



NAFC Marine Centre  
University of the  
Highlands and Islands

## Sullom Voe Harbour Area Masterplan Habitat Regulations Appraisal

March 2022



## Document Control

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Please note NAFC Marine Centre, Train Shetland and Shetland College merged in August 2021 to become Shetland UHI

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Sullom Voe Masterplan –Habitats Regulations Appraisal 2022. Shetland UHI, developed on behalf of the Shetland Islands Council

## CONTENTS

Introduction .....	1
The Sullom Voe Harbour Area Masterplan .....	1
Contents of the Plan .....	3
Habitats Regulation Appraisal (HRA) .....	4
Appraisal Results.....	6
Stage 1- Decide whether the Sullom Voe Harbour Area Masterplan is subject to HRA.....	6
Stage 2- Identification of European sites & Stage 3- Gather information on European sites .....	8
Stage 3- Gather information on the European Sites.....	12
Stage 4- Discretionary Consultation on method and scope of the appraisal .....	13
Records of HRA related with SNH .....	13
Stage 5- Screen the plan for likely significant effects (LSE) on a European Site .....	13
Assessment Methodology.....	20
Screening Results .....	20

## 1. Introduction

Shetland Islands Council has engaged with the NAFC Marine Centre UHI (renamed Shetland UHI in August 2021) to develop a Sullom Voe Masterplan to guide the future use of the Sullom Voe Harbour Area. The Plan has been created based on input from local people through public consultation and stakeholders such as the oil and gas, aquaculture and fishing sectors.

The Conservation (Natural Habitats, & c.) Regulations 1994 (as amended) require that, where a plan is likely to have a significant effect on a European site and/or a European offshore marine site (either alone or in combination with other plans or projects), the plan-making authority shall make an "appropriate assessment" of the implications for the site in view of that site's conservation objectives, prior to the plan's adoption. The process for determining whether an appropriate assessment is required, together with the appropriate assessment itself - where necessary - is known as 'Habitats Regulations Appraisal'.

The Shetland UHI (formally NAFC Marine Centre UHI), along with the Shetland Islands Council, considered that the Sullom Voe Masterplan should be subject to Habitats Regulations Appraisal (HRA). This report records the results of that appraisal.

## 2. The Sullom Voe Harbour Area Masterplan

A master plan, in this context, means an overarching spatial plan which guides development within a defined area. The Council will use it as non-statutory supplementary guidance to direct planning and licencing decisions in the area. The Plan provides useful guidance for developers and reflects the desires of the local community.

The Sullom Voe Harbour Area was created to protect shipping coming in and out to the Sullom Voe oil and gas terminal. The Terminal was built between 1975 and 1981, with the first oil being received in November of 1978. The Terminal is built on a 1000 acre site and is one of the biggest oil and liquefied gas terminals in Europe. It handles oil and gas from oilfields in the North Sea and East Shetland Basin via the Brent, Ninian and Clair pipelines. Gas is imported through the West of Shetland pipeline. In the late 1990s, at the height of North Sea Oil, the Terminal handled over a quarter of UK petroleum production and employed around 500 people.

In order to ensure safe passage for oil and gas tankers and protect sensitive habitats, development within the Sullom Voe Harbour Area has been strictly limited. Aquaculture development is not currently permitted anywhere within the Sullom Voe Harbour Limits under the Shetland Islands Council Supplementary Guidance: Aquaculture (2017). Other types of development are not strictly prohibited, although they may pose similar risks. Other types of development, however, are not strictly prohibited, although they may pose similar risks.

Creation of this Masterplan will provide a level of equitability across development types within the Harbour Area and provide spatial guidance on the placement of these developments thus limiting their impact on European sites.

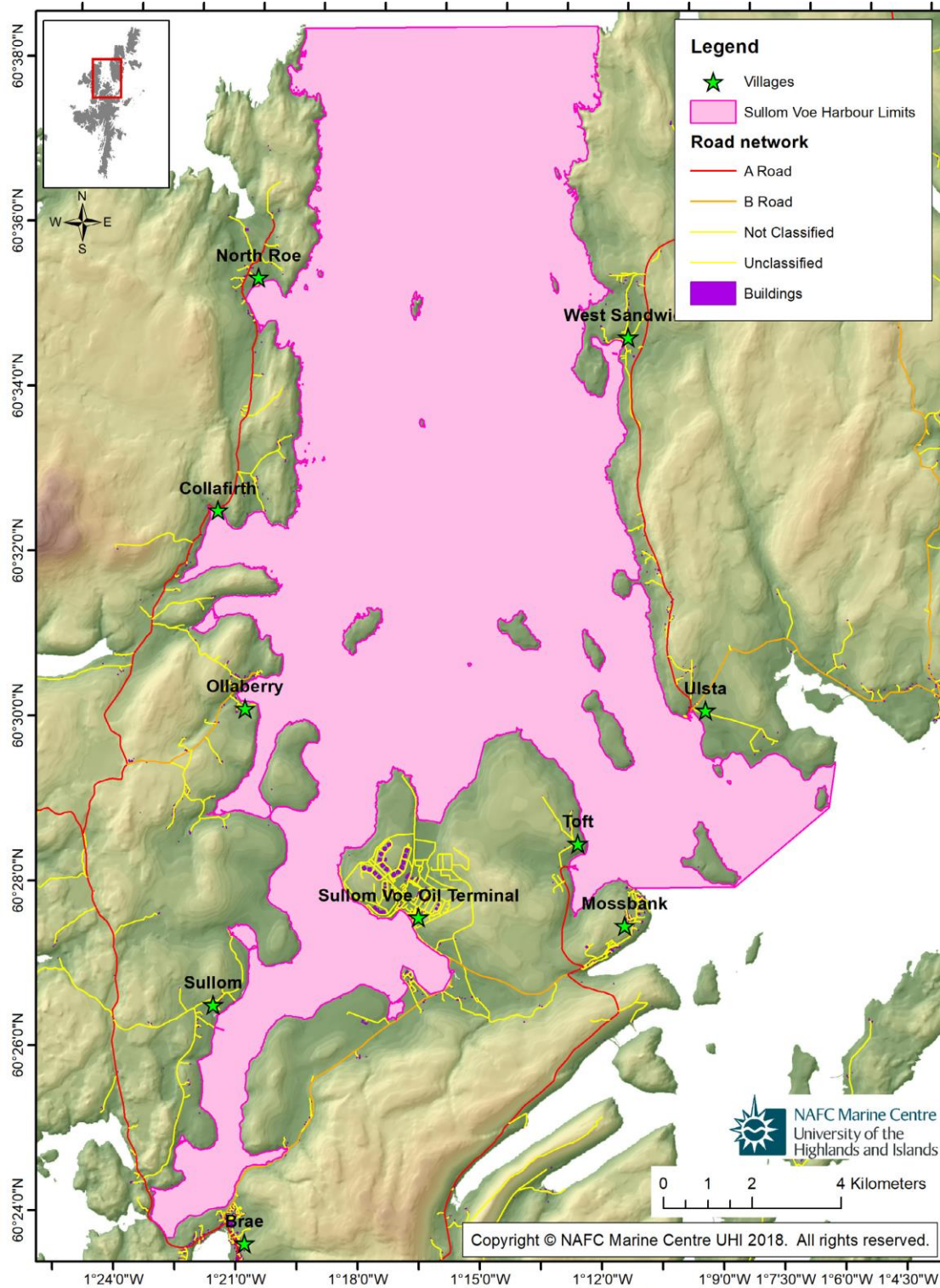
The Shetland Islands Council Supplementary Guidance: Aquaculture (2017) states that:

*'Fish farming will not as a matter of policy be permitted anywhere within the Sullom Voe Harbour Area (as defined in the Sullom Voe Harbour Revision Order 1980) for as long as its primary purpose is to accommodate vessels engaged in the carriage of hydrocarbons or other dangerous substances'*

However, in recent years there has been a reduction in the number of tanker movements in and out of the Sullom Voe Terminal, so it was considered timely to review the guidance from Sullom Voe

Harbour Area. The Shetland Islands Council has engaged the NAFC Marine Centre to help develop the Masterplan.

The Sullom Voe Harbour Area is defined within the Sullom Voe Harbour Revision Order 1980 and covers an area of 150.7 km<sup>2</sup>. It incorporates the Sullom Voe harbour and wider Yell Sound area, *Figure 1*.



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Figure 1: Sullom Voe Harbour limits

The Masterplan will sit beneath the Shetland Islands Council’s Local Development Plan (LDP) and the Shetland Islands Regional Marine Plan (SIRMP), as such it will need to be in compliance with all policies within these plans, Figure 2.

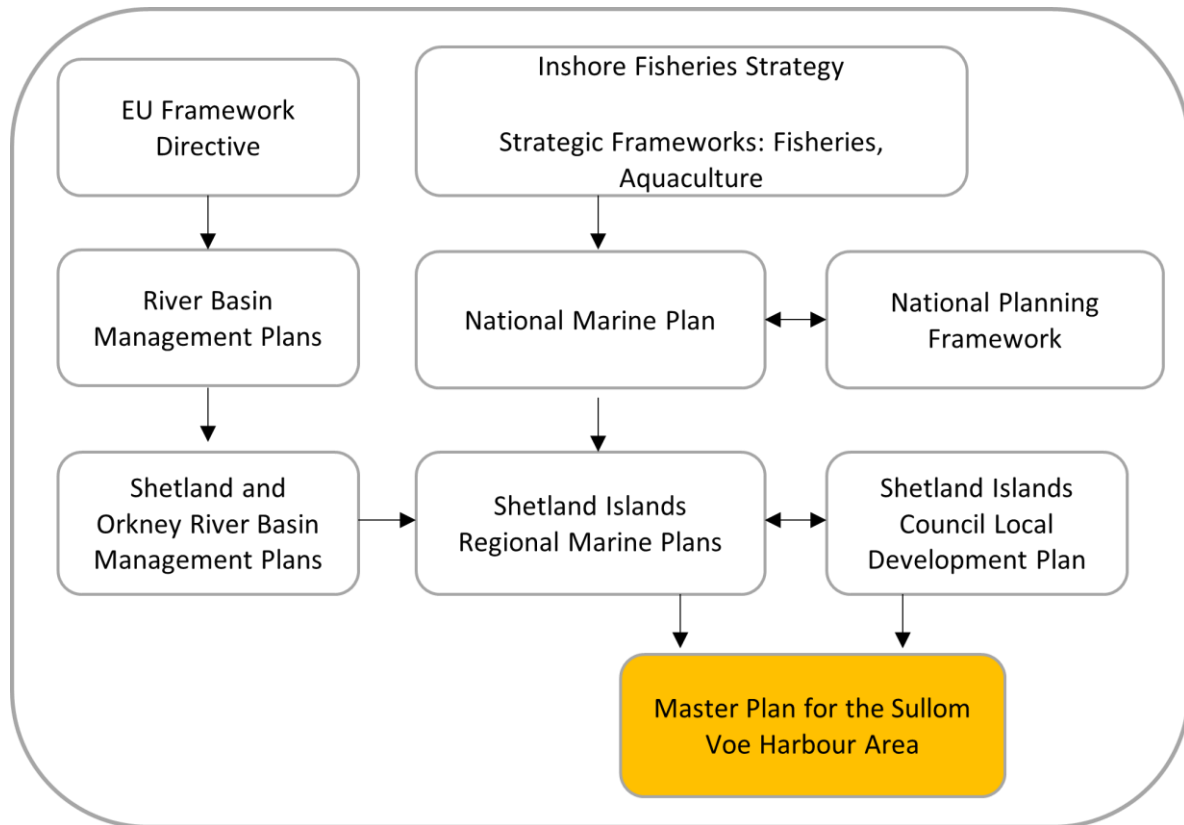


Figure 2 Masterplan policy context (terrestrial and other planning/regulatory regimes)

### 3. Contents of the Plan

The Masterplan provides guidance for the management of activities within the Sullom Voe Harbour Area. It will encourage the sustainable economic development of the marine environment through spatial guidance from marine renewable energy to aquaculture.

The spatial guidance within the Masterplan is primarily directed to the following sectors:

- aquaculture (finfish and shellfish);
- seaweed cultivation;
- marine renewable energy;

Small scale development e.g. outfalls and individual moorings would normally be outside the scope of the guidance. Developments where significant mitigation may be possible e.g. buried cables, would also not usually be subject to the conditions set out within the Plan, although both would be expected to follow the policy framework within the SIRMP and LDP including Natura policies.

#### 4. Habitats Regulation Appraisal (HRA)

[The Conservation \(Natural Habitats, &c.\) Regulations 1994 \(as amended\)](#) and are referred to as ‘the Habitats Regulations’. Any plan (or project), which is not directly connected with or necessary to the management of a European site, but would be likely to have a significant effect on such a site, either individually or in-combination with other plans or projects, shall be subject to an ‘appropriate assessment’ of its implications for the European site in view of the site’s conservation objectives. The plan-making body (in this case Shetland Islands Marine Planning Partnership) shall agree to the plan only after having ascertained that it will not adversely affect the integrity of the sites concerned, unless in exceptional circumstances whereby strict provisions met.

This Habitats Regulation Appraisal has been undertaken following the guidance provided by Scottish Natural Heritage (SNH) and the Scottish Government. The Scottish Natural Heritage (SNH) ‘Guidance for Plan-making Bodies in Scotland’ (David Tyldesley and Associates (DTA), 2012) hereinafter referred to as the DTA Guidance, sets out the background context, procedural requirements and proposed methodology for a HRA.

The DTA Guidance recommends a 13 stage appraisal process which comprises two key phases:

- i) Screening (Stages 1-7 ‘Screening the Plan for Likely Significant Effects’); and
- ii) Appropriate Assessment (Stages 8-11).

This Draft HRA Record deals with Stages 1-7 and the subsequent Stages 8-11 of the DTA Guidance process which are outlined in Figure 3 and Figure 4.

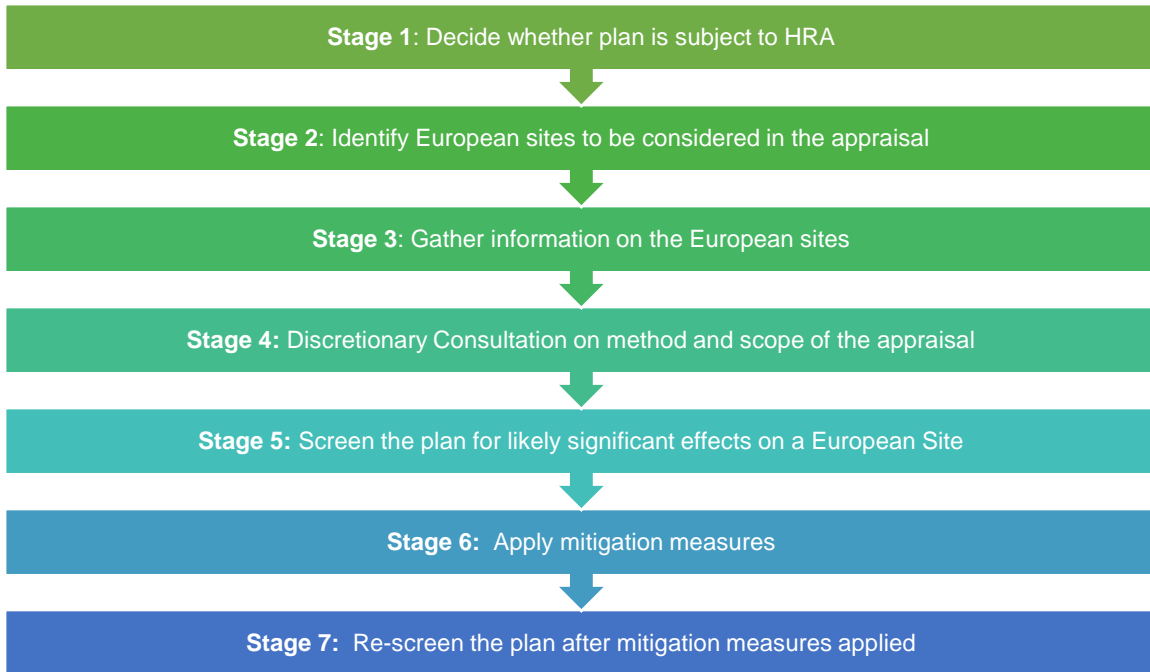


Figure 3: Stages 1-7 of the Screening Process

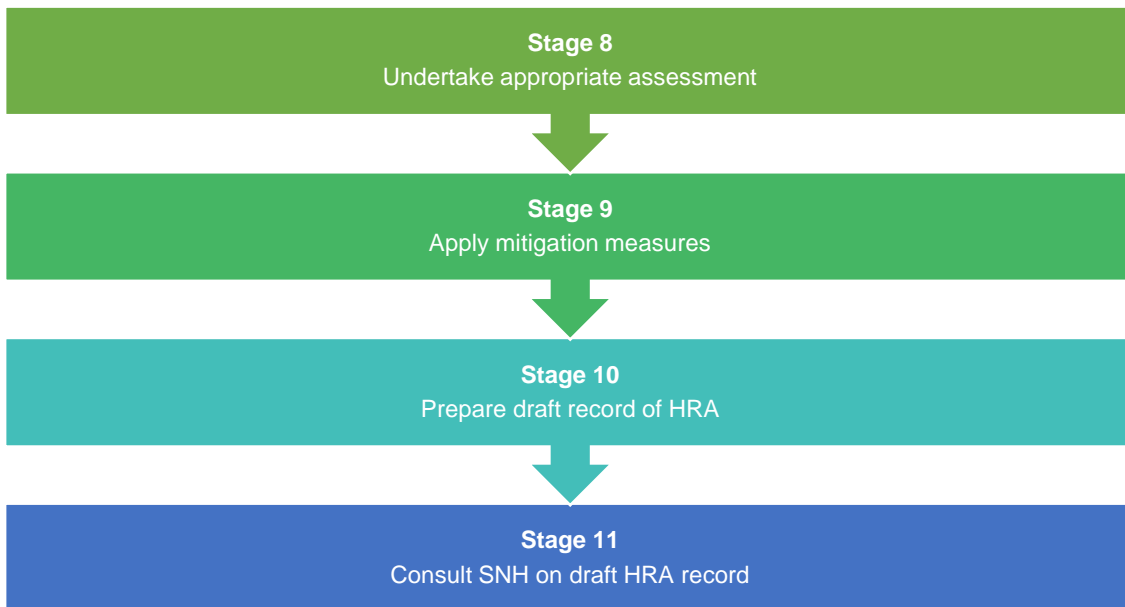


Figure 4: Stages 8-11 of Appropriate Assessment



## 5. Appraisal Results

### Stage 1- Decide whether the Sullom Voe Harbour Area Masterplan is subject to HRA

In Stage 1, the Sullom Voe Masterplan was assessed against the criteria in Figure 3 and Figure 4 to determine whether an HRA is required (Figure 5). It was considered that an HRA is required because:

- it is not directly connected with or necessary to the management of a European site for nature conservation purposes;
- it is supplementary guidance (regulations 85A); and
- it provides a framework for deciding applications and influencing decision-makers.

The Sullom Voe Masterplan will be a material consideration in the determination of marine-related planning and works licence applications (from the Shetland Islands Council (SIC)) within the Sullom Voe Harbour area. It will influence decision makers on the outcome of those licence applications, the Sullom Voe Masterplan is therefore subject to HRA and steps 3-5 of Figure 3 are required

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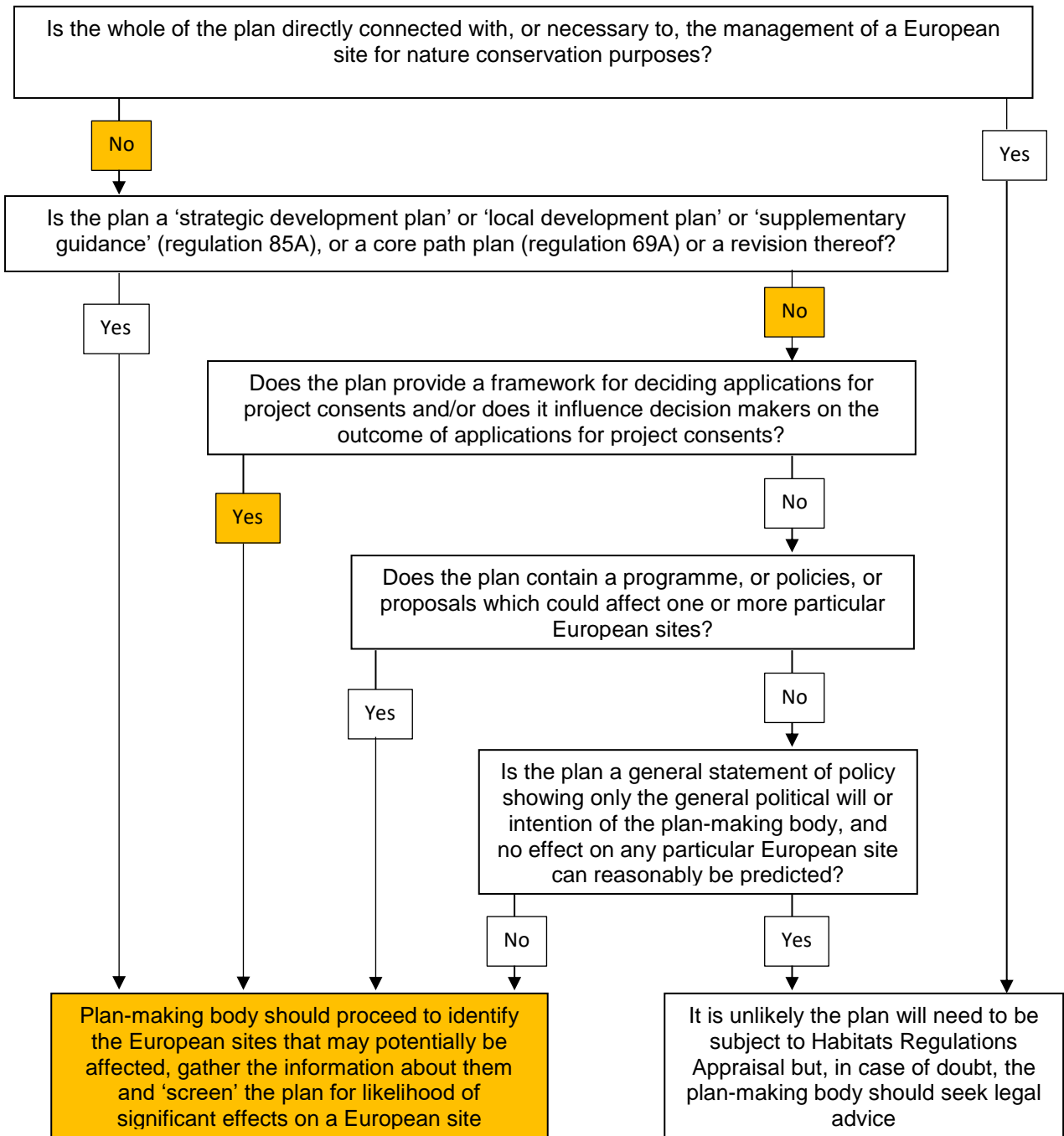


Figure 5: Habitats Regulation Appraisal decision criteria

## Stage 2- Identification of European Sites

The purpose of this stage is to provide information about the European sites that may be affected by the Masterplan (Stages 2 and 3 of the HRA). The focus has been on European sites with marine components, as defined by JNCC<sup>1</sup>. These sites comprise:

- Special Protection Areas (SPA), proposed SPAs (pSPA) and draft SPAs (dSPA);
- Special Areas of Conservation (SAC), candidate SACs (cSAC) and proposed SACs (pSAC)

Scottish Government policy affords the same level of protection to proposed SACs and SPAs as that which applies to SPAs, SACs and cSACs. These designated sites are collectively known as European sites.

There is one Ramsar site in Shetland located adjacent to the Sullom Voe Harbour Area. This site is also designated as an SAC (Ronas Hill- North Roe) and an SPA (Ronas Hill- North Roe and Tingon) and as such have been address in the screening process under these designations.

### *Special Areas of Conservation*

SACs are sites selected for particular habitats and species (both terrestrial and marine) which are listed in Annexes I and II of the Habitats Directive (as amended). The listed habitat types and species are those considered to be of most in need of conservation at a European level (excluding birds).<sup>2</sup>

There are currently thirteen designated SACs in Shetland, four of which are considered of potential relevance as they are either within the Sullom Voe Harbour Area, or within the wider area. Two have been classified for their marine features and are within the Sullom Voe Harbour Area and two are terrestrial sites adjacent to the Harbour Area. These four SACs are described in Table 1 and illustrated in Figure 6.

*Table 1: Special Areas of Conservation within the Sullom Voe Harbour Area and terrestrially adjacent to the Harbour Area*

Site		Feature Category	Feature
code	name		
<a href="#">UK0012687</a>	Yell Sound Coast	Mammals (Annex 1 species)	Otter ( <i>Lutra lutra</i> )
		Mammals (Annex 1 marine species)	Common seal ( <i>Phoca vitulina</i> )
<a href="#">UK0030273</a>	Sullom Voe	Inshore sublittoral rock (Annex 1 marine habitat)	Reefs
		SAC qualifying feature- Inshore sublittoral sediment (Annex 1 marine habitat)	Lagoons
		SAC qualifying feature- Littoral sediment (Annex 1 marine habitat)	Shallow inlets and bays
<b>SACs adjacent to Sullom Voe Harbour Area</b>			
<a href="#">UK0019795</a>	East Mires and Lumbister (adjacent to SVHP area)	Raised bogs and mires and fens (Annex 1 terrestrial habitat)	Blanket bog

<sup>1</sup> JNCC. September 2007. Defining SACs with Marine Components and SPAs with Marine Components: JNCC and Country Conservation Agency Guidance. MN2KPG16\_13\_MN2KDefs.doc

<sup>2</sup> [JNCC-Special Areas of Conservation](#)

<a href="#">UK0019797</a>	Ronas Hill- North Roe (adjacent to SVHP area)	Freshwater habitats (Annex 1 terrestrial habitat)	Oligotrophic to mesotrophic standing waters with vegetation of the <i>Littorelletea uniflorae</i> and/or of the <i>Isoëto-Nanojuncetea</i>
			Natural dystrophic lakes and ponds
		Temperate heath and scrub (Annex 1 terrestrial habitat)	Alpine and Boreal heaths
		Raised bogs and mires and fens (Annex 1 terrestrial habitat)	Blanket bogs
		SAC qualifying feature- Temperate heath and scrub	North Atlantic wet heaths with <i>Erica tetralix</i>
			European dry heaths
	SAC qualifying feature- Rocky habitats and caves	Siliceous scree of the montane to snow levels	

*Special Protection Areas*

SPAs with marine components are defined as those sites with qualifying Birds Directive Annex I species or regularly occurring migratory species that are dependent on the marine environment for all or part of their life cycle, where these species are found in association with intertidal or subtidal habitats.

These marine SPA habitats are:

- marine areas and sea inlets;
- tidal rivers, estuaries, mud flats, sand flats and lagoons (including salt work basins); and
- salt marshes, salt pastures and salt steppes.

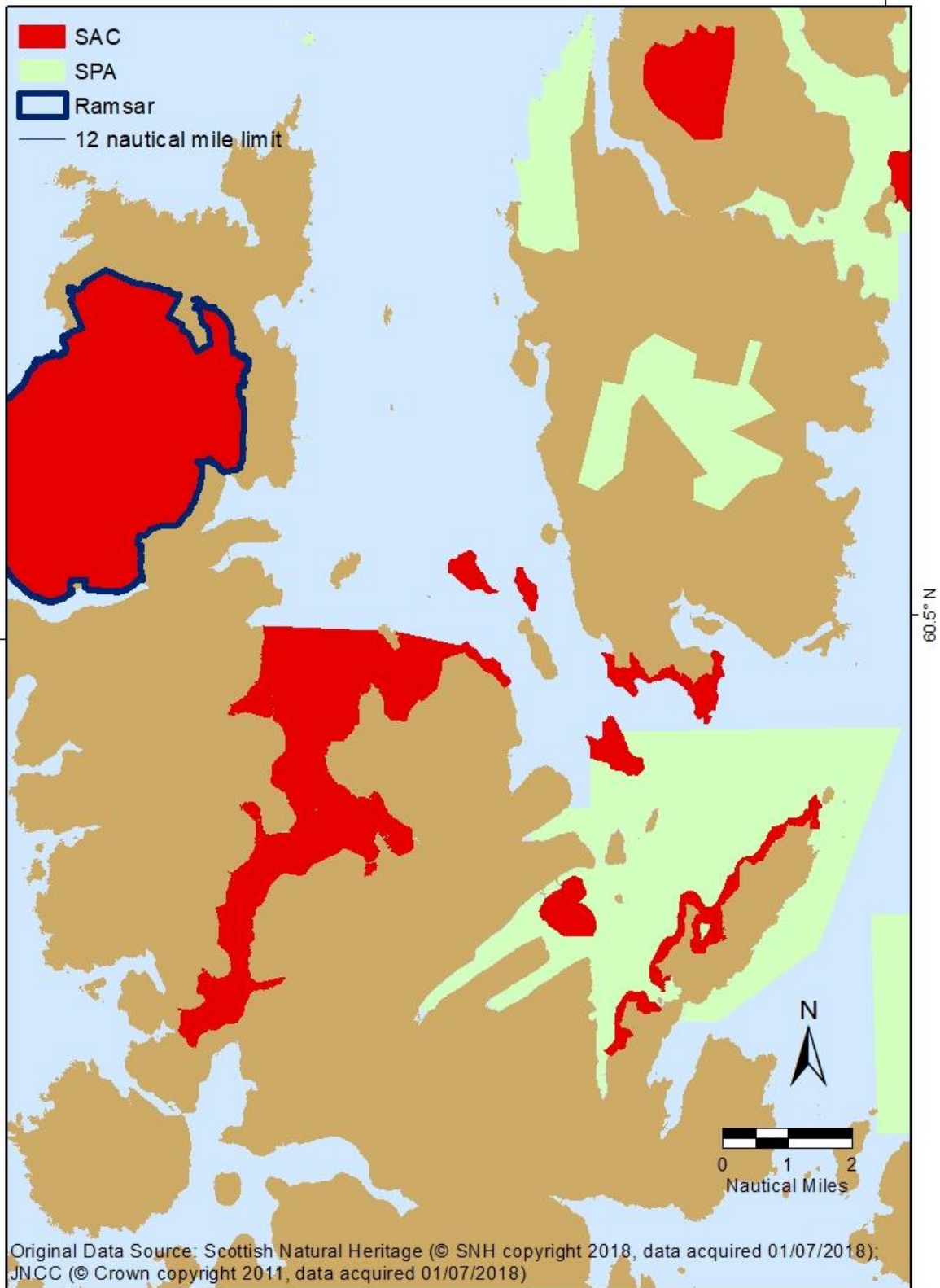
There are currently 15 SPAs in Shetland (with two pSPAs becoming SPAs during the development of this Masterplan). Nine of these SPAs are for marine components and an additional five coastal SPAs. Within the Sullom Voe Harbour area there is one SPA with a marine component, two adjacent SPA with marine components and one coastal SPA adjacent the Plan area. These four SPAs are described in Table 2 and illustrated in Figure 6.

The adjacent SPAs have been included as, although they are not within the Sullom Voe Harbour Area, they do contain marine and coastal elements which include aggregations of breeding birds and as such, they may need to be considered if a marine development were to either include coastal infrastructure (such as piers, sheds, roads, ground running cables etc.) or marine infrastructure that could cause impact these species while flying or foraging (e.g. lights, noise).

Table 2: Special Protected Areas within and adjacent to the Sullom Voe Harbour Area

	Site	Feature Category	Feature
<a href="#">UK9002941</a>	Otterswick and Graveland	Birds- aggregations of breeding birds	Red-throated diver ( <i>Gavia stellate</i> ), breeding
<b>SPAs adjacent to the Sullom Voe Harbour Area</b>			

UK9020311	East Mainland Coast	Birds-aggregations of breeding/non-breeding birds Breeding- Red-throated diver <i>(Gavia stellate)</i> Non-breeding- Great northern diver <i>(Gavia immer)</i> Slavonian grebe <i>(Podiceps gruitus)</i>	
<a href="#">UK9002021</a>	Ramna Stacks & Gurney (adjacent to SVMP area)	Birds- aggregations of breeding birds	Leach's petrel <i>(Oceanodroma leucorhoa)</i> , breeding
<a href="#">UK9002041</a>	Ronas Hill- North Roe and Tingon (adjacent to SVMP area)	Birds- aggregations of breeding birds	Great skua <i>(Stercorarius skua)</i> , breeding <hr/> Red-throated diver <i>(Gavia stellate)</i> , breeding



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Figure 6 SAC, SPAs and Ramsar sites within and adjacent to Sullom Voe Harbour area

### Stage 3- Gather information on the European Sites

To determine the likelihood of significant effects of a particular development on a European site it is necessary to look at the qualifying features of the site, the condition of the site and the conservation objectives of these sites.

Conservation objectives for SACs are site specific and listed within Conservation and Management Advice documents which can be found on the NatureScot's SiteLink website<sup>3</sup>

Conservation objectives for SPAs are generally structured as follows:

- To avoid deterioration of the habitats of the qualifying species (listed below) or significant disturbance to the qualifying species, thus ensuring that the integrity of the site is maintained; and
- To ensure for the qualifying species that the following are maintained in the long term:
  - Population of the species as a viable component of the site
  - Distribution of the species within site
  - Distribution and extent of habitats supporting the species
  - Structure, function and supporting processes of habitats supporting the species
  - No significant disturbance of the species

Information on the marine related SACs and SPAs was obtained from the NatureScot Sitelink and summarised in Table 3 and Table 4 respectively. It should be noted that the condition of the features within the recently designated East Mainland Coast SPA are yet to be fully assessed.

Table 3: Conservation status of SAC feature habitats and species within the Sullom Voe Harbour Area

Site	Feature Category	Feature	Site Condition
Yell Sound Coast	Mammal	Otter ( <i>Lutra lutra</i> )	Unfavourable No Change
	Marine	Harbour seal ( <i>Phoca vitulina</i> )	Unfavourable Declining
Sullom Voe	Marine	Reefs	Favourable Maintained
		Lagoons	Favourable Maintained
		Shallow inlets and bays	Favourable Maintained
<b>SACs adjacent to Sullom Voe Harbour Area</b>			
East Mires and Lumbister	Upland Habitat	Blanket bog	Favourable Maintained
Ronas Hill-North Roe	Freshwater habitat	Oligotrophic to mesotrophic standing waters with vegetation of the <i>Littorelletea uniflorae</i> and/or of the <i>Isoëto-Nanojuncetea</i>	Favourable Maintained
		Natural dystrophic lakes and ponds	Favourable Maintained
	Upland Habitat	Blanket bogs	Unfavourable Recovering
		North Atlantic wet heaths with <i>Erica tetralix</i>	Unfavourable Declining
		European dry heaths	Unfavourable Recovering

<sup>3</sup> <https://sitelink.nature.scot/home>

		Siliceous scree of the montane to snow levels	Unfavourable No Change
		Blanket bogs	Favourable Maintained

Table 4: Conservation status of SPA feature habitats and species within the Sullom Voe Harbour Area

Site	Feature Category	Feature	Site Condition
<b>Otterswick and Graveland</b>	Birds	Red-throated diver ( <i>Gavia stellate</i> ), breeding	Unfavourable Declining
<b>SPAs adjacent to Sullom Voe Harbour Area</b>			
<b>East Mainland Coast</b>	Aggregations of breeding and non-breeding birds	Red-throated diver ( <i>Gavia stellate</i> )-breeding	Condition not assessed
		Great northern diver ( <i>Gavia immer</i> )-non-breeding	
		Slavonian grebe ( <i>Podiceps gurgitus</i> )- non-breeding	
<b>Ramna Stacks &amp; Gurney</b>	Birds	Leach's petrel ( <i>Oceanodroma leucorhoa</i> ), breeding	Unfavourable declining
<b>Ronas Hill- North Roe and Tingon</b>	Birds	Great skua ( <i>Stercorarius skua</i> ), breeding	Favourable Maintained
		Red-throated diver ( <i>Gavia stellate</i> ), breeding	Favourable Declining

#### Stage 4- Discretionary Consultation on method and scope of the appraisal

The DTA Guidance advises that the views of NatureScot should be sought early in the HRA process, so that any mitigation can be built into the plan-making process as soon as possible. The benefit of early engagement enables NatureScot to advise the plan-making team on options, draft policies or proposals that may have a likely significant effect (LSE) or minor residual effect (MRE) on European sites and on possible mitigation measures. This is envisaged to save time and effort later in the HRA process.

#### Records of HRA related with NatureScot

NatureScot were informally consulted on the Sullom Voe Masterplan and requirements of the HRA during the Master Planning consultation process.

#### Stage 5- Screen the plan for likely significant effects (LSE) on a European Site

Screening is a term used to describe the initial stages of the HRA, however it is not a term used explicitly in the Habitats Directives or Regulations (DTA, 2012). The main purpose of the screening stages is to:

- a) Identify all aspects of the plan which would have **no effect** on a European site, so that they can be eliminated from further consideration in respect of this and other plans;



- b) Identify all aspects of the plan which would not be likely to have a significant effect on a European site (i.e. would have **some effect, but minor residual**), either alone or in-combination with other aspects of the same plan or other plans and projects; and which therefore do not require ‘appropriate assessment’ but will need to be screened for the likelihood of significant effects in-combination with other identified minor residual effects; and
- c) Identify those aspects of the plan where it is not **possible to rule out the risk of significant effects** on a European site, either alone or in-combination with other plans or projects. This means that the conclusion is that there is an LSE, and this provides a clear scope for the parts of the plan that will require appropriate assessment.

For the purposes of screening, it is important to provide an interpretation of what is considered to be a ‘likely significant effect’. In the ‘Waddenzee Ruling’ the European Court of Justice said in re-iteration:

*‘...any plan or project not directly connected with or necessary to the management of the site is to be subject to an appropriate assessment of its implications for the site in view of the site’s conservation objectives if it cannot be excluded, on the basis of objective information, that it will have a significant effect on that site, either individually or in-combination with other plans or projects.’*

Therefore, it may be interpreted that ‘a precautionary approach’ is employed where a LSE cannot be ruled out, either alone or in-combination with other plans or projects.

The screening process includes a series of systematic steps to eliminate or ‘screen out’ elements of the Sullom Voe Masterplan not likely to have a significant effect on a European site. This will then ensure that other elements of the Sullom Voe Masterplan are ‘screened in’ to the appropriate assessment and therefore subject to further appraisal. While it is acknowledged that mobile species from distant SPA and SACs may be impacted by development within the Sullom Voe Harbour area, this HRA focuses primarily on measures which can be implemented spatially to reduce LSE. Potential developments will also be subject to AA, discussed further in ‘Project level HRA’, page 22.

As a spatial marine plan the process of site identification for development within this Masterplan has potential to have LSE. Therefore, all of the plan is screened in, relevant European sites are shown in Table 5.

Table 5: Screening results for European sites within and adjacent to the Sullom Voe Harbour Area

European Site	Screening Result	Comment
Yell Sound Coast SAC	<b>Screened In</b>	These sites are within the Sullom Voe Harbour Area and are designated for their marine features. There is the potential for LSE on the features for which they have been designated.  They will be taken forward within the mitigation and appropriate assessment stages.
Sullom Voe SAC	<b>Screened In</b>	
East Mires and Lumbister SAC	<b>Screened Out</b>	These are terrestrial sites designated for their upland and freshwater habitats. No relevant impact pathways have been identified.
Ronas Hill-North Roe SAC	<b>Screened Out</b>	

		There is not expected to be any impact on these areas as a result of the Sullom Voe Masterplan
Otterswick and Graveland SPA	<b>Screened In</b>	<p>This is a terrestrial site adjacent to the Sullom Voe Harbour Area designated for breeding birds. Feature species forage in the waters of the Sullom Voe Harbour Area and therefore a relevant impact pathway has been identified.</p> <p>The site will be taken forward within the mitigation and appropriate assessment stages</p>
East Mainland Coast SPA	<b>Screened In</b>	<p>This is a marine site lying adjacent to the Sullom Voe Harbour Area. It has been designated for its foraging bird species. As these species could utilise areas within the Harbour Area there is the potential for LSE.</p> <p>The site will be taken forward within the mitigation and appropriate assessment stages</p>
Ramna Stacks & Gurney SPA	<b>Screened In</b>	<p>This is a terrestrial site designated for breeding bird feature species. However, anthropogenic light sources may have an impact</p> <p>The site will be taken forward within the mitigation and appropriate assessment stages</p>
Ronas Hill- North Roe and Tingon SPA	<b>Screened In</b>	<p>This is a terrestrial site adjacent to the Sullom Voe Harbour Area designated for breeding birds. Feature species forage in the waters of the Sullom Voe Harbour Area and therefore a relevant impact pathway has been identified.</p>

		The site will be taken forward within the mitigation and appropriate assessment stages
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Stage 6- Apply mitigation measures

Assessment methodology

The assessment will build on the screening process by considering the particular environmental pressures and changes that give rise to a LSE of an interest feature and then providing a generic assessment of the impact on European/Ramsar site (herein referred to collectively as European sites) integrity having regard to the site’s conservation objectives.

A standardised iterative assessment process is proposed to assess the impact on each of the key interest feature groups of habitats and species. The individual steps in this process are as follows:

- **Step 1 Impact pathways review** - Identification of the impact pathways that are relevant likely development types;
- **Step 2 Identify activities to which features are sensitive** - A review of the activities involved in activity types, and the environmental changes arising, which could have an impact on European/Ramsar sites or interest features via the identified impact pathways;
- **Step 3 Activity-based screening of European/Ramsar Sites** – Identification (screening) of those European/Ramsar sites;
- **Step 4 Identify relevant interest features for which there is a LSE, or for which a LSE cannot be excluded, from the activities and impact pathways**
- **Step 5 Assessment of the potential effects on European sites (Appropriate assessment)**- Assessment of impacts via each of the activities associated with development both alone and in-combination with other extant plans or projects. This is followed by the identification of available mitigation measures for each identified impact pathway and the identification, where required, of additional mitigation measures which ensure that these activities have no adverse effect on the integrity of a European site (AEOI).

During the Sullom Voe Master Planning process and in making judgements about the potential for a LSE on designated sites and features as part of this HRA process, interlinked factors were considered such as, the distance from the Sullom Voe Harbour Area to designated sites and features as well as current scientific understanding (and gaps in that understanding) about the ecology, behavioural characteristics and ‘sensitivities’ of the interest features.

**Step 1 Impact pathways review**

*Impact pathways that are relevant likely development types are described in*

Table 6.

Table 6 Potential impact pathways that are relevant to likely development types

Marine activity	Potential pressure
Aquaculture – finfish	Smothering, nutrient enrichment, foraging habitat loss, disturbance, entanglement, collision, noise
Aquaculture – shellfish	Smothering, nutrient depletion, foraging habitat loss, disturbance, entanglement, collision, noise
Seaweed cultivation	Smothering, nutrient depletion, foraging habitat loss, disturbance, entanglement, collision, noise
Marine renewables	foraging habitat loss, Disturbance, entanglement, collision, noise

### Step 2 Identify activities to which features are sensitive

Key species sensitivities and activities which could generate pressures are detailed in Table 7 and Table 8.

Table 7 Key sensitivities and potential pressures from marine activity on SACs within the Sullom Voe Harbour Area

Site	Species	Key Sensitivities	Potential marine activity pressures
Yell Sound Coast	Otter ( <i>Lutra lutra</i> )	Disturbance, entanglement, collision, noise, foraging habitat loss	Fisheries, aquaculture, seaweed cultivation, cables, pipelines, marine renewables, infrastructure
	Common seal ( <i>Phoca vitulina</i> )	Disturbance, entanglement, noise, habitat loss, collision	Fisheries, aquaculture, seaweed cultivation, cables, pipelines, marine renewables, infrastructure
Sullom Voe	Reefs	Smothering, abrasion, nutrient enrichment or depletion	Fisheries, aquaculture, seaweed cultivation, cables, pipelines, marine renewables, infrastructure
	Lagoons	Smothering, abrasion, nutrient enrichment or depletion	Fisheries, aquaculture, seaweed cultivation, cables, pipelines, marine renewables, infrastructure

	Shallow inlets and bays	Smothering, abrasion, nutrient enrichment or depletion	Fisheries, aquaculture, seaweed cultivation, cables, pipelines, marine renewables, infrastructure
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Table 8 Key sensitivities and potential pressures from marine activity on SPAs within the Sullom Voe Harbour Area

Site	Species	Key sensitivities	Potential marine activity pressures
Otterswick and Graveland	Red-throated diver ( <i>Gavia stellate</i> )	Disturbance, entanglement, collision, noise and foraging habitat loss	aquaculture, land based development
Ramna Stacks & Gurney	Leach's petrel ( <i>Oceanodroma leucorhoa</i> )	Disturbance, anthropogenic light sources	aquaculture, marine renewables, infrastructure, land based development
Ronas Hill-North Roe and Tingon SPA	Red-throated diver ( <i>Gavia stellate</i> )	Disturbance, entanglement, collision, noise, foraging habitat loss	aquaculture, seaweed cultivation, cables, pipelines, marine renewables, infrastructure
East Mainland Coast	Red-throated diver ( <i>Gavia stellate</i> ), breeding	Disturbance, entanglement, collision, noise, foraging habitat loss	aquaculture, seaweed cultivation, cables, pipelines, marine renewables, infrastructure
	Great northern diver ( <i>Gavia immer</i> )	Disturbance, entanglement, collision, noise, foraging habitat loss	aquaculture, seaweed cultivation, cables, pipelines, marine renewables, infrastructure
	Slavonian grebe ( <i>Podiceps guritus</i> )	Disturbance, entanglement, collision, noise, foraging habitat loss	aquaculture, seaweed cultivation, cables, pipelines, marine renewables, infrastructure

### Step 3 Activity-based screening of European/Ramsar Sites

Activities for which the Masterplan will cover are aquaculture, seaweed cultivation and marine renewables. All these activities are screened in.

### Step 4 Identify relevant interest features for which there is a LSE, or for which a LSE cannot be excluded, from the activities and impact pathways

SAC and SPA features which may be sensitive to development are detailed in Table 9 and Table 10.

Table 9 Key sensitivities and potential pressures from marine activity on SACs within the Sullom Voe Harbour Area

Site	Species	Key Sensitivities	LSE
Yell Sound Coast	Otter ( <i>Lutra lutra</i> )	Disturbance, entanglement, collision, noise, foraging habitat loss	LSE cannot be excluded
	Common seal ( <i>Phoca vitulina</i> )	Disturbance, entanglement, noise, habitat loss, collision	LSE cannot be excluded

Sullom Voe	Reefs	Smothering, abrasion, nutrient enrichment or depletion	LSE cannot be excluded
	Lagoons	Smothering, abrasion, nutrient enrichment or depletion	LSE cannot be excluded
	Shallow inlets and bays	Smothering, abrasion, nutrient enrichment or depletion	LSE cannot be excluded

Table 10 key sensitivities and potential pressures from marine activity on SPAs within the Sullom Voe Harbour Area

Site	Species	Key sensitivities	Potential marine activity pressures
Otterswick and Graveland	Red-throated diver ( <i>Gavia stellate</i> )	Disturbance, entanglement, collision, noise, foraging habitat loss	LSE cannot be excluded
Ramna Stacks & Gurney	Leach's petrel ( <i>Oceanodroma leucorhoa</i> )	Disturbance, light pollution	LSE cannot be excluded
Ronas Hill-North Roe and Tingon SPA	Red-throated diver ( <i>Gavia stellate</i> )	Disturbance, entanglement, collision, noise, foraging habitat loss	LSE cannot be excluded
East Mainland Coast	Red-throated diver ( <i>Gavia stellate</i> ), breeding	Disturbance, entanglement, collision, noise, foraging habitat loss	LSE cannot be excluded
	Great northern diver ( <i>Gavia immer</i> )	Disturbance, entanglement, collision, noise, foraging habitat loss	LSE cannot be excluded
	Slavonian grebe ( <i>Podiceps guritus</i> )	Disturbance, entanglement, collision, noise, foraging habitat loss	LSE cannot be excluded

Mitigation measures applied during the plan making process included removing specific areas from 'search' based on ecological, commercial or community constrain, as well as the creation of buffers around SACs and their features, see Sullom Voe Masterplan report. This resulted in potential development Zones A-G, see Sullom Voe Masterplan report. The relevant mitigation is shown for development zone in Table 11 and Table 12. No specific mitigation was proposed to reduce impacts on the East Mainland SAC as it falls outside the Sullom Voe harbour area development zones.

Table 11 Mitigation measures in place to protect features of SACs and SPAs within Zone A and Zone B of the Sullom Voe Masterplan

Site	Species	Mitigation measures
Yell Sound Coast SAC	Otter ( <i>Lutra lutra</i> )	SAC area removed from area of search during the zoning process.

	Common seal ( <i>Phoca vitulina</i> )	<p>SAC area removed from area of search during the zoning process</p> <p>Protected seal haul-out sites removed from area of search during the zoning process</p> <p>A buffer area from seal haul-out sites out to 500m was potentially excluded from search during zoning. Potential impacts on seals within these areas will be assessed at individual application level</p>
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Table 12 Mitigation measures in place to protect features of SACs and SPAs within Zones C, D and E of the Sullom Voe Masterplan

Site	Species	Mitigation measures
Yell Sound Coast SAC (Zone E)	Otter ( <i>Lutra lutra</i> )	SAC area removed from area of search during the zoning process.
Sullom Voe SAC (Zones C, D and E)	Reefs	The Sullom Voe SAC area was potentially excluded from search during zoning. Dependant on development type, there may be little to no impact on a protected feature. These potential impacts will be assessed at individual application level.
	Lagoons	
	Shallow inlets and bays	

## Stage 8- Appropriate Assessment (step 5)

### Appropriate Assessment Results

In the absence of a Masterplan, it is noted the potential for LSE on the Yell Sound SAC, Sullom Voe SAC, and East Mainland Coast SPA have been considered within the Shetland Islands Regional Marine Plan (SIRMP). During the HRA process for the SIRMP, mitigation measures have been applied within the SIRMP (which this plan sits beneath) in the form of policies, and policy caveats to prevent LSE. Currently the SIC Aquaculture Policy preventing finfish and shellfish aquaculture in Sullom Voe provides protection for the European sites in the area from these activities, but not from seaweed farming, renewables etc. This Masterplan will provide spatial guidance which applies to all activities

equally, reducing the overall area for development. However, as the Masterplan covers a range of potential uses, it is not possible to analyse the potential impact of a specific industry in detail. Therefore, project level HRAs will still be required.

During Stage 5 of this HRA assessment, the 'East Mires and Lumbister' and 'Ronas Hill-North Roe' SAC were **screened out** as there is no LSE on the integrity of the sites.

The Yell Sound Coast SAC and Sullom Voe SAC, were screened **in** for further consideration. The East Mainland Coast SPA has also been **screened in** although it is outside of the Sullom Voe Harbour Area limits, due to its foraging bird interest feature species. In addition, the 'Otterswick and Graveland', 'Ramna Stacks & Gurney', 'Ronas Hill- North Roe and Tingon' SPAs were also **screened in** as these the species present at these sites could be impacted while flying or foraging.

### **In-combination effects**

It is noted that the Masterplan sits beneath the Shetland Islands Regional Marine Plan, which has previously concluded that there will be no LSE from the SIRMP. This Masterplan seeks to provide more detailed guidance on areas which may be suitable for development, but identifying areas which are considered unsuitable for development. Developments will still have to adhere to the Policy framework of the SIRMP, the National Marine Plan, as well as the relevant legislation.

The appropriate assessment phase of the HRA (Stage 8) has reviewed the impacts arising from the Sullom Voe Harbour Masterplan. In advance of considering further mitigation measures, it could not be concluded that there will be no AEOI on all European sites, specifically Yell Sound SAC, Sullom Voe SAC and East Mainland Coast SPA. This is because of the inherent uncertainties that exist about future developments types and the potential in-combination effects. Specific uncertainties relate to several aspects such as:

- Development size and type within each zone;
- the location, scale and densities of development;
- the proposed technologies;
- the scale of the effects arising via some of the defined impact pathways;

and

- the efficacy of some project-level mitigation options.

Recognising these uncertainties, and the conclusions of Stage 8, there is clearly a need for appropriate and meaningful mitigation measures to accompany the Masterplan. The following sections detail the plan-level mitigation required to conclude, with a high degree of certainty, that there will be no AEOI on any European/Ramsar site arising from the Sectoral Offshore

Given the inherent uncertainties associated with the Draft Masterplan, plan-level mitigation measures are required to ensure there is no AEOI. Two mitigation measures are identified as integral to the Draft Plan:

- The legal requirement for individual projects to undergo HRA. All future developments that are undertaken as part of the Masterplan will be required to undergo an HRA and, wherever the possibility of a LSE on a European/Ramsar site cannot be excluded, a project-level AA will need to be completed.
- In the future, the project-level assessments and the associated monitoring review work will be linked to (and will inform) regular reviews of the Plan, the Shetland Islands Council Local Development Plan and the Shetland Islands Regional Marine Plan.



It is important to confirm and acknowledge that this plan-level HRA will not be a substitute for project-level HRAs, where these are required for individual projects. Such project-level HRA processes will be required in accordance with the legislation, regardless of the status of the Masterplan Zones. Accordingly, the requirement for a project-level AA, wherever there is possibility of a LSE, is an important mitigation measure for the plan level HRA to ensure there is no adverse effect on integrity of designated sites once there is the required level of certainty about development location(s) and design.

### **Project-Level HRA**

Acknowledgment of this measure is based on a recognition that, as a matter of law, any new project developed within the Sullom Voe harbour area will be required to undergo a project-level HRA and to produce an AA wherever the possibility of LSE on a European/Ramsar site cannot be excluded. Each individual project will need to review the baseline conditions and undertake work in a manner that does not have an AEOL. As part of this plan-level HRA, information has been provided to aid future project level AAs.

All future project-level HRA work will need to be completed in the context of the latest evidence base (relating to the development/ sector proposed) and scientific knowledge relating to site features and sensitivities. These HRAs will need to be completed to the satisfaction of the consenting body (as competent authority at the project stage), taking account of advice from NatureScot and other consultees where appropriate. Project level HRAs will be a legal requirement in all cases where LSE cannot be excluded as will the application of project-level mitigation (where these are necessary to avoid adverse effects at project level).

The information that will need to be supplied within the project-level HRAs includes:

- The status of new European/Ramsar designations;
- Current understanding of feature sensitivities;
- Assessment of effects during development phases e.g. survey, construction and operational phases (including the in-combination effects with other plans or projects); and
- Proposed mitigation measures.

It should also be recognised that it may be necessary, as part of the project level HRAs, to revisit the screening process that was undertaken for the Sullom Voe Masterplan. Depending upon the outcome of the project-level AA, there might be a need for mitigation measures to be implemented to ensure that there is no AEOL.

Therefore, uncertainties associated with the sensitivities of European site features to individual projects will be addressed through project-level HRA (with the benefit of project specific information), to demonstrate no adverse effect on integrity of these features. The Habitats Regulations and the case-law that informs their implementation highlight the need for developers to demonstrate 'no adverse effect' using best available scientific knowledge and beyond reasonable scientific doubt.

To ensure that the Masterplan continues to consider current understanding of the marine environment the Shetland Islands Council will revisit the Plan every five years.

## **Conclusion**

The draft Masterplan reduces potential impacts on European sites compared with the status quo, however there will be a statutory requirement for future project-level HRAs to accompany any development resulting from Zones outlined within this Masterplan. These HRAs will take account of project level detailed considerations and the content of the plan-level HRA, allowing the planning of developments in a manner that does not lead to an AEOI. Provided that the initial plan-level mitigation is undertaken (i.e. project-level HRAs), it is concluded that the Sullom Voe Masterplan will not lead to an AEOI either alone or in-combination with other plans or projects.

Developers in any Zone will need to address the potential issues identified within the plan-level HRA; ensuring that they adhere to relevant project-level mitigation measures where necessary to avoid an AEOI. Developments within some Zones, and some development types are likely to pose a greater risk of impact on European/Ramsar sites and features than others. Therefore, developments will require more mitigation (at possibly a greater cost) than at others, in order to ensure no AEOI.