities and regulators on the provisions contained in the following Acts, Regulations and Order which pertain specifically to marine fish farming and which come into force on the relevant dates around April 2007.</p> <ul style="list-style-type: none"> • Water Environment and Water Services (Scotland) Act 2003 • Planning etc. (Scotland) Act 2006 • Town and Country Planning (Marine Fish Farming) (Scotland) Order 2007 • Town and Country Planning (Prescribed Date) (Scotland) Regulations 2012 • Town and Country Planning (Marine Fish Farming) (Scotland) Regulations 2007 (amended 2012) 	The Master Plan should consider how it can support sustainable aquaculture and promote understanding of relevant legislation.
A Technical Standard for Scottish Finfish Aquaculture	The Standard determines technical requirements for fish farm equipment in Scotland and applies to all species of finfish. It should be used alongside operational procedures and training of staff to ensure equipment is used and maintained appropriately and procedures followed correctly.	The Master Plan should consider how it can support and promote compliance to the Technical Standard.
Association of Scottish Shellfish Growers Code of Good Practice	This code of conduct targets the overall activities of shellfish growers with the aim that growers can produce a superior quality product, maintain a high standard of shellfish health and meet or exceed hygiene regulations, whilst minimising their impact of their activities on the natural environment and ensuring that they are	The Master Plan should consider how it can support and promote compliance to the Code of Good practice.

	managed in a manner that is in harmony with the needs of other marine and shoreline users.	
Scottish Salmon Producers Organisation Code of Good Practice	The Code of Good Practice for Scottish Finfish Aquaculture (CoGP) is the entry point for membership of Scottish Salmon Producers' Organisation. The CoGP was reviewed and revised by a CoGP Working Group. It sets out the standards that farmers must demonstrate compliance with the Code is independently audited.	The Master Plan should consider how it can support and promote compliance to the Code of Good practice.
Scottish Natural Heritage Guidance on Landscape/Seascape Capacity for Aquaculture (2008) Scottish Natural Heritage - The siting and design of aquaculture in the landscape: visual and landscape considerations (2011)	Provides guidance to regulators and developers on how to site and design aquaculture to minimise its intrusion on the landscape/seascape.	Consider the potential of the Master Plan to support the siting of aquaculture sites in a way which consider the seascape and landscape.
Supplementary Guidance for Aquaculture Policy – SIC LDP	The purpose of this policy is to provide guidance to all involved in the process of considering proposals for new or amended fish farm developments.	Consider how the Master Plan can support conformity to the SG policies.
Successful and Sustainable: A Strategy for Shetland Seafood 2009-2013	Has one overarching objective which is to increase the value of Shetland seafood.	Consider how the Master Plan can influence these aspirations.
Material Assets- Energy		
Electricity Generation Policy Statement	Sets out the approach to meeting the target of the equivalent of at least 100% of gross electricity consumption from renewables by 2020. It explains what changes are required to meet this target by considering the generating mix as a whole. It aims to balance issues including security of supply, affordability, economic benefit and community ownership.	Consider how the Master Plan can support the targets set out within the policy statement.
2020 Routemap for Renewable Energy	The Routemap sets out a range of targets, as referred to in the EGPS (see above). This includes the 100% of electricity demand equivalent from renewables by 2020, 11% of heat demand from renewables by 2020 and at least 30% of overall energy demand from renewables by 2020 (covering heat, transport and	Consider how the Master Plan can support the targets set out within the policy statement.

	<p>electricity). The 500MW target for community and locally owned renewable energy by 2020 is also highlighted in the Routemap.</p> <p>The Routemap explains the potential contribution of different sectors to achieving these targets. Offshore renewable energy technologies are identified as playing an important role, with innovation and investment in this sector strongly supported. Onshore technologies are also identified as having an important role to play. With regard to heat, the Routemap notes the rolling out of heat mapping, building on research on waste heat from fossil fuel power stations, and further work on district heating. The Routemap notes that new strategies for agri-renewables and microgeneration will be developed.</p>	
Environmental and Clean Technologies Action Plan	<p>The Plan sets out the approach to developing Environmental Clean Technologies through collaboration and development support. The Plan sets out governance arrangements for taking forward projects that promote environmental and low carbon activities. The work is intended to lead to a long-term approach to establishing an ECT industry in Scotland.</p>	Consider how the Master Plan can support ECT.
Electricity Act (1989)	<p>Provides the legislative background within which the energy sector functions. Sets out the framework within which applications for marine energy development should seek consent. Under Section 36 of the Electricity Act, 1989 (Requirement of Consent for Offshore Generating Stations) (Scotland) Order 2002, consent is required for electricity generation schemes with a capacity over 1MW.</p>	The Master Plan should consider how best to ensure compliance with this Act.
Sectoral Marine Plans for offshore wind, wave and tidal energy	<p>These Plans identify areas suitable for offshore wind, wave and tidal energy.</p>	Consider areas identified for development of wind, wave and tidal devices in the Master Plan.
National Renewables Infrastructure Plan (N-RIP and N-RIP2)	<p>Scottish Enterprise and Highlands and Islands Enterprise (HIE) have led the development of the N-RIP and N-RIP stage 2 (N-RIP2). The Plan aims to assist the development of a globally competitive offshore renewables industry in Scotland through the creation of infrastructure to support large scale manufacturing, assembly,</p>	The Master Plan should consider N-RIP and N-RIP2 when guiding the development of the marine environment.

	deployment and operations, and maintenance of offshore renewable energy devices.	
Renewable Energy Development in Shetland – Strategy and Action Plan (2009)	The Renewables Strategy aims to drive research and development in the area of renewable energy development. In terms of marine renewables, the Strategy includes an action to investigate potential for marine research and development.	The Master Plan supports the sustainable development of marine renewables as mitigation to climate change.
Regional Locational Guidance for the Shetland Islands	Guidance document highlighting areas of low- very high constraint to renewable development. Factors included within the model range from environmental, cultural and socio-economic activities. The RLG is incorporated within the SIMSP.	The Master Plan considers the relative constraint levels highlighted in the RLG when guiding the development of marine renewables.
Material Assets- Shipping, Ports and Transport		
International Maritime Organisation (IMO)	<p>The IMO is a specialised UN agency with responsibility for the safety of international shipping and the prevention of pollution from ships. Its protocols include:</p> <ul style="list-style-type: none"> • The international convention on the control of harmful anti-fouling systems on ships • The international convention for the control and management of ships ballast water and sediments • The convention of the prevention of pollution from ships (MARPOL 73/78) 	The IMO Conventions must be considered by the Master Plan to ensure it is compliant with national legislation and in relation to management issues, development opportunities and oil spill contingency planning.
Safety of Life at Sea (SOLAS) Convention (1974) as amended.	This convention includes provisions for navigation and pollution prevention. It also includes the International Ship and Port facility Security Code (ISPS), the Convention on the Control of Harmful Anti-Fouling Systems on Ships and the Convention on the International Regulations for Preventing Collisions at Sea (COLREGS) (1972).	The Master Plan must be compliant with SOLAS requirements relating to navigation.
Department of Transport. National Policy Statement for Ports 2012	This statement is part of the planning system established under the 2008 Act to deal with nationally significant infrastructure proposals. It is a National Policy Statement (NPS) and provides the framework for decisions on proposals for new port development. While the NPS covers England and Wales, statistical material, including forecasts of port freight traffic, covers Scotland and	Consider how the Master Plan can support an integrated transport policy for the Shetland Islands.

	Northern Ireland, as well as England and Wales, and helps to inform ports policy there.	
National Transport Strategy. Scottish Government 2006 (refresh 2016)	<p>The National Transport Strategy has five high level objectives:</p> <ul style="list-style-type: none"> • Promote economic growth by building, enhancing managing and maintaining transport services, infrastructure and networks to maximise their efficiency; • Promote social inclusion by connecting remote and disadvantaged communities and increasing the accessibility of the transport network; • Protect our environment and improve health by building and investing in public transport and other types of efficient and sustainable transport which minimise emissions and consumption of resources and energy; • improve safety of journeys by reducing accidents and enhancing the personal safety of pedestrians, drivers, passengers and staff; • Improve integration by making journey planning and ticketing easier and working to ensure smooth connection between different forms of transport. 	Consider how the Master Plan can support an integrated transport policy for the Shetland Islands.
Harbours Act 1964 and Harbour Revision Order 1995	Sets out responsible authority for harbour areas.	Consider how the Master Plan can protect harbour areas from adverse development and facilitate economic growth.
Shetland Transport Strategy 2008 and Shetland Transport Strategy Refresh 2018-2028	The local transport strategy for Shetland sets out a vision and objectives for transport development and improvements in Shetland over the next 5 to 15 years and the approach to be taken to achieve these objectives. It sets out strategic policies for transport and measures that will be needed over the time span of the plan to tackle the transport priorities for Shetland. These include the development internal links, external links and inter island links in Shetland.	Consider how the Master Plan can support a local transport policy for Shetland.

13 APPENDIX B

13.1 ACRONYMS

BAP	Biodiversity Action Plan
CAs	Consultation Authorities
CAR	Water Environment (Controlled Activities) (Scotland) Regulations 2011
CCA	(Shetland) Coastal Character Assessment
CCRA	(UK) Climate Change Risk Assessment
CFP	Common Fisheries Policy
CoGP	Code of Good Practice
CPP	(Shetland) Core Path Plan
Defra	Department for Environment, food & Rural Affairs (UK Government)
ECT	Environmental Clean Technologies
EDU	Economic Development Unit (SIC)
EEZ	Exclusive Economic Zone
EIA	Environmental Impact Assessment
EPS	European Protected Species
EU	European Union
FHI	Fish Health Inspectorate
FSA	Food Standards Agency
FTE	Full time Equivalent
GCR	Geological Conservation Review
GES	Good Ecological Status (WFD)
GES	Good Environmental Status (MSFD)
GHG	Greenhouse Gas
HEPS	Historic Environment Policy Statement (2019)
HES	Historic Environment Scotland
HLMO	High Level Marine Objectives
HRA	Habitats Regulation Appraisal
ICES	International Council for the Exploration of the Seas
ICOMOS	International Council on Monuments and Sites.
IMO	International Maritime Organisation
IMP	Integrated Maritime Policy
INNS	Invasive Non-native Species
JNCC	Joint Nature Conservation Committee
LBAP	Local Biodiversity Action Plan
LDP	Local Development Plan
LPA	Lerwick Port Authority
LNCS	Local Nature Conservation Site
MCA	Maritime and Coastguard Agency
MCCIP	Maritime Climate Change Impacts Partnership
MHWS	Mean High Water Spring
MLWS	Mean Low Water Springs
MPA	Marine Protection Area
MPP	Marine Planning Partnership
MPS	Marine Policy Statement
MSFD	Marine Strategy Framework Directive
MSP	Marine Spatial Planning
NGO	Non-governmental Organisation
nm	Nautical Miles
NMP	National Marine Plan for Scotland

NNS	Non-native Species
NSA	National Scenic Area
pLLA	Proposed Local Landscape Area
PPC	Pollution Prevention and Control (Scotland) Regulations 2012
PPS	Plans, Policies and Strategies
PMF	Priority Marine Feature
RBMP	River Basin Management Plan
SA	Sustainability Appraisal
SAT	Shetland Amenity Trust
SAC	Special Area of Conservation
SEA	Strategic Environmental Assessment
SEPA	Scottish Environment Protection Agency
SG	Supplementary Guidance
SIC	Shetland Islands Council
draft SIRMp	Shetland Islands Regional Marine Plan
SIMSP	Shetland Islands' Marine Spatial Plan
SoEA	Shetland State of the Environment Assessment
SOTEAG	Sullom Oil Terminal Environmental Advisory Group
SNH	Scottish Natural Heritage- now known as NatureScot.
SPA	Special Protected Area
SPP	Scottish Planning Policy
SSMO	Shetland Shellfish Management Organisation
SSPO	Scottish Salmon Producers Organisation
SSSI	Sites of Special Scientific Interest
SWMP	Site Waste Management Plan
UCH	Underwater Cultural Heritage
UK	United Kingdom
UN	United Nations
UNCED	United Nations Conference on Environment and Development
UNCLOS	United Nations Convention on the Law of the Sea
WCA	Wildlife and Countryside Act 1981
WEWS	Water Environment and Water Services (Scotland) Act 2003
WFD	Water Framework Directive
WSSD	World Summit on Sustainable Development

14.1 SCOPING CONSULTATION RESPONSES AND IMPLEMENTATION IN THE ENVIRONMENT REPORT

Consultation Authority	Response	Action
NatureScot	Section 3-Environmental Baseline Information. Baseline data for habitats and species is from the 2019 draft Shetland Islands Regional Marine Plan which dates from 2007. More recent data may be available.	Data in the regional marine plan does not date from 2007, it includes the most up to date data available from NatureScot.
	Section 3- Environmental Baseline Information Table 1- lists “Protected areas”, “Seabed habitats and species” and “Biological effects of imposex” under the topic of Soils, Geology and Coastal Processes. The first two might be better placed under Biodiversity, Flora and Fauna and the latter alongside “Biotoxins” under the Water topic heading.	Table 3.1 (formally Table 1) has been updated to reflect the suggested changes.
	Subsection 3.1- Key Issues Table 2- second bullet point under Biodiversity, Flora and Fauna unclear.	This bullet point in Table 3.2 (formally Table 2) has been deleted as was not relevant.
	Subsection 4.4- SEA Objectives and Guiding Questions The guiding question set against the objective to reduce levels of sediment contamination asks “(Will the Master Plan...) ensure level of sediment contamination will not impact species and habitats?” This would not test whether contamination is being reduced.	Guiding question changed from: Will the Master Plan... <i>“Ensure level of sediment contamination will not impact species and habitats” to</i> <i>“Assist in the reduction of sediment contamination which could cause impacts on marine species?”</i>

Consultation Authority	Response	Action
NatureScot		to better test the SEA objective.
	Subsection 4.4- SA/SEA Objectives and Guiding Questions The climate change objective to develop marine renewable energy would not be assessed by the question <i>“(Will the Master Plan...) reduce greenhouse gas emissions from developments?”</i>	Guiding question changed from: Will the Master Plan... <i>“Reduce greenhouse gas emissions from developments?”</i> to <i>“Support climate change mitigation by promoting marine renewable energy developments?”</i> to better test the SEA objective.
	Subsection 4.4- SA/SEA Objectives and Guiding Questions The guiding questions for Material Assets might include <i>“(Will the Master Plan...) promote the use of existing facilities wherever possible, rather than developing new infrastructure”</i> together with an appropriate indicator.	The following SEA objective and guiding question have been added: <i>“To maximise the sustainable use of existing infrastructure.”</i> <i>“Promote the sustainable use of existing infrastructure wherever possible?”</i> the following indicator was added: <i>“Number of applications opting to use/ share existing infrastructure”</i>
	Subsection 4.4- SA/SEA Objectives and Guiding Questions Table 3- Some of the proposed SEA indicators are too broad to be useful: <ul style="list-style-type: none"> • The conservation status of seabirds, otters and marine mammals is normally considered at a national level, but even if assessed at a regional (i.e. Shetland) level the effects of the plan are unlikely to be detectable. • The number of bags of litter collected in Da Voar Redd Up will be affected by weather conditions and littering in 	The SEA indicator within Table 4.3 (formally Table 3): <i>“The conservation status of seabirds, otters and marine mammals”</i> has been deleted. The published condition of species within the designated sites (SPAs, SACs, SSSIs, LNCS) in and adjacent to the Master Plan will be assessed and monitored. The waste indicator relating to bags of litter collected has been deleted.

Consultation Authority	Response	Action
	the wider environment of the North Atlantic and North Sea and by collecting effort more than by the plan.	
SEPA	<p>Relationships with other Plans, Policies and Strategies (PPS)-</p> <p>Appendix A- Some of the PPS have themselves been subject to SEA. May find it useful to prepare a summary of the key SEA findings that may be relevant to Sullom Voe Harbour Area Master Plan. This may assist you with data sources and environmental baseline information and ensure current SEA picks up environmental issues or mitigation actions which may have been identified elsewhere.</p>	The draft SIRMP and SIC LDP SEAs have been reviewed, and whilst this process was found to be helpful, summation of their findings was not thought to provide specific value for this SEA.
	<p>Section 3- Baseline information</p> <p>SEPA holds significant amounts of environmental data which may be of interest to you in preparing the environmental baseline, identifying environmental problems, and summarising the likely changes to the environment in the absence of the PPS, all of which are required for the assessment. Many of these data are now readily available on SEPA's website.</p> <p>Can also consult with Access to Information Unit at Corporate Office.</p> <p>Other sources of data for issues that fall within SEPA's remit are referenced in our SEA topic guidance notes for air, soil, water, material assets and human health.</p>	The Master Plan seeks to provide spatial guidance to avoid spatial conflicts. No specific data was available within the zoned areas which would be addressed via spatial management measures. During the licencing process developers will be required to follow wider environmentally quality policies as per draft SIRMP and CAR regulations.

Consultation Authority	Response	Action
SEPA	<p>Subsection 3.1- Key Issues</p> <p>A sentence in the paragraph under 3.1 states: <i>“Therefore, the draft Master Plan will be evaluated as to how the plan aims to deliver them through spatial guidance.”</i> It is not clear what ‘them’ here refers to in this instance and in context with the rest of the paragraph. This should be rectified/clarified.</p>	<p>Wording changed to:</p> <p>“Therefore, the draft Master Plan will be evaluated as to how the plan aims to deliver spatial guidance that promotes suitability and protects the environment”</p>
	<p>Subsection 4.4- SA/SEA Objectives and Guiding Questions</p> <p>Table 3 in Section 4.1-the material assets objective <i>“to protect the marine environment from the adverse effects of new infrastructural developments”</i> and its associated question <i>“Protect the coastal and marine environment in Shetland from incompatible developments and any adverse effects of new developments”</i> is at odds with the other objectives and questions in the table. We recommend that the objective and guiding questions are deleted and replaced with something along the lines of <i>“To maximise the sustainable use of existing infrastructure”</i> with a guide question <i>“Promote the sustainable use of existing infrastructure.”</i></p>	<p>The following SEA objective and guiding question have been deleted from Table 4.3 (formally Table 3):</p> <p><i>““to protect the marine environment from the adverse effects of new infrastructural developments.”</i></p> <p><i>“Protect the coastal and marine environment in Shetland from incompatible developments and any adverse effects of new developments?”</i></p> <p>The following SEA objective and guiding question has been added:</p> <p><i>“To maximise the sustainable use of existing infrastructure.”</i></p> <p><i>“Promote the sustainable use of existing infrastructure wherever possible?”</i></p>
	<p>Methodology and assessing environmental effects-</p> <p>Where it is expected that other plans, programmes or strategies are better placed to undertake more detailed assessment of environmental effects this should be clearly set out in the Environmental Report.</p>	<p>Text has been added to highlight the role of key legislation and processes.</p>

Consultation Authority	Response	Action
SEPA	Mitigation and enhancement- It is useful to show the link between potential effects and proposed mitigation / enhancement measures in the assessment framework.	The role of the master plan in mitigating potential impacts have been highlighted.
	Mitigation and enhancement- We would encourage you to be very clear in the Environmental Report about mitigation measures which are proposed as a result of the assessment. These should follow the mitigation hierarchy (avoid, reduce, remedy, or compensate).	The Master Plan has focused on 'avoid' as a mitigation approach. Potential to further reduce impacts are expected to be detailed at a project level.
	Mitigation and enhancement- One of the most important ways to mitigate significant environmental effects identified through the assessment is to make changes to the plan itself so that significant effects are avoided. The Environmental Report should therefore identify any changes made to the plan as a result of the SEA.	The Master Plan implements the draft SIRMP policy framework, which has already been subject to SEA. For this reason, this SEA did not lead to any modifications in the draft Master Plan.
	Mitigation and enhancement- Where the mitigation proposed does not relate to modification to the plan itself then it would be extremely helpful to set out the proposed mitigation measures in a way that clearly identifies: (1) the measures required, (2) when they would be required and (3) who will be required to implement them. The inclusion of a summary table in the Environmental Report such as that presented below will help to track progress on mitigation through the monitoring process.	The role of the master plan in mitigating potential impacts have been highlighted within the SEA. The main mitigation measure within the Master Plan has been 'avoidance'. Potential to further reduce impacts are expected to be detailed at a project level. Therefore, it is not necessary to detail mitigation measures in this way.

Consultation Authority	Response	Action
SEPA	Monitoring- It would be helpful if the Environmental Report included a description of the measures envisaged to monitor the significant environmental effects of the plan.	Monitoring measures have been included.
	Outcomes of the Scoping exercise- We would find it helpful if the Environmental Report included a summary of the scoping outcomes and how comments from the Consultation Authorities were taken into account	This table details the actions taken whilst creating the Environmental Report using feedback from Screening and Scoping report provided by the CAs. The table has been included in Appendix C of the Environmental Report.
HES	Appendix A, Table 1: Relationship with other plans, programmes, strategies and environmental objectives For information, the Historic Environment Scotland Policy Statement (2016) has been superseded by the Historic Environment Policy for Scotland (HEPS)	The policy in Appendix A, Table 12.1 (formally Table 1) has been updated with the new policy details and description updated.

Consultation Authority	Response	Action
	<p>(https://www.historicenvironment.scot/advice-and-support/planning-and-guidance/historic-environment-policy-for-scotland-heps/) which was adopted in 2019. HEPS is a policy statement directing decision-making that affects the historic environment. HEPS should be taken into account whenever a decision will affect the historic environment, including the development of plans and policies.</p>	