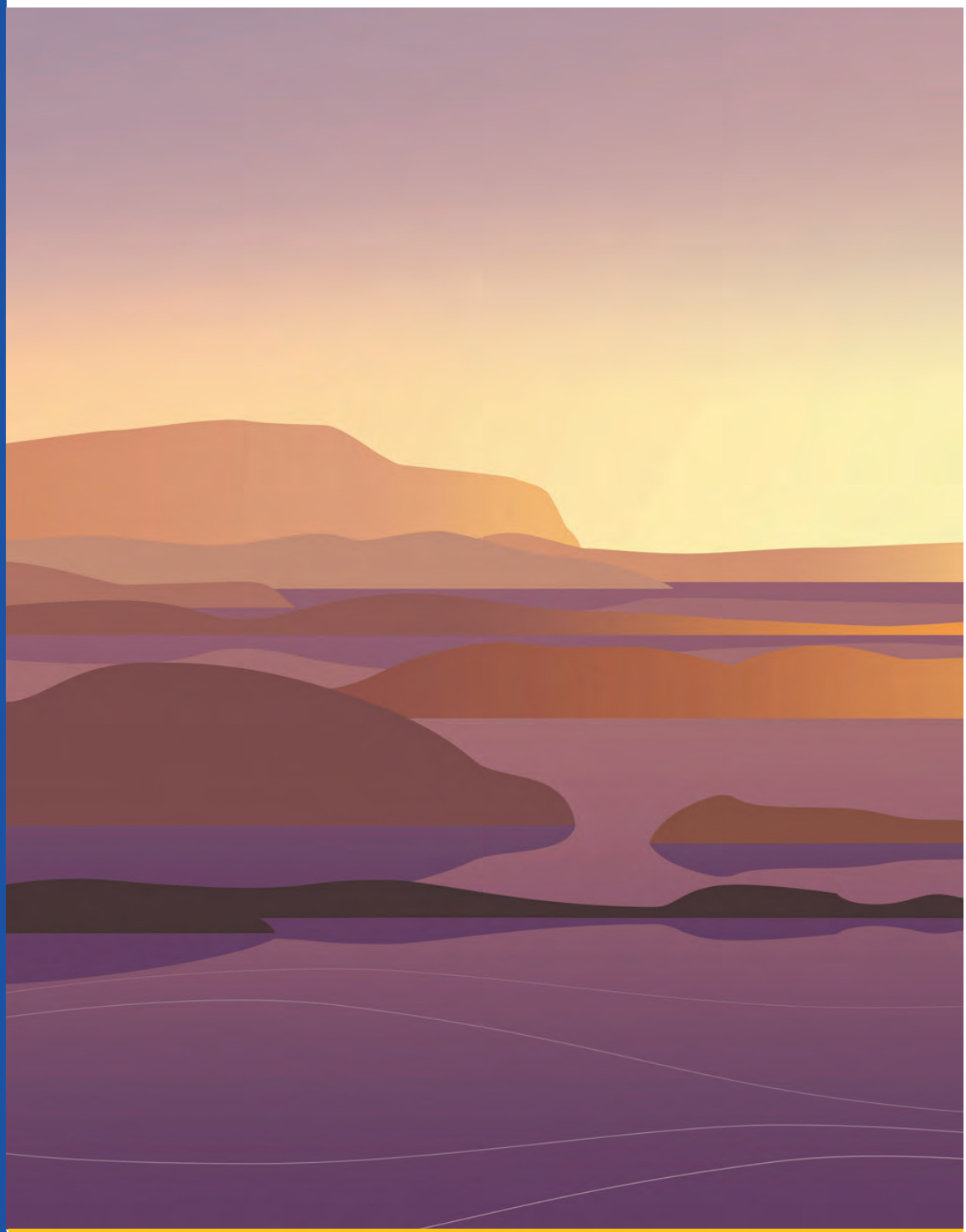
Supplementary Guidance
Shetland Islands' Marine Spatial Plan

Shetland
Islands Council

NAFC Marine Centre
University of the
Highlands and Islands



Fourth Edition
2015

SHETLAND ISLANDS' MARINE SPATIAL PLAN Fourth Edition

The Shetland Islands' Marine Spatial Plan (SIMSP) has been developed by the Marine Spatial Planning Team at the NAFC Marine Centre under the guidance of the Local Advisory Group. Funding has been provided by Marine Scotland and the NAFC Marine Centre.

Acknowledgements
The SIMSP was initially developed at the NAFC Marine Centre through the Scottish Sustainable Marine Environment Initiative (SSMEI) during the period 2006-2010. All past and present members of the Local Steering/ Advisory Group are acknowledged for their support and advice in progressing the SIMSP to this stage. All of the original funders are also credited for their invaluable assistance including: Scottish Natural Heritage, Shetland Islands Council, The Crown Estate and LEADER.

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STATUS OF THE SMSP

The Shetland Local Development Plan (the LDP), together with any Supplementary Guidance (SG), sets out the policies and criteria against which all proposals for developments and infrastructure in the coastal zone will be considered.

This SG - Shetland Islands' Marine Spatial Plan (SIMSP) - sets out detailed policy advice to help you meet the requirements of the LDP. It is therefore recommended that it is read in conjunction with the policies in the LDP and any other SG relevant to the type of development proposed.

The purpose of this SG is to set out policies and further a spatial strategy and policy framework to guide marine developments in the coastal waters around Shetland. Marine spatial planning in Scotland and Shetland is evolving and the SIMSP continues to ensure the sustainable management of the marine environment in these changing times. In the future marine planning will be implemented at a local level within Scottish Marine Regions extending out to 12 nautical miles. The Scottish Marine Regions (SMRs) will be created under secondary legislation. The Scottish Marine Regions Order 2013 identifies and establishes their boundaries and is expected to come in to force later in 2014 or early 2015. It is envisaged that Shetland will become a statutory Scottish Marine Region. In the interim this SG in conjunction with the LDP sets out the policies and criteria against which planning applications and work licences for marine related development submitted in Shetland will be considered.

The SIMSP aligns with the objectives set out in in the Local Development Plan's (the Plan's) policy CST1 for Coastal Development, as detailed in the box below:

CST1 Coastal Development:

Proposals for developments and infrastructure in the coastal zone (above Mean Low Water Mark of Ordinary Spring Tides) will only be permitted where the proposal can demonstrate that:

- ***It will not have a significant impact, either individually or cumulatively, on the natural, built environment and cultural heritage resources either in the sea or on land;***
- ***The location, scale and design are such that it will not have a significant adverse impact;***
- ***It does not result in any deterioration in ecological status or potential for any water body or prevent it from achieving good ecological status in the future ;***
- ***There is no significant adverse impact on other users of marine resources, and/ or neighbouring land.***

Proposals for marine aquaculture developments or amendments to existing fish farm developments will require to have regard to the

foregoing criteria and will be assessed against the Supplementary Guidance Policy for Aquaculture

All proposals will be assessed against the Shetland Islands' Marine Spatial Plan that sets out a spatial strategy and policy framework to guide marine developments in the coastal waters around Shetland. The Marine Spatial Plan identifies the constraints developers are required to consider when contemplating development in the coastal area and will form supplementary guidance to this plan.

Justification

Any proposal for development in the coastal area has to consider a wide range of marine activity and resource use many of which have an economic, environmental and social impact both in the sea and on neighbouring land. Activities will include marine renewables and other forms of energy extraction, marine infrastructure, aquaculture, maritime activities and recreation.

Planning control for aquaculture extends to both the freshwater and marine environments. Finfish and shellfish farming are very significant components of the local economy and SPP requires planning authorities to support the sustainable economic development of new and modified farms in appropriate locations. There is also a need to ensure that potential adverse effects on the environment are minimised and potential conflicts with other users of the marine or freshwater resource are minimised. To this end development proposals will be assessed in line with the Council's Policy for Aquaculture that forms Supplementary Guidance to the Development Plan.

Whilst local authority planning control in the coastal area from Mean Low Water Springs to the limit of territorial waters extends to aquaculture only, the council must take account of all activities around Shetland's coast. The council has a duty of development control and safe navigation in respect of marine development placed upon it by the Zetland County Council Act 1974. Under these powers the council intends that the criteria set out in the first paragraph of Policy CST1 will apply to developments and infrastructure below high water mark out to 12 nautical miles. For all other new marine developments or variations to existing marine infrastructure, proposals will be assessed against the Council's Works Licence Policy that details the policy framework for determination of applications.

FOREWORD

Shetland has a rich and diverse maritime heritage which has evolved and grown out of the Islands' geographical remoteness and the industries and communities of fishing and, more recently, oil. Shetlanders have embraced and responded to many new opportunities which, when integrated with existing traditions and skills, has resulted in a strong and dynamic marine management ethos. Further demands and opportunities are being placed on this unique ecosystem through the fast developing marine renewable energy sector.

National marine policy has been evolving since the introduction of the UK Marine and Coastal Access Act 2009 and the Marine (Scotland) Act 2010. The opportunity now exists to augment further the desire for local marine management through a more co-ordinated and robust framework that ensures the fundamental principles of sustainable development are applied to all marine activities. Whilst socio-economic and environmental factors are already integrated into a number of decision making processes, this has tended to be on a sectoral basis. As the use of valuable marine resources increases there is a need to manage more positively the potential conflicts between sectors and between environmental and socio-economic prosperity.

The Shetland Islands' Marine Spatial Plan (SIMSP) presents a comprehensive picture of the marine environment around Shetland. In developing the SIMSP a large volume of existing and new data has been collated and analysed to provide the necessary underpinning knowledge that is required for a more decisive and cohesive decision making process.

In recognising that marine spatial planning is a new concept and can mean different things to different people, the SIMSP includes all aspects of marine and coastal resource use including fishing, aquaculture, oil and gas, marine renewables, transportation and shipping, culture and heritage, sport and recreation, education and the environment. Building on Shetland's existing track record of effective and sustainable marine management this will ensure the marine waters around Shetland continue to be clean, healthy, safe and productive so as to meet the long term needs of nature and the local community.

Malcolm Bell
Convener, Shetland Islands Council

Galti Stack, North Eshaness

Image courtesy of Richard Shelmerdine

1 INTRODUCTION

The Shetland Islands' Marine Spatial Plan (SIMSP) provides an overarching policy framework to guide marine development and activity. It incorporates authoritative spatial data on the marine environment, its various uses and assets.

The SIMSP has been developed under the guidance of a Local Advisory Group. It represents an innovative approach to marine planning, based on Scottish Ministers' commitment to making marine management more efficient, inclusive and accessible now and for future generations.

The SIMSP addresses the range of activities occurring in, and placing demands on, the plan area. Where possible, areas of constraint and/or opportunities for development have been identified and mapped. This aims to reduce potential conflict, maximise compatibility between marine activities and encourage co-existence of multiple uses.

The SIMSP has been founded on a sound evidence base, as far as information has been made available. However, as the SIMSP is being developed during a period of fast evolving marine policy at national and international levels, it should be considered as part of an on-going process. Through monitoring and continuous review, a degree of flexibility can be accommodated to anticipate a range of future demands and scenarios, including new evidence, innovation and evolving technologies and techniques[1].

As the demand for use of our seas and the resulting pressures on them continue to rise, an integrated approach will help to manage competing demands. The adoption of the SIMSP as Supplementary Guidance (SG) to the Shetland Islands Council's Local Development Plan (LDP) underpins local commitment in delivering integrated terrestrial and marine spatial planning. The policies in the SIMSP will be material considerations in decision-making on individual marine planning applications and works licences. The SIMSP should streamline the development applications process by enabling developers to identify suitable areas for development and potential constraints at the feasibility and pre-application stage, which should lead to a reduction in delays and costs.

The implementation of this SIMSP will test the effectiveness of this approach, which aims to deliver the key benefits of:

- providing a plan-led approach to the management of the sea around Shetland;
- facilitating a more integrated and better informed decision-making process regarding the future distribution of activities and resources;
- enabling long-term protection and use of the marine environment.

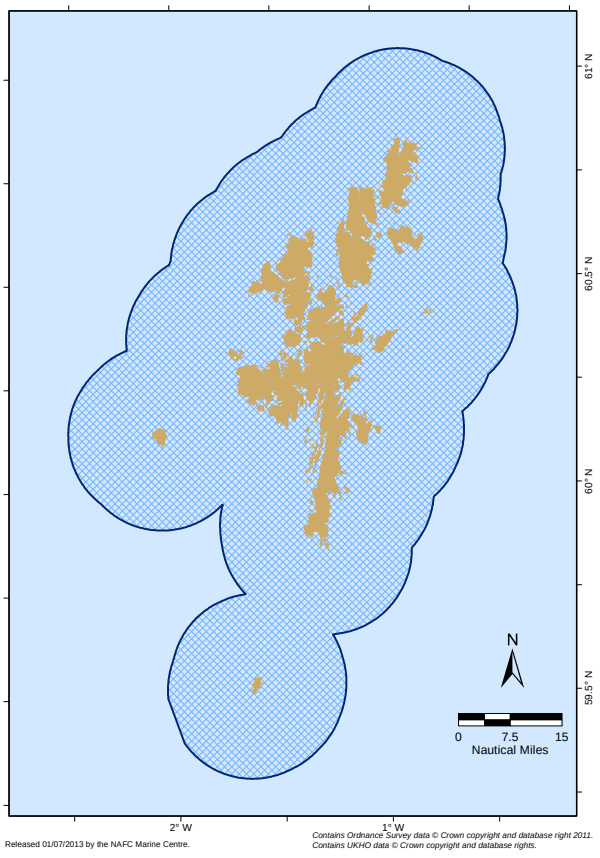
[1]HM Government. 2011. UK Marine Policy Statement.

Geographic context and coverage of the SIMSP

Shetland is an archipelago comprised of over 100 islands. The islands are situated approximately 160 km from mainland Scotland and 360 km from Norway. The coastline of the Shetland Islands is 2,702 km (1,697 miles), 10% of Scotland's coastline (based on MLURI, Macaulay Institute figure of 16,491 miles).

The planning area includes all territorial waters seaward of the mean high water of the spring tide (MHWS), out to 12 nautical miles but also includes terrestrial and coastal habitats/ ecological processes that are clearly affected by marine use. Archaeological features within 500 m of the coastline have also been included. The area is the equivalent to 10,580 km^2 (3,899 miles^2); almost seven times the land area of the Shetland Islands.

The landward extent of the coastal zone varies considerably, but in general is determined by the extent to which it is affected by coastal processes. This boundary was set to include a major proportion of the saltmarsh and sand dune areas. Saltmarsh and sand dunes are significant coastal habitats of international importance. Saltmarsh habitats are usually inundated by seawater at least once a year, when tides are at their highest. Both are important as they serve as nursery and feeding habitats for a wide diversity of species.



Shetland Marine Spatial Plan Area

Current state of marine waters around Shetland

A profile of the current state of marine waters around Shetland has been provided in **Scotland's Marine Atlas.** The Atlas provides an up-to-date assessment of the current condition of Scotland's seas, which will inform the National Marine Plan and implementation of the Marine Strategy Framework Directive (MSFD).

East and West Shetland

Major inflows of Atlantic water into the North Sea through the Pentland Firth and Fair Isle Channel transport nutrients and plankton to the North Sea. Further north, there are more sheltered inlets such as Yell Sound and Sullom Voe which are important both for local biodiversity and economic activity. Shetland hosts internationally important seabird colonies such as those observed at Noss and Hermaness.

The eastern side of Shetland includes an extensive offshore area characterised by flat sandy seabed with occasional pockmarks (seabed craters), and small inshore firths often with sandbanks, mud flats and sandy beaches. In contrast, the western side of Shetland has a rockier coastline exposed to the full force of the Atlantic.

Activities and Pressures and Impacts

The main activities identified in the Marine Atlas with the potential for exerting pressures on the waters around Shetland are: oil and gas, commercial fishing and aquaculture, renewable energy and tourism and recreation. The potential combined pressures associated with these industries are: localised contamination from oil and gas activity; dredging and dumping of dredge spoil from harbour maintenance; changes to coastal morphology (i.e. shoreline modifications); abrasion of the seabed from the impacts of trawling for fish; local effects of aquaculture on seabed ecology and localised pressure on coastal landscapes and wildlife from tourism.

Current Condition

At an area level for Shetland, it is reported in Scotland's Marine Atlas that there are few or no concerns for many of the components assessed (hazardous substances, eutrophication, radioactivity, oil/chemical spills, algal toxins and microbiology of bathing and shellfish waters). Some problems have been identified at a local level, for example concentrations of copper and zinc are elevated under marine caged fish farms in East Shetland. Although imposex, caused by Tributyltin (TBT) from antifouling paints, was a concern in Sullom Voe, these impacts have declined. All coastal waters around Shetland are now categorised as in 'good' or 'high' ecological status, as defined by the Water Framework Directive.

Whilst Shetland is recognised for its water quality, natural seasonal blooms of phytoplankton occur. These blooms can comprise species responsible for Amnesic Shellfish Poisoning (ASP), Diarrhetic Shellfish Poisoning (DSP) and Paralytic Shellfish Poisoning (PSP) which may cause the temporary closure of

commercial shellfish harvesting areas.

The Marine Atlas reports that habitats to the west of Shetland are in relatively good condition and there are no significant concerns. Intertidal habitats within the East of Shetland are reportedly in relatively good condition and improving. Breeding seabird numbers of some species have shown a long-term decline. The Marine Atlas associates the likely cause of these declines with a shortage of prey species such as sandeels, the abundance of which has changed with oceanographic conditions.

It has also been documented in the Marine Atlas that harbour seals have declined significantly in the past 10 years and this is a cause for considerable concern. However a 2009 survey indicated that the decline had slowed from previous survey periods[2]. In contrast, grey seals have increased in numbers over the same time.

Although historically populations of some commercially exploited fish species have been periodically depleted, many key stocks, including cod, whiting and hake have shown significant increases recently. At the same time, the fishing mortality rate for most stocks has fallen sharply[3]. The Marine Atlas highlights concerns that scallop dredging has the potential to impact some shallow subtidal sediments. In 2010 through the Shetland Islands Regulated Fishery (Scotland) Order 2009 the Shetland Shellfish Management Organisation (SSMO), which licenses all shellfishing activity within 6 nautical miles, initiated closed areas to protect priority features, principally biogenic reef structures formed by maerl and horse mussels, contained within Annex 1 of the EU Habitats Directive (page 125 and Map 5c(ii)). The sustainable management of Shetland's shellfish fisheries has led to Marine Stewardship Council (MSC) accreditation of the Shetland brown crab and velvet crab fisheries, the first fleet to be accredited in the UK and the king scallop fishery, a world's first for a dredge fishery.

Business & Industry

The Shetland Islands' marine and coastal environment is central to the sustainability of its economy. It supports a diverse range of industries and employment opportunities including aquaculture, fish catching, fish processing, marine engineering, marine transport, oil support services and tourism (see **Appendix F**).

The Shetland Employment Survey and the Shetland Regional Accounts Survey collectively provide an overview of the importance of the marine environment to the local economy and community in terms of jobs and businesses. It is estimated from these surveys that in 2011 the seas around Shetland directly support 2,946 jobs in over 160 businesses[4]. These

[2]**Duck, C. and Morris, C. (2010). Surveys of harbour (common) seals in Scotland in August 2009. Scottish Natural Heritage Commissioned Report No.394.**

[3] **Napier, I. (2013). Trends in Scottish fish stocks NAFC Marine Centre Report.**

[4]Shetland Regional Accounts and Shetland Employment Survey, 2011. Economic Development Unit, Shetland Islands Council.

businesses create an economic output of £455 million, 42% of Shetland's total economic output.

It should be noted that many of Shetland's marine industries are inter-dependent. For example, fish processing is reliant on the aquaculture and fish catching industries. Marine engineering is reliant upon a number of industries including the oil, sea transport, fishing and aquaculture industries. Fish exports, tourism and business travel also help to support the viability of Shetland's ferry services.

Grey Seals
Image courtesy of Ian Napier

Collafirth Image courtesy of Nicola Sinclair

LEGISLATIVE CONTEXT AND USE OF THE PLAN

"…Marine Plans form a new plan-led system for marine activities. They will provide for greater coherence in policy and a forward-looking proactive and spatial planning approach to the management of the marine area, its resources, and the activities and interactions that take place within it.[5]"

Local Context- Local Development Plan (LDP)
Under planning reform and modernisation, following the Planning etc. (Scotland) Act 2006, the Shetland Islands Council's Local Development Plan (LDP) becomes the main guidance for terrestrial land use and marine applications in Shetland. The LDP replaces the Shetland Structure Plan and Local Plan. The Shetland Islands' Marine Spatial Plan (SIMSP) is incorporated into the LDP as Supplementary Guidance (SG); as such the SIMSP policies and maps will become a material consideration in any marine applications made to the Shetland Islands Council.

Any development proposal with a land-based element must consider the impacts on the terrestrial environment, its infrastructure and local community, as well as the implications on the marine environment. The SIMSP recognises that interactions can occur between the terrestrial and marine environment, and developers and marine users should also consider both the LDP and other relevant SG.

Integration of marine and terrestrial planning will be achieved through consistency between marine and terrestrial policy documents and guidance. All reasonable steps have been taken to ensure that the SIMSP is compatible with the LDP, and aligns with the Shetland Islands Council's objectives for sustainable development.

The LDP policies for land-based planning extend to mean low water springs (MLWS), while the SIMSP policies extend seaward from mean high water springs (MHWS) therefore physically overlapping over the coastal zone. This overlap ensures that marine and land planning will address the whole of the marine and terrestrial environments respectively, and not be restricted by an artificial boundary at the coast.

The primary focus of the SIMSP is to provide more information to public bodies that have responsibilities for marine and coastal planning functions. It will inform decision making, guide priorities and seeks to achieve a balance between national and local interests.

[5]HM Government. 2011. UK Marine Policy Statement.

National Context

The Marine and Coastal Access Act 2009, the Marine (Scotland) Act 2010 ('2010 Act') and the UK Marine Policy Statement 2011 (MPS), mark a significant development in the management and enhancement of Scottish marine waters. The 2010 Act provides 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.

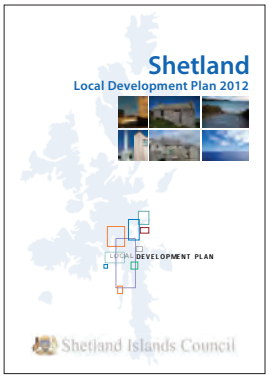
It is a statutory requirement of the 2010 Act (Part 3) that Scottish Ministers prepare and adopt a national marine plan for the Scottish marine area. The Act also empowers the Scottish Ministers to create Scottish Marine Regions, and to delegate marine planning powers for these regions. Within the national and/or regional marine plan, the Scottish Ministers must set economic, social and marine ecosystem objectives as well as objectives relating to the mitigation of, and adaptation to, climate change. In addition, an assessment of the condition of the Scottish marine area must be included, as well as a summary of significant pressures, and the impact of human activity on the area or region. The Scotish Ministers recently published **Scotland's National Marine Plan** which sets out the strategic planning framework for the sustainable use of Scotland's marine resources out to 200 nautical miles.

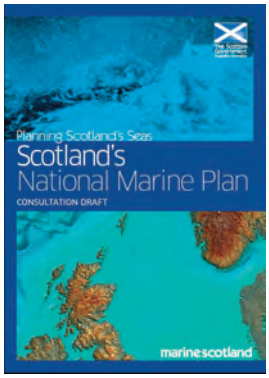
The 2010 Act largely replaces Part 2 of the Coast Protection Act and Part 2 1949 of the Food and Environment Protection Act 1985. Marine licensable activities are set out in Part 4 of the 2010 Act.

Marine Regions

A key proposal of the 2010 Act is the establishment of Scottish Marine Regions and the development of associated regional marine plans. This plan led process will establish a statutory framework for guiding proposed activities, operations and developments in Scotland's marine and coastal areas. Furthermore, the development of statutory marine plans provides a key opportunity for different views and interests to be accounted for through a balanced plan-led development process. This represents a much more holistic and strategic approach than licensing, which deals with issues on a case-by-case basis and is unlikely to be able to account for the views and interests of all key stakeholders or potential cumulative effects.

The SIMSP is an example of how a regional level plan could be developed.





Since 2006 a significant amount of data has been collected and collated as part of the SIMSP, providing a valuable overview of marine resources, usage, activities, assets and opportunities. The SIMSP has also been subject to substantial stakeholder consultation, and has evolved through provision of local representations and expert advice. The SIMSP has been continuously reviewed, through regular monitoring and reporting of the SIMSP outcomes and outputs. Where deemed necessary, this has informed periodic amendments and revisions.

The SIMSP is capable of adapting as more detailed guidance from secondary marine legislation becomes available from the Scottish Government and places Shetland in a good position to adapt to any future legislative developments that may be required as a Scottish Marine Region.

European Context

Marine environment policy is an important aspect of the current European, UK and Scottish environmental agenda and is undergoing a period of change and development. At the European level, the Marine Strategy Framework Directive (MSFD) establishes an overarching approach to the management of Europe's seas. The MSFD aims to achieve Good Environmental Status of the EU's marine waters by 2020, and to protect the resource base upon which marine related economic and social activities depend. The MSFD was transposed into domestic law on 15 July 2010. The MSFD constitutes the environmental pillar of the EU maritime policy, which is designed to achieve the full economic potential of oceans and seas in harmony with the marine environment.

Conformity to other strategies and policies

Pending the publication of Scotland's National Marine Plan, the development of the SIMSP is informed by a number of policy and strategy documents including the UK Marine Policy Statement.

A key benefit of the SIMSP is that it facilitates delivery of the integration of policies and objectives across different sectors in the production of one unified plan.

River Basin Management Plan

The SIMSP complements other statutory plans generated by or through other planning and regulatory authorities. The Scottish Environment Protection Agency (SEPA) co-ordinates the national process to achieve the objectives of the EC Water Framework Directive through the Water Environment and Water Services (Scotland) Act 2003 (WEWS), which is the framework for the production of River Basin Management Plans (RBMP). These RBMPs promote sustainable water use while protecting and improving the water environment. The areas covered by the RBMP process are inland waters, ground waters, lagoons and coastal waters out to 3 nautical miles. The local area plan is stakeholder-led by the Orkney and Shetland Area Advisory Group, of which the

SIMSP is a member, ensuring the two Plans come together efficiently. Details of the role of the Advisory Group and data maps for Shetland can be found on the **SEPA website.**

The Ecosystem Approach

The SIMSP adopts the ecosystem approach to management of Shetland's marine resource. The ecosystem approach is 'a strategy for the integrated management of land, water and living resources that promotes conservation and sustainable use in an equitable way'[6]. An ecosystems approach provides a framework for looking at whole ecosystems in decision making, and for valuing the ecosystem services they provide, to ensure that society can maintain a healthy and resilient natural environment now and for future generations[7]. The 2010 Marine Act endorses an ecosystem approach to marine management, requiring a 'duty to keep relevant matters under review including the physical, environmental, social, cultural and economic characteristics of the Scottish marine area and the living resources which the area supports'.

Consultation

Stakeholder and local community engagement in the SIMSP development process has been instrumental since initiation in 2006. There has always been widespread interest in the SIMSP, and there is no doubt that the feedback received from on-going consultations has added significant value to the marine spatial planning process in Shetland. This involvement in the process will help to maximise adherence to plan-led proposals, identify opportunities for compatible uses, and minimise potential conflicts.

A Strategic Environmental Assessment (SEA) was also incorporated into the plan-making process. SEA is an iterative assessment process that plans and programmes 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 to the LDP. SEA also requires the monitoring of significant effects once the plan/programme is implemented. SEA documentation can be viewed at **www.nafc.ac.uk/SMSP.aspx.**

In accordance with the EC Habitats Directive[8], the SIMSP has also undergone a Habitats Regulations Appraisal (HRA)[9], to ascertain that the plan will not have a significant effect on any European Protected Sites (Natura 2000 network). The findings of the HRA can be viewed at **www.nafc.ac.uk/SMSP.aspx.**

[6]1992 Convention on Biological Diversity (CBD)

[7]**DEFRA- Ecosystem service**

[8]**Council Directive 92/43/EEC of 21 May 1992 on the conservation of natural habitats and of wild fauna and flora**

[9]This procedure is applied in Scotland through The Conservation (Natural Habitats, &c.) Regulations 1994 (as amended)

Saithe, Lunnaness

Image courtesy of Rachel Shucksmith

2 STRATEGIC OBJECTIVES

Vision, Aim and Objectives

The Local Advisory Group share a vision, and have set an aim and several objectives for the management of Shetland's marine environment. This aim and these objectives align with the shared vision of the UK and Scottish Governments, as set out in the **UK Marine Policy Statement** and Consultation Draft National Marine Plan, respectively.

Vision

Shetland's vision for the marine and coastal environment is one that is clean, healthy, safe, productive and diverse seas, managed to meet the long-term needs of nature and the local people.

Aim

Ensure that use of the marine and coastal environment of Shetland is sustainable.*

*Sustainable use will enable dynamic economic activity supporting a prosperous community whilst maintaining and enhancing marine wildlife, habitats and ecosystems. Sustainable use should not lead to loss of biodiversity or ecological balance, or reduce the availability of natural resources for future generations.

Objectives

The objectives of the Shetland Marine Spatial Plan are to:

SOC	Ensure a high quality, fully functioning marine and coastal ecosystem through sustainable use for the health, cultural benefit and prosperity of local communities;
ENV	Protect and enhance Shetland's marine waters and coastal environment, in particular where there are locally, nationally or internationally important biodiversity and geodiversity features, whilst taking account of natural changes; and
ECON	Promote sustainable marine development and identify in consultation with marine stakeholders the differing priorities for sustainable use (for example fishing, aquaculture, recreation & tourism, marine renewables and nature conservation)

The vision, aim and objectives have driven the development of the SIMSP.

Strategic Framework

The overarching goal of marine planning is to ensure the sustainable development, protection and enhancement of the marine area, whilst accommodating the mitigation of, and adaptation to, climate change.

Principles of Sustainable Development

The objectives and policies in the SIMSP have been established in recognition of Shetland's commitment to sustainable development and marine spatial planning.

The key principles of sustainable development, as agreed by the four UK administrations are:

- Achieving a sustainable economy;
- Ensuring a strong, healthy and just society;
- Living within environmental limits;
- Promoting good governance; and
- Using sound science responsibly[10].

At all times all stakeholders should endeavour to balance these aims to ensure the SIMSP's objectives are equally promoted.

A key aspect of sustainable development is the need to recognise and apply the precautionary principle. This requires regulatory authorities to act cautiously to avoid damaging the environment or well-being of communities (in a way that cannot be reversed) in situations where the scientific evidence is not proven but the possible damage could be significant.

Climate Change

In accordance with the Climate Change (Scotland) Act, 2009 public bodies are required to contribute to climate change mitigation and adaptation, and to act sustainably. The marine environment has a key role to play in decelerating the process of global climate change. The sea's energy can be harnessed by renewable energy technologies, and the ocean has a continual role in regulating the climate by acting as a natural carbon sink, helping mitigate climate change impacts.

Climate Change

Mitigation can be defined as the implementation of policies and actions to reduce greenhouse gas emissions or, where possible, enhance carbon storage.

Adaptation can be defined as the adjustment in economic, social or natural systems in response to actual or expected climatic change, to limit harmful consequences and exploit beneficial opportunities.

(Source: **Public Bodies Climate Change Duties: Putting Them Into Practice - Guidance Required by Part 4 of the Climate Change (Scotland) Act 2009)**

[10]**'Our seas – a shared resource- UK High Level Marine Objectives'**

The SIMSP can assist the Scottish Government's move towards a low-carbon economy, in particular meeting the Scottish Government's target for 100% of electricity to come from renewable sources by 2020. This is partially reliant on marine renewables (wave and tidal) and offshore wind as a source of power and the SIMSP aims to help integrate such developments with existing marine uses.

Marine planning will need to be responsive to climate change and ensure that decision making takes account of and adapts to changing marine environments. Policy requirements that demand developers and decision makers assess the consequences of climate change and altering plans or designs to account for these changes is one example of such adaptation with the planning framework.

Based on an ecosystem approach to marine planning, the SIMSP ensures that the use of the marine environment is spatially planned where practical, facilitates climate change mitigation and requires current and future marine related activities to address and include provision for the impacts of climate change.

‘The Swan’, Lerwick harbour

Image courtesy of Promote Shetland

3 PLANNING MECHANISM

The Policies

The SIMSP is designed to guide all marine users, planners and regulators in the placement of existing and proposed activities, operations or developments. The type of activity or development proposed may have a significant bearing on the quality of the marine environment. The inclusion of policies and management measures will ensure the proper and sustainable development of the coastal and marine area and will help to address any potential adverse impacts.

The policies included in the SIMSP are the means of achieving the vision and objectives of the SIMSP, which is to provide clean and safe, healthy, and productive marine waters around Shetland.

To help you navigate through this document, there are two key chapters when considering any proposed activity or development:

(i) Chapter 4: Legislative Requirements;
(ii) Chapter 5: Policy framework including supporting maps.

Proposed developments must comply with legal requirements and adhere to ***all policies*** in the first two policy sections:

Chapter 5(a) 'Clean and Safe' ***and***

Chapter 5 (b) 'Healthy and Diverse'

before considering their relevant development sector within:

Chapter 5 (c) 'Productive'

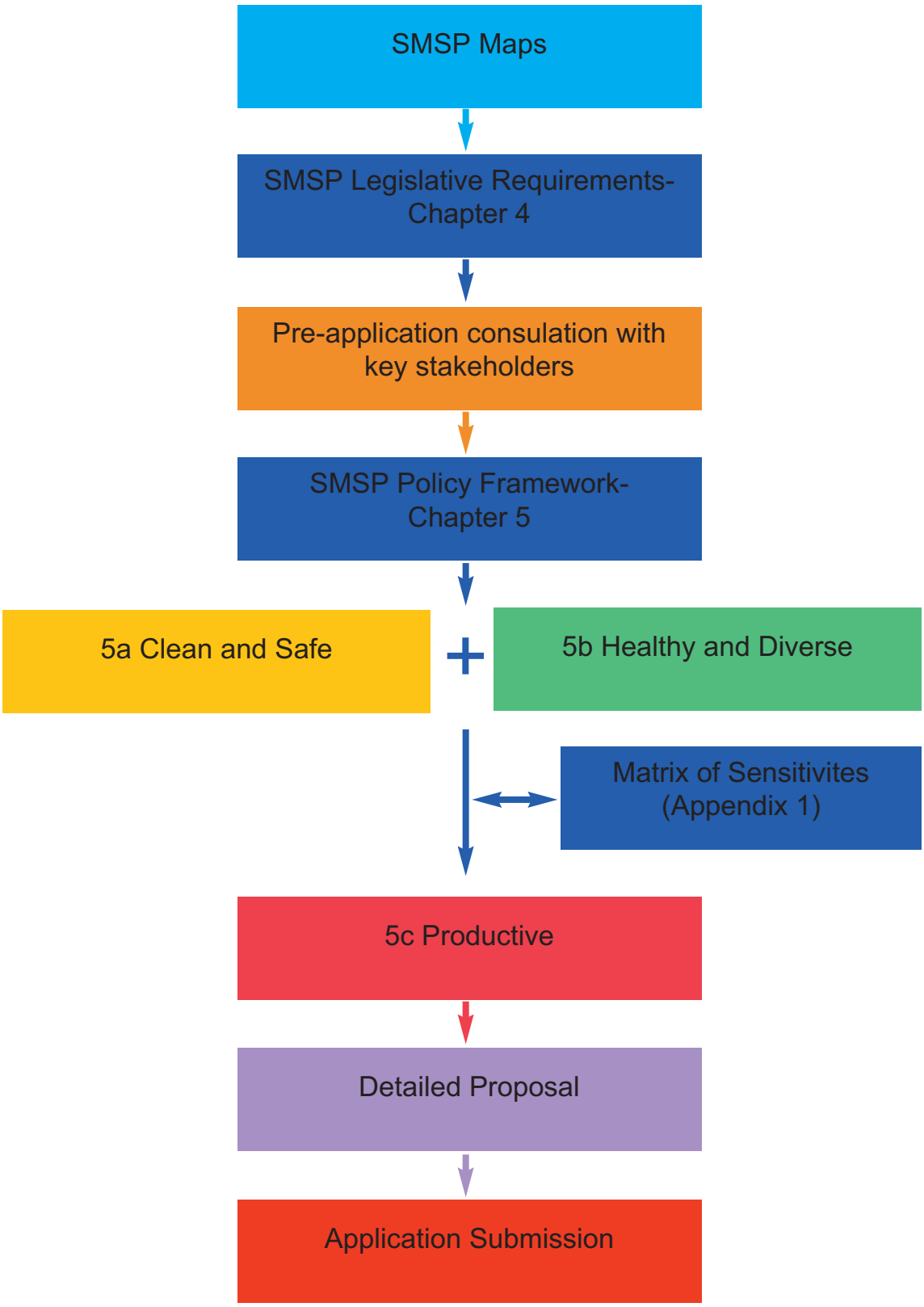
All polices are designed to align with the Scottish Government **Economic Strategy** to make Scotland wealthier and fairer, smarter, healthier, safer and stronger, and greener.

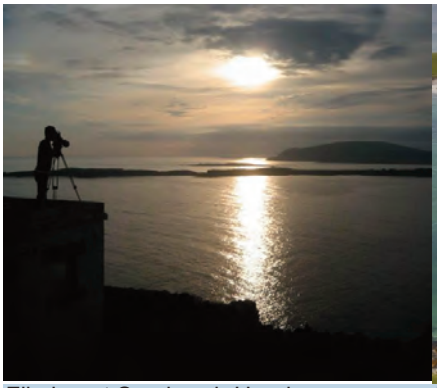
Developments and Activities

Developments are defined as a use or construction that requires a specific form of statutory consent from a competent authority to utilise a defined area. This can include new developments or alterations, extensions or changes in material use to existing developments that require a statutory consent. Such consents include planning permission, a works licence and a marine licence.

Activities are defined as a current or future use that is covered by a public right of use (e.g. navigation) and/or does not require a specific statutory consent from a competent authority to utilise a defined area.

Planning Mechanism





Filming at Sumburgh Head
Image courtesy of RSPB

Bannamin Beach
Image courtesy of Promote Shetland

Pier at Yell
Image courtesy of Promote Shetland

St Ninians Isle

Image courtesy of Promote Shetland

4 LEGISLATIVE REQUIREMENTS

Legislative Requirements

Any proposal for development may be required to take into consideration the following principal legislative and regulatory procedures. The following list **is not exhaustive** and developers will be required to have regard to all other legislative and regulatory requirements specified in each of the policy sections in Chapter 5 and should also consult **Appendix A and B**. Developers are strongly advised to consult with the relevant consenting authorities as early as possible in the development of any marine proposal.

Shetland Islands Council Works Licence

Under the Zetland County Council Act 1974, as amended, (the Act of 1974), 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 Works Licence Policy, adopted as Supplementary Guidance to the Shetland Islands Council's LDP, provides guidance to those considering proposals that fall within the scope of the Act of 1974. In general terms, this 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. The 'works' that will require a works licence are primarily concerned with, but are not confined to, the following:

- Piers, marinas, breakwaters, sea defences and other constructions;
- Moorings, pontoons and moored barges;
- Pipelines and cables;
- Marine renewable energy developments (wave, tidal and wind);
- Dredging;
- Seaweed cultivation; and
- Septic tanks and outfalls.

It is recommended that any developer considering a marine development, other than aquaculture, within the area of jurisdiction of the Shetland Islands Council consult the Coastal Zone Management Service and have regard to the Works Licence Policy as early as possible. A full copy of the Works Licence Policy and an application for a works licence can be obtained from Shetland Islands Council. Potential developers should consider the siting of the proposal using the SIMSP policies and maps in the subsequent sections.

Applications to Shetland Islands Council that are outwith policy, or attract objections, will be determined by the Planning Committee of Shetland Islands Council. As part of the decision making process, both applicants and objectors are offered the opportunity of addressing the Committee in the interests of

open, fair and transparent governance. A final decision of the Council will continue to be required where an application outwith this policy is recommended for approval by the Committee. As part of a works licence application, the Council consults with a range of local and national organisations and these are listed within Annex II of the Works Licence Policy and **Appendix B** of this document.

Key Contacts:
Coastal Zone Management Service,
Development Services,
Grantfield,
Lerwick,
Shetland,
ZE1 0NT.
Shetland Islands Council - Coastal Zone Management Service

Lerwick Port Authority Works Licence
Proposals for development below MHWS within the Lerwick Harbour limits require a works licence application to be made to the Lerwick Port Authority.

Key Contacts:
Lerwick Port Authority,
Albert Building,
Lerwick,
Shetland,
ZE1 0LL.
Lerwick Port Authority

Planning Permission
Proposals for a marine development may require a land-based element (e.g.land-based substation for marine renewable energy development). These land-based elements are subject to planning permission under the Town and Country Planning (Scotland) Act 1997, as amended by the Planning etc. (Scotland) Act 2006. The terrestrial planning system applies landward from Mean Low Water Springs (MLWS) therefore developers should consult the local planning authority, i.e. Shetland Islands Council, and have regard to the Local Development Plan (LDP).

Developments must adhere to national planning guidance for the historic environment, natural heritage, infrastructural services including water and waste water management, flood risk management, transportation, energy, and environmental impact assessment. It is advised that any developer proposing any land-based element consult with the Shetland Islands Council's Development Management service as early as possible.

Planning permission is required for aquaculture developments (excluding seaweed cultivation), including amendments to existing sites and the development of new sites. The local planning authority is responsible for the

determination of planning applications for aquaculture developments, and it is advisable that all potential developers consult with the Coastal Zone Management Service of the Shetland Islands Council at as early a stage of the development proposal planning phase as possible.

Applications for aquaculture development will be considered in accordance with the Council's Aquaculture Policy, adopted as part of the LDP. As part of a planning application, the Council consults with a range of local and national organisations and these are listed within Annex II of Aquaculture Policy and **Appendix B** of this document.

Additionally, planning applications will have regard to Scottish Planning Policy as well as the LDP, where relevant. Similarly, other legislative frameworks should be taken take into account such as Environmental Impact Assessment (finfish farms only), CAR licences, seabed leases, marine licensing under the 2010 Marine Act and the Habitats Regulations. Further information on aquaculture development is included in Chapter 5 - Policy Framework.

As of 01 June 2012 aquaculture developments are afforded certain Permitted Development (PD) rights through the Town and Country Planning (General Permitted Development) (Fish Farming) (Scotland) Amendment Order 2012. These PD rights allow developers to make certain changes to a finfish or shellfish farm without the need to obtain further planning permission. PD applies to certain alterations to cages, barges, top nets, placing of temporary equipment and adding an additional long line. However, with the exception of certain changes to the species being farmed, Prior Notification to the Council is required to determine whether the PD can be exercised or whether an application is required.

Key Contacts:
Coastal Zone Management Service (aquaculture),
Development Management (land-based development) or
Development Services,
Grantfield,
Lerwick,
Shetland,
ZE1 0NT.
Shetland Islands Council - Coastal Zone Management Service
Shetland Islands Council - Development Management

Further information:
Scottish Government website

Marine Licence

Under the 2010 Act a licensing system has been introduced for most developments and activities in the marine environment with Scottish Ministers, via Marine Scotland, responsible for the licensing process in the Scottish inshore region from 0-12 nautical miles. Under the UK Marine and Coastal Access Act 2009 (MCAA) Scottish Ministers have responsibility for licensing and enforcement for the Scottish offshore region from 12-200 nautical miles. In accordance with Section 21 of the 2010 Act and Section 66 of the MCAA the following activities require a licence to:

- deposit any substance or object in the sea or on or under the seabed;
- construct, alter or improve works on or over the sea or on or under the seabed;
- remove substances or objects from the seabed;
- carry out dredging;
- deposit and/or use explosives; and
- incinerate substances or objects.

The above list of activities is not exhaustive therefore it is recommended that prior to submitting an application for a licence developers should seek further information about how to apply and what is licensable from Marine Scotland Licensing Operations Team (MS-LOT) on behalf of the Scottish Government. Due to their small size and limited impact a number of activities are exempt from marine licensing. Aquaculture developments will require a marine licence in respect of navigation safety and wellboat operations.

Reserved matters such as defence and oil and gas exploration are licensed by the Department of Energy and Climate Change (DECC) on behalf of the Secretary of State, and DECC should be consulted when requiring a marine licence for any of these reserved activities.

Key Contacts:

MS-LOT,
The Scottish Government,
Marine Laboratory,
375 Victoria Road,
Aberdeen,
AB11 9DB.
Marine Scotland - Licensing

Department of Energy & Climate Change (DECC),
3 Whitehall Place,
London,
SW1A 2AW.
DECC - Oil and Gas

Seabed Lease Agreement

The Crown Estate manages the entire seabed out to the 12 nautical mile territorial limit. The Crown Estate is therefore responsible for issuing seabed

leases for aggregates, aquaculture, marine renewables, and cables and pipelines. The Crown Estate is also responsible for marinas, moorings, and has an interest in parts of many ports and harbours.

It is likely that a seabed lease will be required for most marine developments and therefore it is recommended that developers undertake early consultation with The Crown Estate at the same time as progressing discussions with the relevant consenting bodies.

Key Contacts:
The Crown Estate
6 Bell's Brae
Edinburgh
EH4 3BJ
The Crown Estate

Environmental Impact Assessment (EIA)
Much can be done to assess the full implications of a development proposal. The potential impact of varying types of proposed developments can be assessed by undertaking more detailed and specific impact assessments. The best known of these is the Environmental Impact Assessment (EIA), which identifies the environmental effects of development proposals.

In accordance with the European Communities Directive 85/337/EEC as amended by Directive 97/11/EC (EIA Directive) on the assessment of the effects of certain public and private projects on the environment, particular developments have to undergo screening and scoping to determine whether an environmental impact assessment (EIA) is required. The types of projects which must be screened and scoped are listed in Annex I and II of the EIA Directive and include projects such as oil and gas pipeline installations, harbour and port construction, renewable energy developments, intensive fish farming and others. Developers are advised to consult with the appropriate consenting authority to determine whether an EIA is required for a certain development as early as possible. This process is referred to as 'Screening'. The appropriate consenting authorities for all marine developments within the 12 nautical miles are likely to be the local planning authority (Shetland Islands Council), Marine Scotland on behalf of the Scottish Government, or DECC on behalf of the Secretary of State for reserved matters.

Where an EIA is required, the cumulative impact must be addressed and included in the Environmental Statement. European Commission guidance defines cumulative impacts as 'impacts that result from incremental changes caused by other past, present or reasonably foreseeable actions together with the project'[11]. It is envisaged that the SIMSP will assist in addressing cumulative impacts for marine developments in Shetland.

The provisions of the EIA Directive have been transposed in part into Scottish

[11] **Guidelines for the Assessment of Indirect and Cumulative Impacts as well as Impact Interactions**

legislation as follows:

- The Town and Country Planning Environmental Impact Assessment (Scotland) Regulations 2011
- The Electricity Works (Environmental Impact Assessment) (Scotland) Regulations 2000 (as amended);
- The Marine Works (Environmental Impact Assessment) Regulations 2007

Key Contacts:

Coastal Zone Management Service (marine development) or
Development Management (land-based development)
Development Services,
Grantfield,
Lerwick,
Shetland,
ZE1 0NT.
Shetland Islands Council - Planning Service

MS-LOT, The Scottish Government,
Marine Laboratory,
375 Victoria Road,
Aberdeen,
AB11 9DB.
MS LOT - Licensing

Department of Energy & Climate Change (DECC),
3 Whitehall Place,
London,
SW1A 2AW.
Department of Energy & Climate Change

Further Information:

Scottish Government website - Environmental Assessment

Controlled Activity Regulation (CAR) authorisation

The EU Water Framework Directive was introduced in 2000 for the improvement of our water environment and transposed into Scottish law in 2003 as the Water Environment and Water Services (Scotland) Act 2003 (WEWS Act). The WEWS Act gives 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.

In accordance with the Water Environment (Controlled Activities) (Scotland) Regulations 2011 (CAR) an authorisation is required for activities in the marine environment (out to 3 nautical miles) involving discharges of pollutants and water abstraction. Applications for new fish farm developments, marine renewable energy devices, etc. are examples of activities that may require a

CAR authorisation.

It is strongly advised that any developer proposing an activity that may have an impact on the water environment seeks further information relating to CAR from the regulator, the Scottish Environment Protection Agency (SEPA).

Key contact:
Scottish Environment Protection Agency (SEPA),
The Esplanade,
Lerwick,
Shetland,
ZE1 0LL.
SEPA - Water Regulations

Electricity Act, 1989 s36 consent
Applicants are required to apply for and obtain the consent of the Scottish Ministers (which like marine licences can be granted with conditions to ensure full compliance with all relevant legislation) under Section 36 of the Electricity Act 1989 before an electricity generating station with a capacity greater than 1 megawatt can be constructed or operated in the Scottish marine area. The Electricity Act, 1989 (Requirement of Consent for Offshore Generating Stations) (Scotland) Order 2002 requires s36 consent for electricity generation schemes with a permitted capacity greater than 1 megawatt.

Offshore developments with a capacity of 1 megawatt or less are exempt from s36 requirements, however a marine licence is required from MS-LOT. Developments with a capacity in excess of 1 MW or 50MW are likely to require a marine licence and special licensing procedures will allow Marine Scotland to consider applications for consents and licenses under the Electricity and Marine Acts together.

Provision within the Growth and Infrastructure Act 2013 gives Scottish Ministers powers to grant deemed planning consent for onshore ancillary development, such as substations, control buildings, etc., associated with offshore generation developments greater than 1 or 50MW. Developers can still chose to make a separate planning application for onshore components if they wish. Separate planning permission from Shetland Islands Council will still be required for onshore ancillary equipment for developments below 1 or 50MW. A works licence will be required from Shetland Islands Council for all offshore electricity generation developments and associated works within their jurisdiction.

Key Contacts
MS-LOT, the Scottish Government,
Marine Laboratory,
375 Victoria Road,
Aberdeen, AB11 9DB.
MS LOT - Licensing

Coastal Zone Management Service (marine development) or
Development Management (land-based development),
Development Services,
Grantfield,
Lerwick,
Shetland,
ZE1 0NT.
Shetland Islands Council - Planning Service

Consultation with key stakeholders, agencies and marine users

The aforementioned list of consents is not exhaustive and it is recommended that any marine developers should also consider all other relevant legislative provisions such as navigational and safety impacts, marine species licences and flood risk management as well as marine pollution/ emissions from shipping-related activities. The relevant authorities for navigational safety and emergency pollution response are the Northern Lighthouse Board, Maritime and Coastguard Agency, and Department of Transport. It is imperative that developers consult with the appropriate consenting authorities as early as possible to identify the key local stakeholders and their relevant responsibilities. Chapter 5 includes a list of key statutory and non-statutory stakeholders and their contact details are included in **Appendix B**.

The Marine Licensing (Pre-application Consultation) (Scotland) Regulations 2013 requires that prospective applicants for marine licences for the following activities will be required to carry out a public pre-application consultation:

1. The deposit of a submarine cable into the sea or on or under the seabed from a vehicle, vessel, aircraft, marine structure or floating container, where that cable is over 1853m (approx. 1 NM) in length and where it crosses the inter-tidal boundary.
2. The deposit of any substance or object into the sea or on or under the seabed from a vehicle, vessel, aircraft, marine structure, floating container or a structure on land constructed or adapted wholly or mainly for depositing solids into the sea for the purposes of reclaiming land, where the area being reclaimed from the sea exceeds 10,000m^2 .
3. The construction in or over the sea or on or under the seabed of a bridge, causeway or walkway over 50m in length.
4. Construction works (other than for a renewable energy structure) in or over the sea or on or under the seabed where the area of the works exceeds 1000m^2.
5. Alteration or improvement of works (other than for a renewable energy structure) in or over the sea or on or under the seabed where the area of those works, as extended, exceeds 1000m^2
6. The construction of a renewable energy structure in or over the sea or on or under the seabed, where the total area in which the structure is to be located exceeds 10,000m^2.
7. The alteration or improvement of a renewable energy structure in or over the sea or on or under the seabed which extends the structure, where the total area in which that structure is to be located to over 10,000m^2

Pre-application consultation will allow local communities, conservation groups and other interested parties to comment upon a proposed development at an early stage- before an application is submitted to MS-LOT. The regulations require that at least one consultation event must be held in a publicly accessible location and a report based on the findings of that consultation event be submitted alongside the licence application.

Cumulative Impacts

Any new development should not be considered in isolation. When considering potential benefits and adverse effects, developers and decision-makers should also take into account any multiple and cumulative impacts of proposals, including those associated with other projects and activities.

In accordance with the UK Marine Policy Statement, it is recommended that the consenting authorities consider the potential cumulative impact of activities such as whether:

- The cumulative impact of activities, either by themselves over time or in conjunction with others, outweigh the benefits;
- A series of low impact activities would have a significant cumulative impact which outweighs the benefit;
- An activity may preclude the use of the same area/resource for another potentially beneficial activity.

The assessment of cumulative impacts is also a requirement under the EIA Directive and should be addressed in any supporting statement for development consent.

Land-sea interface

The SIMSP area will extend up to the level of MHWS whilst the terrestrial planning boundary extends to MLWS, therefore physically overlapping over the coastal zone. This overlap ensures that marine and land planning will address the whole of the marine and terrestrial environments respectively, and not be restricted by an artificial boundary at the coast.

Integration of marine and terrestrial planning will be achieved through consistency between marine and terrestrial policy documents and guidance. As the SIMSP is adopted as SG to the LDP, the policy statements in the SIMSP become material considerations in any marine application made to the Council. Therefore, any marine development proposal with a land-based element must have regard to the impacts on the terrestrial environment, its infrastructure and local community, as well as the implications on the marine environment. Developers will also have to have regard to the policies as set out in the LDP as well as national planning guidance. Similarly, all public authorities taking authorisation or enforcement decisions that affect or might affect the UK marine area must do so in accordance with the UK Marine Policy Statement, the Scottish National Marine Plan and any subsequent Regional

[13]**Draft Planning Circular Planning Scotland's Seas The relationship between the statutory land use planning system and marine planning and licensing**

5 POLICY FRAMEWORK

5 (a) CLEAN AND SAFE

Breaking waves, Scalloway

Image courtesy of Christina Kelly

5 (a) CLEAN AND SAFE

The Water Resource

In response to the increasing threat to inland, coastal and marine waters from human activities, and increasing demand from the public for cleaner rivers, lakes, beaches and seas, the EU has introduced the Water Framework Directive and the Marine Strategy Framework Directive. These ensure the sustainable management and protection of inshore and offshore waters through two pieces of integrated environmental legislation.

The Water Framework Directive

The EU Water Framework Directive 2000/60/EC (WFD) establishes an original, integrated approach to the protection, improvement and sustainable use of rivers, lakes, estuaries, coastal waters and groundwater within Europe. It impacts on the management of water quality and water resources, and affects conservation, fisheries, flood defence, planning and environmental monitoring. The primary focus of the WFD is to achieve 'good ecological status' for all waters out to 3 nautical miles by 2015. The WFD was transposed into Scottish law by the Water Environment and Water Services (Scotland) Act (WEWS) 2003.

WEWS outlines a planning, management and reporting system based upon River Basin Districts and International River Basin Districts. The Orkney and Shetland Area Management Plan supplements the River Basin Management Plan for the Scotland river basin district, and will help to deliver Water Framework Directive requirements.

Policy MSP WAT1:
Water Ecology

Development shall not cause any water body to deteriorate in ecological status nor prevent the achievement of established objectives set out in the Scotland River Basin Management Plan and Orkney and Shetland Area Management Plan.

Development adjacent to a water body must be accompanied by sufficient information to enable a full assessment of the likely effects including cumulative effects.

Existing discharge locations are shown in Map 5a(i) and water classification areas are shown in Map 5a(ii).

The WFD, due to its wide-reaching nature, will eventually replace a number of other water quality directives (for example, those on Surface Water Abstraction, Freshwater Fisheries and Shellfish Waters). Implementation of other directives (for example, the Integrated Pollution Prevention and Control, Urban Waste Water Treatment, and Nitrates Directive) will form part of the 'basic measures' for the WFD[14]. In the meantime, new development proposals

shall still have regard to existing water regulations, however it is noted that the Shellfish Waters Directive is scheduled to be repealed in 2013.

The Marine Strategy Framework Directive

The Marine Strategy Framework Directive 2008/56/EC (MSFD) aims to achieve 'good environmental status' in Europe's seas by 2020. Good environmental status (GES) involves protecting the marine environment, preventing its deterioration and restoring it where practical, whilst using marine resources sustainably.

The SIMSP will contribute to meeting the objectives of the WFD and MSFD[15], particularly in relation to spatial measures. The policies in the SIMSP consider how activities can shape the marine area to support the goals of these Directives, as well as those of other relevant pieces of EC legislation.

Policy MSP WAT2
Improving Water Quality and Ecology
Where possible, development will contribute towards objectives to improve the ecological status of coastal water bodies and the environmental status of marine waters.

In coastal waters, which extend out to 3 nautical miles, both the WFD and the MSFD apply. In these areas, however, the MSFD only applies for aspects of good environmental status that are not already addressed by the WFD.

Justification

Coastal and marine developments and activities can have adverse effects on transitional waters[16], coastal waters and marine waters. During the construction, operation and decommissioning phases of certain developments, there may be increased demand for water, discharges to water, and adverse ecological effects resulting from physical modifications to the water environment. There may also be an increased risk of spills and leaks of pollutants into the water environment, and an increased likelihood of transmission of invasive non-native species, for example through construction equipment, and their impacts on ecological water quality need to be considered.

Developments can also contribute to the improvement of water quality and ecology and help in meeting the requirements of the WFD and MSFD.

Key legislative requirements and consultees

[14] **http://ec.europa.eu/environment/water/water-framework/info/intro_en.htm**
[15] **HM Government. 2012. Links between the Marine Strategy Framework and Water Framework Directives**
[16] Transitional waters are bodies of surface water in the vicinity of river mouths which are partly saline in character as a result of their proximity to coastal waters but which are substantially influenced by freshwater flows (Water Framework Directive (2000/60/EC))

- Please refer to **Appendix A** for Checklist of Legislative Requirements and **Appendix B** for Key Consultees

Further Information

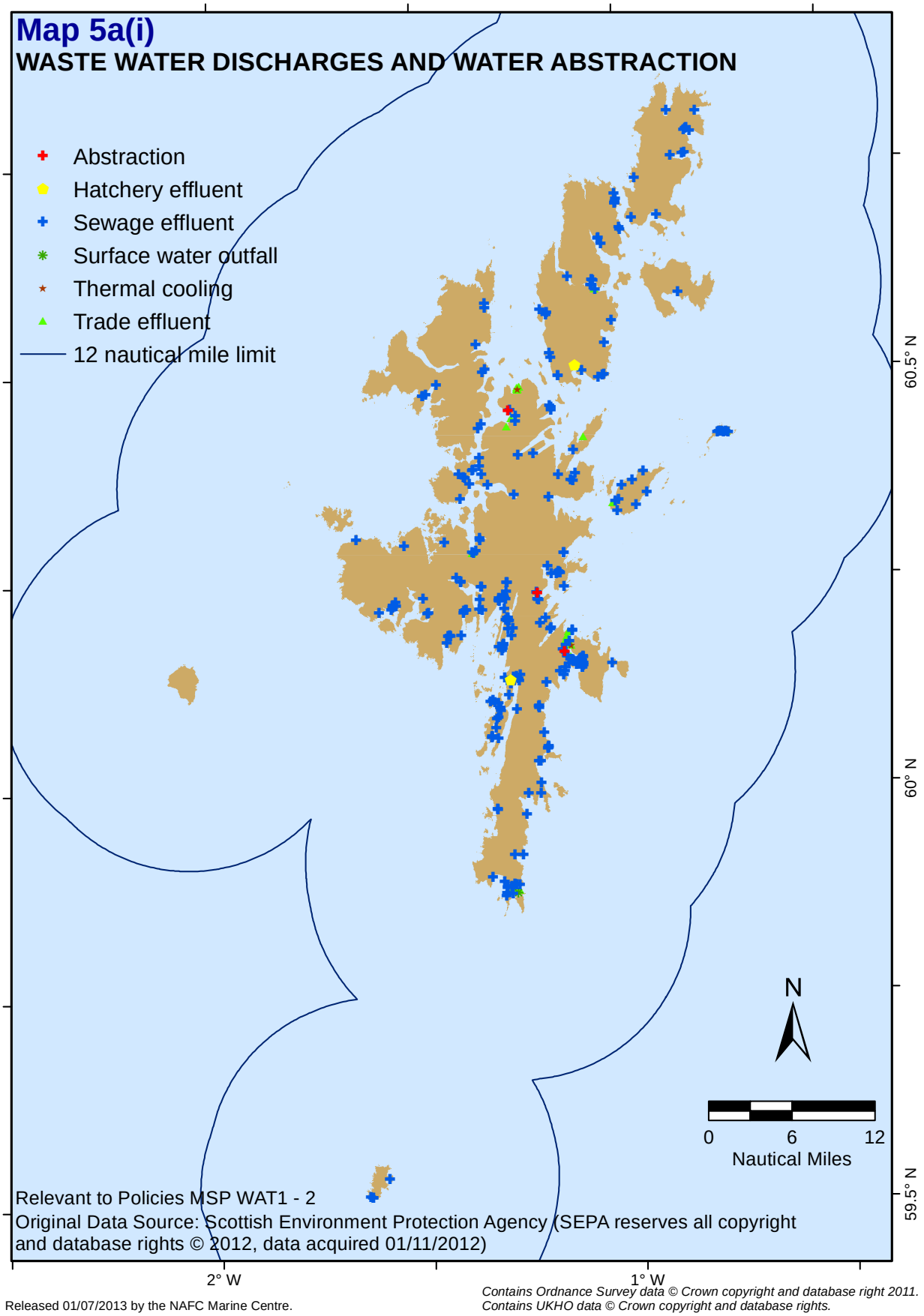
- **Scotland River Basin Management Plan**
- **Designated Shellfish Waters in Scotland**
- **HM Government. 2012. Links between the Marine Strategy Framework and Water Framework Directives**
- **EU Water Framework Directive**
- **EU Marine Strategy Framework Directive**

Plankton sampling
Image courtesy of Leanna Henderson

Water sampling
Image courtesy of Leanna Henderson

Map 5a(i)

WASTE WATER DISCHARGES AND WATER ABSTRACTION

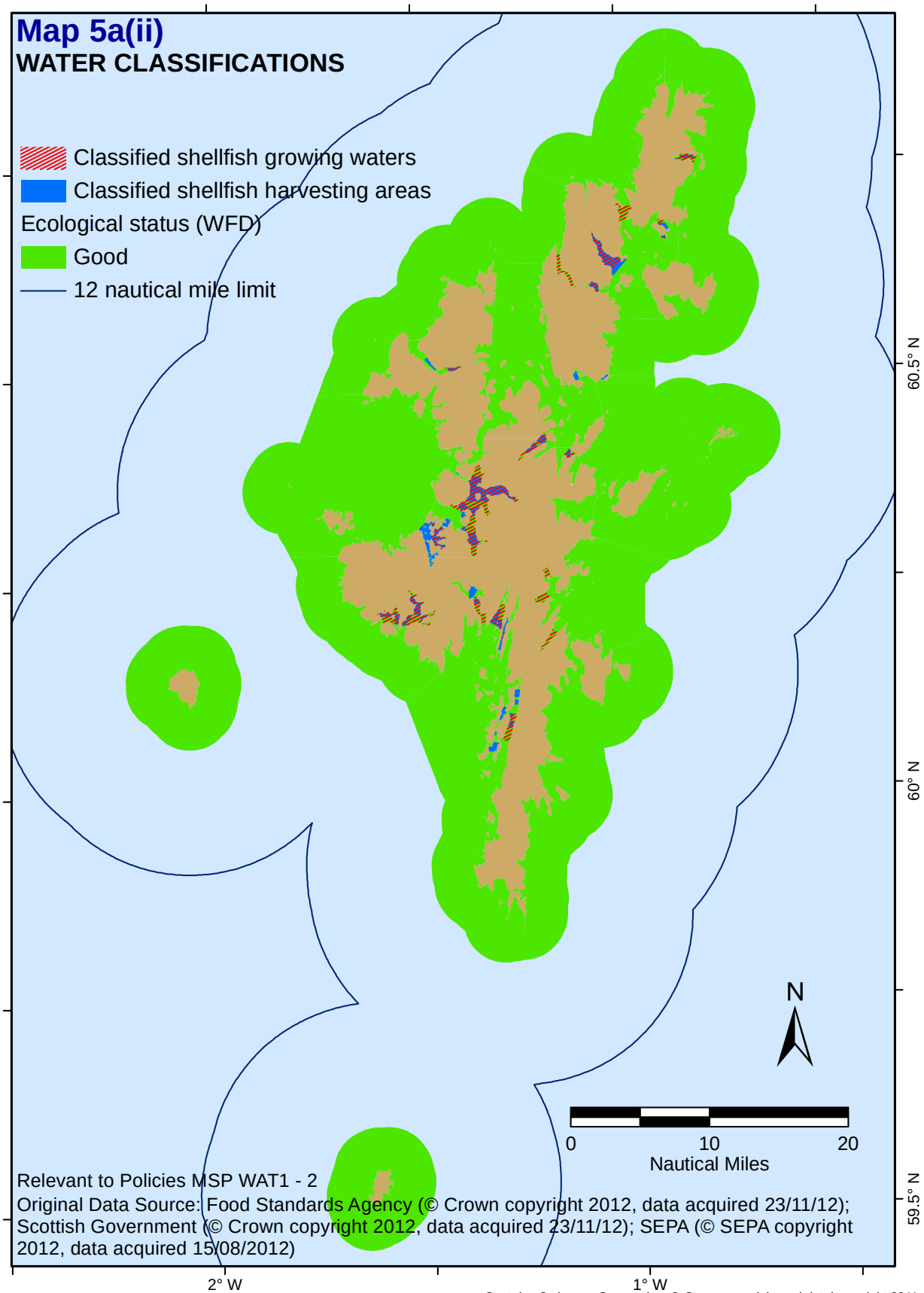


Relevant to Policies MSP WAT1 - 2

Original Data Source: Scottish Environment Protection Agency (SEPA reserves all copyright and database rights © 2012, data acquired 01/11/2012)

Released 01/07/2013 by the NAFC Marine Centre.

Map 5a(ii)
WATER CLASSIFICATIONS



Relevant to Policies MSP WAT1 - 2

Original Data Source: Food Standards Agency (© Crown copyright 2012, data acquired 23/11/12); Scottish Government (© Crown copyright 2012, data acquired 23/11/12); SEPA (© SEPA copyright 2012, data acquired 15/08/2012)

Released 01/07/2013 by the NAFC Marine Centre.

Invasive Non-Native Species

In accordance with the Water Framework Directive (WFD) and the Marine Strategy Framework Directive (MSFD), the introduction by human activities of non-indigenous species to coastal and marine waters should be minimised or avoided. This is one of the descriptors in the MSFD to determine 'good environmental status' (GES). As there is still only limited knowledge about the effects of non-indigenous species on the environment, it is important to identify and assess pathways and vectors which may lead to the spread of 'invasive' non-native species (INNS) i.e. those species that may have an adverse impact on native biological diversity and a range of other activities. The Invasive Non-Native Species Framework Strategy for Great Britain[17] (UK INNS Strategy) provides an overarching framework to minimise the risk posed, and reduce the negative impacts caused, by INNS in Great Britain. A Biosecurity Plan for the Shetland Islands is proposed that will include a range of preventative measures to address the introduction and spread of INNS to (and within) local marine waters.

Safeguarding marine waters from Invasive non-native species

The SIMSP will raise awareness of invasive non-native species by collaborating with industry and marine users. The 'Biosecurity Plan for the Shetland Islands' sets out a management strategy to address the introduction and spread of INNS, and therefore will be instrumental in mitigating and adapting to any discovery in local marine waters.

Policy MSP INNS1
Reducing the Spread of Invasive Non-Native Species

Applications for marine-related developments should demonstrate that the potential risks of spreading INNS have been adequately considered in their proposal, particularly when moving equipment, boats or live stock (e.g. fish and shellfish) from one water body to another or introducing structures suitable for settlement of INNS.

Development proposals in areas where INNS are known to exist must include mitigation measures or a contingency plan approved by the local authority that seeks to minimise the risk of spreading the INNS or identifies ways to eradicate the organisms and set up a scheme to prevent reintroduction.

Justification

Invasive non-native species potentially pose one of the most significant threats to marine biodiversity, especially in light of climate change. The effects of introduced species on their host environment can include competition with native species for food and space, habitat alteration, changes in water quality and the transmission of disease or parasites. Scotland's Marine Atlas identifies shipping and aquaculture as the main industries that may introduce non-native

[17] Department for Environment, Food and Rural Affairs. 2008. The Invasive Non-Native Species Framework Strategy for Great Britain. © Crown copyright 2008

species into the marine environment. Creating and raising awareness of the potential for the introduction and spread of INNS is of paramount importance to the local fishing and aquaculture industry in Shetland.

Key legislative requirements and consultees

- Please refer to **Appendix A** for Checklist of Legislative Requirements and **Appendix B** for Key Consultees
- SNH - record findings of INNS
- NAFC Marine Centre - local reporting and recording of sightings of INNS
- Shetland Biological Records Centre - local reporting and recording of sightings of INNS

Further Information

- **NAFC Marine Centre Biosecruity Plan for the Shetland Islands**
- **NAFC Marine Centre INNS information**
- **Marlin Marine Aliens information**
- **SNH - marine non-native species information**
- **Defra Non-native species information**

Carpet sea squirt
Image courtesy of Chris Beveridge (SAMS)

Wireweed
Image courtesy of Paul Brazier (CCW) © Crown Copyright 2009

Invasive non-native species (INNS)

Investigative research of INNS commenced in Shetland in 2012 as part of the SIMSP, to help inform future policy development in this area. A Biosecurity Plan for the Shetland Islands has been development, based on the results of this research. The Biosecurity Plan forms part of Shetland's overall approach to marine planning and management by ensuring levels of INNS do not adversely alter the ecosystem, nor impact marine industries. The Biosecurity Plan includes a range of measures such as raising awareness and education about INNS and providing advice on appropriate surveillance methods. The reporting of any sightings of INNS to the NAFC Marine Centre and Shetland Biological Records Centre is encouraged and advocated as part of this continuous investigative research process. This will ensure that a proactive approach to INNS is applied and preventative measures are in place to address any potential problem if and when it should arise in the future.

All other marine users can ensure the potential spread of INNS is reduced by:

a) maintaining boat hulls clear of fouling organisms, particularly when moving to and from new areas;
b) cleaning boats and equipment before transporting them from one water body to another;
c) cleaning and drying dive and fishing gear after use;

Marinas and ports are encouraged to promote awareness of INNS amongst their users. Please note that artificial structures have the potential to become platforms for the settlement of INNS and therefore can act as a 'stepping stone' for the spread of INNS.

Examples of INNS with potential to cause adverse effects in and around Shetland waters:

- *Didemnum vexillum* (carpet sea squirt/ marine vomit)
- *Styela clava* (leathery sea squirt)
- *Watersipora subtorquata* (a bryozoan)
- *Schizoporella japonica* (a bryozoan) – reported in Shetland already
- *Sargassum muticum* (wireweed) – reported in Shetland already

Marine Litter

Marine litter is one of the descriptors of 'good environmental status' (GES) under the Marine Strategy Framework Directive (MSFD), which requires all member states to have put in place a programme of measures by 2016 to ensure that 'properties and quantities of marine litter do not cause harm to the coastal and marine environment' by 2020. Concerns such as marine litter have become more broadly recognised and will be addressed through the operational response to the MSFD. Marine Scotland has published a Marine Litter Strategy as part of its overall approach to marine planning and management which provides guidance on managing the adverse impacts of marine litter. In supporting the Scottish Government's commitment to achieve GES as part of the MSFD, the SIMSP aims to raise awareness of the problems associated with marine litter and encourage marine users and developers to dispose of litter in ways which do not harm the marine environment.

Policy MSP LITT1: Waste Minimisation

All applications for marine-related developments should, where directed by the local authority, submit a waste/litter minimisation and management plan to ensure the safe disposal of waste material and debris associated with the construction, operation and decommissioning stages of the development in a format to the satisfaction of the consenting authority or regulator. Disposal of marine waste/ litter at sea is prohibited.

Justification

In accordance with the International Convention for the Prevention of Pollution from Ships (MARPOL), the discharge of all garbage/litter into the sea is prohibited[18]. Marine litter is a global environmental problem, which poses a threat to ecosystems in terms of direct and indirect environmental, social and economic impacts. In terms of environmental impact, marine litter has resulted in the death of more than 1 million birds and 100,000 marine mammals globally each year from becoming entangled in or ingesting marine litter[19]. Marine litter can also destroy coastal habitats, interfere with biological production and destroy or smother the seabed.

Marine litter also has social and economic impacts, it is reported that UK local authorities spend approximately £15 million annually removing beach litter[20]. It is estimated that marine rubbish costs the Scottish fishing fleet approximately £11.5 million each year, with dumped catch, repairs to gear and lost fishing time costing each vessel in the Scottish fleet between £15,000 and £17,000 each year[21].

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[18] In July 2011, IMO adopted amendments to Annex V (Prevention of Pollution by Garbage from Ships) which prohibits the discharge of all garbage into the sea, except as provided otherwise, under specific circumstances. 'Garbage' means all kinds of victual, domestic and operational waste excluding fresh fish and parts thereof, generated during the normal operation of the ship and liable to be disposed of continuously or periodically except sewage originating from ships.

[19] **http://www.kimointernational.org/MarineLitter.aspx**

[20] **KIMO. 2010. Economic Impacts of Marine Litter.**

In 2009 the main sources of marine litter at a national level were reported as: 37.5% from the public, 8.9% fishing, 20.5% sewage-related debris, 1.7% shipping, 1.6% fly tipped, 0.2% medical and 29.6% non-sourced[22].

In Shetland, surveys have been completed by Da Voar Redd Up volunteers since 1988 on the distribution and sources of marine litter. In Spring 2012 a total of 4,077 bags of litter were collected by the volunteers; of these, 27% were specifically from coastal areas, and a further 44% were from both coastal and roadside areas. The main types of litter comprised plastics, textiles (including nets/ ropes) and plastic bottles. A number of surveys noted that the main sources of litter collected at the coast were from the sea, and mainly associated with fisheries (fishing and aquaculture) activities: fishing rope, nets, fish boxes, mussel pegs, etc. Other sources of coastal litter included agricultural and domestic waste.

Da Voar Redd Up

Da Voar Redd Up is an annual clean-up of Shetland's beaches and roadsides after the winter storms to get the islands clean for summer visitors, wildlife and the residents. "Da Voar Redd Up" means The Spring Clean Up. The clean ups are undertaken by local residents on a voluntary basis and approximately 15% of the population take part (4,000 volunteers), and do so year on year since it began in 1988.

Key legislative requirements and consultees

- Please refer to **Appendix A** for Checklist of Legislative Requirements and **Appendix B** for Key Consultees
- Shetland Islands Council- statutory powers to consent and prosecute for littering and dumping on public ground
- SEPA - registered waste carriers and responsible for fly tipping
- MS-LOT- statutory duty to control deposits of articles in sea / tidal areas e.g. disposal of dredged material as well as having consenting powers for marine licences
- Maritime and Coastguard Agency (MCA) - control and manage pollution at sea i.e. from vessels

Da Voar Redd Up in Shetland

Images courtesy of Promote Shetland

[21] **KIMO. 2011. Fishing for Litter Scotland 2008-2011. Final Report.**
[22] **Marine Scotland. 2011. Marine Litter Issues, Impacts and Actions.**

Further Information

- Marine Scotland - marine litter stratergy
- Code of Practice on Litter and Refuse (Scotland) 2006
- SEPA - waste guidance
- SEPA - Aquaculture Waste Minimisation Guide
- Shetland Amenity Trust Da Voar Redd Up
- Kimo - Marine litter information

Underwater Noise

In accordance with the Marine Strategy Framework Directive (MSFD), the Scottish Government is required to address the potential impacts of underwater noise, one of the descriptors of 'good environmental status'. The descriptor is stated as 'the introduction of energy, including underwater noise, is at levels that do not adversely affect the marine environment'. Within the National Marine Plan specific environmental targets related to the impacts of underwater noise will be developed as part of the implementation of the MSFD, and these will be incorporated into Regional Marine Plans as appropriate.

Policy MSP NOISE1:
Minimising Levels of Noise Including Underwater Noise

Applications for marine-related developments should, where directed by the local authority:

a) submit a noise impact assessment or supporting information to describe the duration, type and level of noise expected to be generated at all stages of the development (construction, operation, decommissioning); and

b) include mitigation measures to minimise the adverse impacts associated with the duration and level of noise activity.

Development must also take into consideration the potential cumulative effects of noise within the marine area.

Developers should consider whether the level of surface or underwater noise has the potential to affect a marine species and where this includes a European Protected Species (EPS) note that an EPS Licence may be required..

It is advised that developers consult with the local planning authority, Marine Scotland and SNH in relation to potential noise impacts as early as possible in the design and development of any marine-related project.

Justification

As recognised in the UK Marine Policy Statement, 'noise resulting from a proposed activity or development in the marine area or in coastal and estuarine waters can have adverse effects on biodiversity', however, knowledge is limited on the actual extent of impacts. Anthropogenic noise emitted within the marine environment has the potential to mask biologically relevant signals, can lead to a variety of behavioural reactions, affect hearing

organs, and injure or even kill marine life. Particular sources of concern are marine related noise as a result of: explosions; shipping; seismic surveys; offshore construction and offshore industrial activities, i.e. dredging, drilling and piling; sonar of various types; and acoustic deterrent devices.

Additionally, marine noise can have a negative effect on human beings. For example, excessive noise can impact on the quality of human life, health, and use and enjoyment of areas, including those with high visual quality[23]. The potential impact on all marine receptors therefore needs to be considered and managed appropriately.

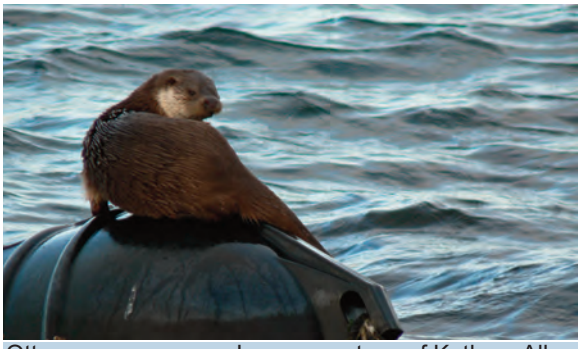
Noise impact assessments or supporting information will be expected to include details on the type, level and duration of noise expected to be generated throughout all stages of the development. Examples of noise mitigation measures include use of marine mammal observers (MMOs) and passive acoustic monitoring (PAM), locating noise generating devices away from sensitive receptors, controlling noise generating activities during sensitive periods (i.e. breeding, rearing, hibernation, migration), eliminating or controlling noise at source by enclosing or insulating the noise and routing ship movements away from sensitive receptors where feasible.

Key legislative requirements and consultees

- Please refer to **Appendix A** for Checklist of Legislative Requirements and **Appendix B** for Key Consultees

Further Information

- **OSPAR Commission. 2009. Overview of the impacts of anthropogenic underwater sound in the marine environment.**
- **Senior, B., Bailey, H., Lusseau, D., Foote A., & Thompson, P.M. (2008). Anthropogenic noise in the Moray Firth SAC; potential sources and impacts on bottlenose dolphins. Scottish Natural Heritage Commissioned Report No.265 (ROAME No.F05LE02).**
- **Gordon, J. & Northridge, S. (2002) Potential impacts of Acoustic Deterrent Devices on Scottish Marine Wildlife. Scottish Natural Heritage Commissioned Report F01AA404.**
- **JNCC Guidelines for minimising the risk of injury and disturbance to marine mammals from seismic surveys. August 2010**



Otter Image courtesy of Kathryn Allan

Killer Whale (Orca)
Image courtesy of Rachel Shucksmith

[23] **UK Marine Policy Statement.**

- **JNCC Statutory nature conservation agency protocol for minimising the risk of injury to marine mammals from piling noise. August 2010**
- **COWRIE (Collaborative Offshore Wind Research Into The Environment)**
- **JNCC Guidelines for minimising the risk of injury to marine mammals from using explosives. August 2010**
- **Southall et al. (2007). Marine Mammal Noise Exposure Criteria: Initial Scientific Recommendations. Aquatic Mammals 33: 411-521.**
- Richardson, W.J., Malme, C.I., Green, C.R.jr. and D.H. Thomson (1995). Marine Mammals and Noise. Academic Press, San Diego, CA 576 pp.

Safe Shipping and Navigational Conditions

One of the objectives of the SIMSP is to provide a safe marine environment for all users and activities. The SIMSP policies can help ensure that the conditions necessary for the efficient and safe movement of shipping to and from ports and harbours are maintained. It is also important to create conditions for safe shipping traffic around the Shetland coast in association with the relevant consenting authorities and maritime agencies. The subsequent shipping policies and mapping will contribute toward safe shipping and navigation around the Shetland coast.

Policy MSP SHIP1:
Safeguarding Navigation Channels and Port Areas
Development proposals that would have an adverse impact on the efficient and safe movement or navigation of shipping to and from ports, harbours, marinas and anchorages or the long-term operational capacity of a ferry operation will be refused.

Decision-makers should carefully evaluate and balance shipping interests with other water usages around the Shetland coast and require that the provisions for safe shipping traffic are safeguarded as a condition of any development consent.

Shipping routes and anchorages are shown in Map 5a(iii) and recreational yacht routes are shown in Map 5b(xxiv). Port and harbours areas are shown in Map 5a(iv).

Justification

Shipping over 5000 tonnes is regulated by international agreements, and are generally inflexible in terms of where they can go. The types of large vessels that Shetland receives are: cruise liners, large shipping and ferry vessels, cargo, oil-related vessels such as diving support ships, platform supply vessels and oil tankers. The identification and location of main shipping routes are shown in Map 5a(iii), providing a spatial overview of important navigational areas.

In some areas of Shetland shipping not regulated by international agreements

has greater potential to be flexible with respect to other uses. The types of vessels Shetland receive in this category are: small fishing vessels, small ferries, aquaculture work boats, yachts and hobby boats. Only small ferry and yacht routes have been mapped, shown in Map 5a(iii) and 5b(xxiv).
In many voes of Shetland, however, there are narrow channels with little room for manoeuvring, and so other activities that potentially conflict with shipping have to take shipping into account as a dominant use for safety reasons. Therefore, in the case of conflicts, other uses are secondary, but pre-application consultation for a development proposal with Lerwick Port Authority or Shetland Islands Councils Port and Harbour Operations and the Northern Lighthouse Board is strongly advised.

All ferry terminals and port areas require a certain amount of operational area for approaching and leaving a pier, in addition to its route to its destination. The aim of this policy is to protect the operational area from potential obstructions, in order to maintain links to rural communities.

Navigation channels are not a given size, but more related to its distance between two land masses. For this reason, it is difficult to put a standard safety zone around shipping routes without wasting an area for another use that could safely occur.

Policy MSP SHIP2:
Marine Environmental High Risk Areas (MEHRAs)
Developments should consider the presence and status of Marine Environmental High Risk Areas (MEHRAs).

MEHRAs are shown in Map 5a(iii).

Justification
Shipping is under significant pressure to minimise the impact of accidents and operations on the marine environment. Oil spills, collisions and groundings, as well as waste discharges, anti-fouling systems, anchor damage, wake impacts and ship-generated noise, have become increasingly important and high profile issues. Since the Braer ran aground off Shetland in 1993, the need for further protective measures to eliminate and reduce shipping-related impacts

Hildasay Ro-Ro cargo ship, Lerwick Harbour Image courtesy of Ian Napier

around the UK coast has been highlighted.

Ship owners and operators can take action through ensuring the integrity, maintenance and effective environmental management of their vessels and, secondly, through due consideration of the environmental requirements of any regions in which their ships will operate. In order to achieve the latter, Marine Environmental High Risk Areas (MEHRAs) have been designated. Routing measures aim to encourage ships to follow routes where vessels are less likely to collide with each other, run ashore or get into difficulties. They also aim to reduce the scope for a disaster if a ship does get into difficulty, directing ships away from environmentally sensitive areas where pollution would be highly damaging.

Key legislative requirements and consultees

- Please refer to **Appendix A** for Checklist of Legislative Requirements and **Appendix B** for Key Consultees

Further Information

- **Department of Transport**
- **Maritime and Coastguard Agency**
- **Lerwick Port Authority** and **Environment-quality-and-safety**
- **Marine Environment High Risk Areas (MEHRAs)**
- **International Maritime Organisation**
- **Department for Transport Port Marine Safety Code**
- **Scalloway Harbour Oil Spill Plan**
- **Sullom Voe Harbour Oil Spill Plan**

Cables and Pipelines

Cables and pipelines are buried deep in the sea bed, where possible, and where burial is not feasible, they tend to be placed on top of the seabed and protected for example, by rock armour or concrete mattresses. Installers and operators are required to promote marine safety and protection by raising awareness among other marine users of the location of this infrastructure.

Policy MSP ACBP1:
Avoidance of Cables and Pipelines

Activities that could damage any cable or pipeline (e.g. dredging or mooring attachments to the seabed) must not be carried out in the following situations:

a) within the 500m exclusion zone(s) established under the Petroleum Act 1987 around oil and gas platforms, well heads and associated pipelines; and

b) within a 250m exclusion zone either side of utility (telecommunications, electricity or water supply) cables or pipelines.

Cable and pipeline locations are shown in Map 5a(v).

Justification

The aim of this policy is to establish clear safety zones that address potentially serious public safety issues. In the past some dredging and trawling activities have caused damage to communication and electricity cables. These cables provide lifeline services to Shetland and damage can jeopardise this, as well as requiring extra resources for repair. As pressure on marine resources, exploration and installation activity increases around Shetland waters, in order to reduce disruption it is imperative that marine users are made aware of this infrastructure and avoid it. The identification of major cables and pipelines, as outlined in Map 5a(v), is a step in meeting this aim.

Key legislative requirements and consultees

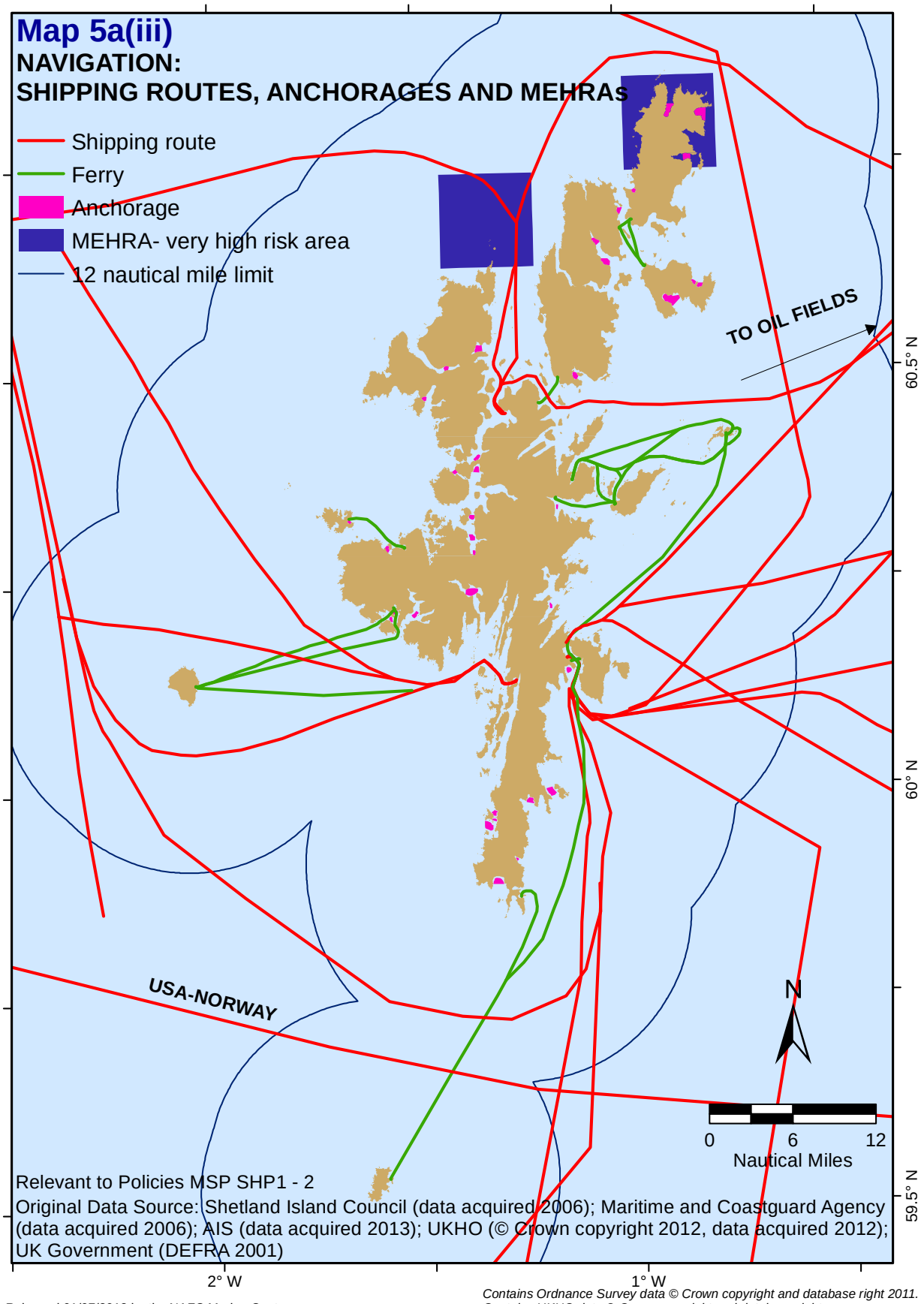
- Please refer to **Appendix A** for Checklist of Legislative Requirements and **Appendix B** for Key Consultees

Further Information

- **Subsea Cables UK**
- **Kingfisher Information Service Cable Awareness**

Map 5a(iii)

NAVIGATION:
SHIPPING ROUTES, ANCHORAGES AND MEHRAS



Relevant to Policies MSP SHP1 - 2

Original Data Source: Shetland Island Council (data acquired 2006); Maritime and Coastguard Agency (data acquired 2006); AIS (data acquired 2013); UKHO (© Crown copyright 2012, data acquired 2012); UK Government (DEFRA 2001)

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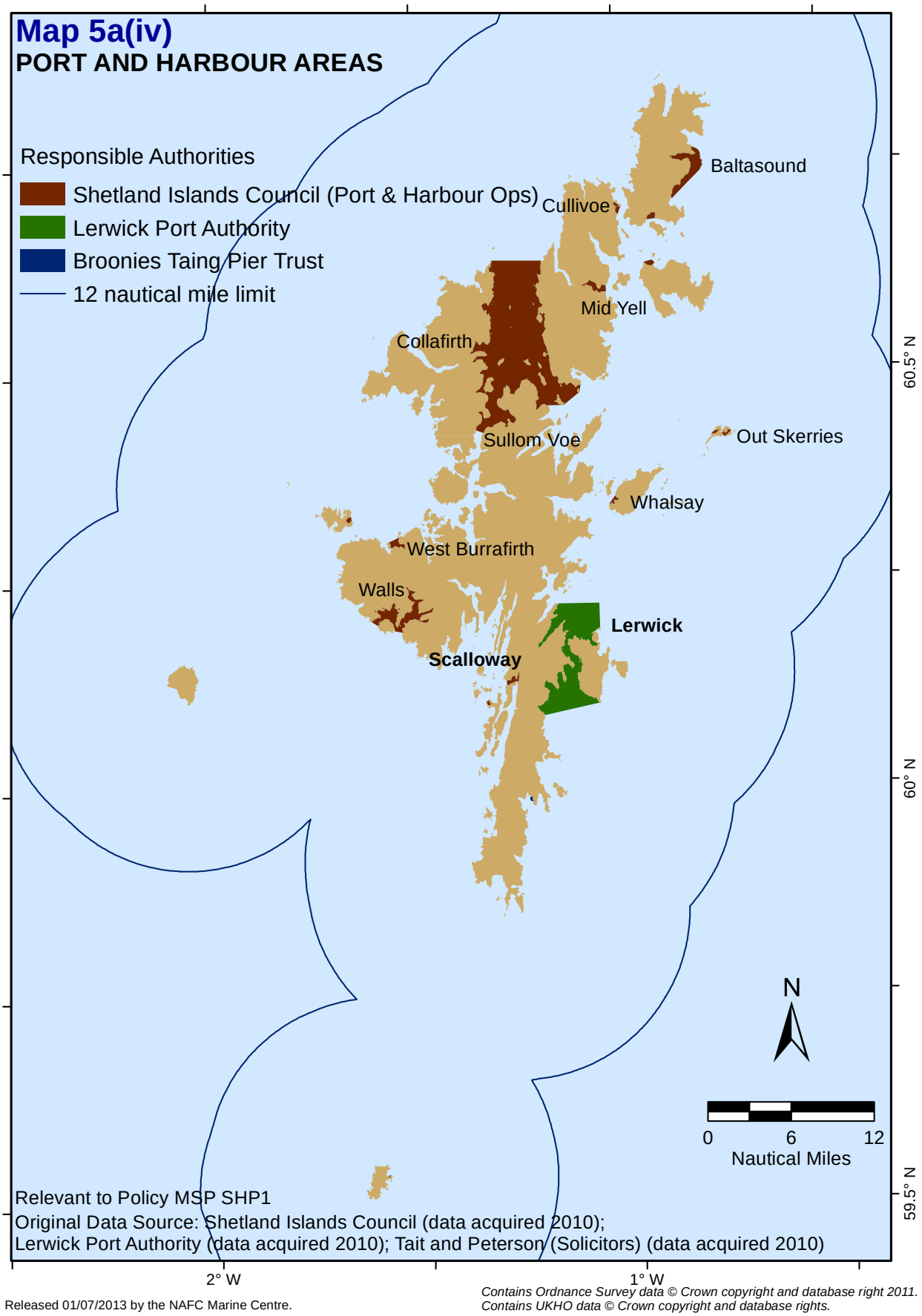

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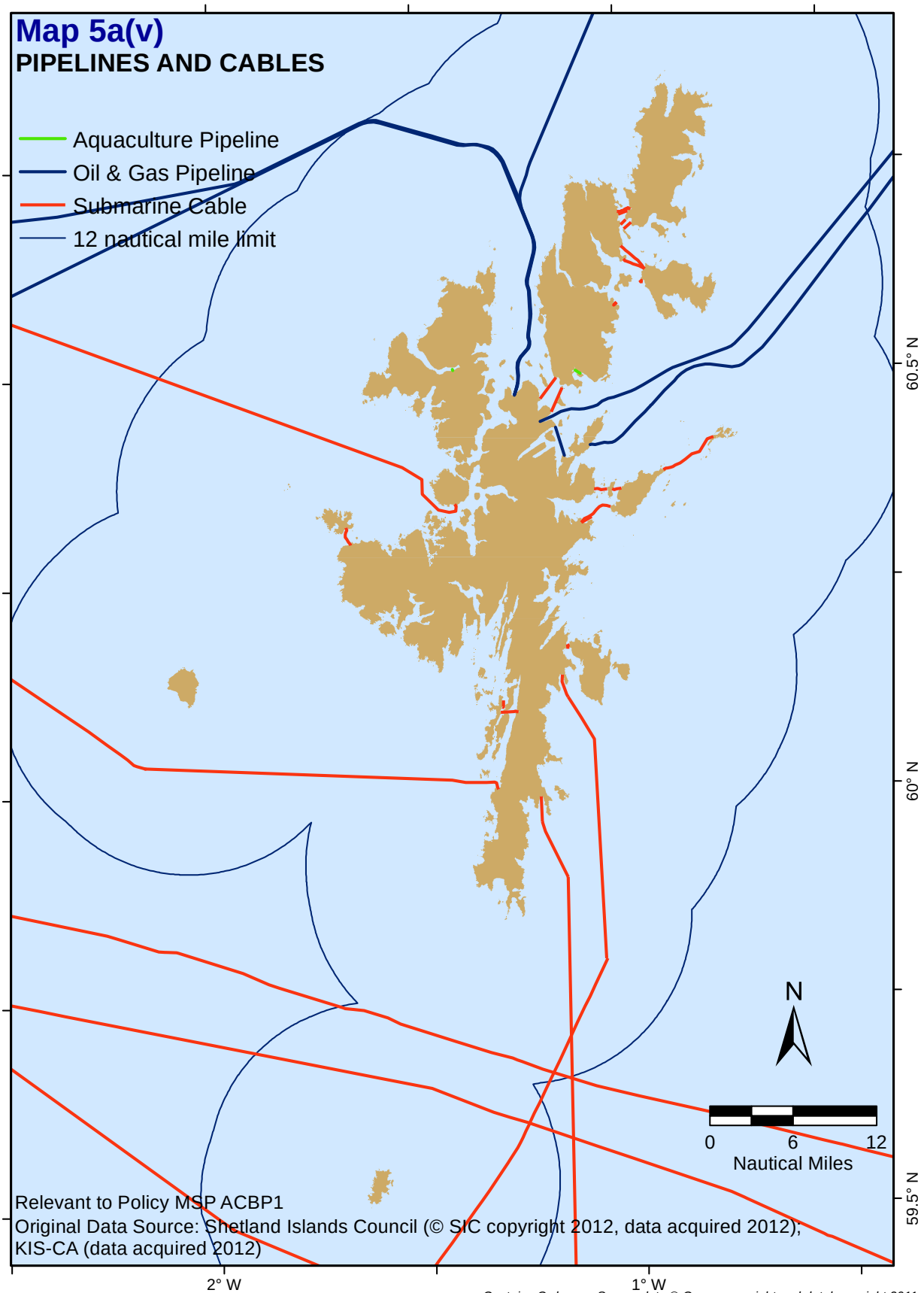

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Climate Change

The SIMSP 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-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.

Policy MSP CLIM1:
Climate Change Mitigation

Applications for marine-related developments should demonstrate, in a format approved by the consenting authority or regulator, that:

a) resource use;
b) energy use; and
c) emissions have been assessed and minimised as part of the overall development proposal.

Examples of low resource use include use of energy efficient construction, use of renewable energy sources, reduced need for travel/ transportation and waste management.

Policy MSP CLIM2:
Climate Change Adaptation

Applications for marine-related developments should demonstrate that the impacts of climate change over the lifetime of the development have been considered and minimised as part of the overall development proposal.

Justification

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.

In determining applications for development, consenting authorities should, where relevant, consider the likely impact of proposed development on climate change, including any management and/or mitigation measures proposed by the developer.

Coastal Defence and Flood Protection

Primary responsibility to protect land lies with the landowner who may undertake flood prevention works, or coast protection works with the written consent of the Coast Protection Authority (which is Shetland Islands Council).

The nature and scale of the works may mean that planning permission, a works licence, a marine licence or a combination of these is required. Requirements of any coastal works should be carried out in line with the UK Marine Policy Statement and Scottish Planning Policy. Both policies stipulate that all activities and developments must be resilient to risks of coastal change and flooding, and will not have an unacceptable impact on coastal change. Inappropriate development should be avoided in areas of highest vulnerability to coastal change and flooding.

The Coast Protection Act 1949 and the Flood Risk Management (Scotland) Act 2009 allow local authorities (identified as Coast Protection Authorities in the 1949 Act) to promote appropriate schemes, on land not in their ownership, when the need for coast protection works or flood prevention works (for non-agricultural land) is deemed necessary in the wider public interest. Such schemes require ministerial approval regardless of size. Coast Protection Authorities are permitted to undertake maintenance and emergency work under the terms of the 1949 Act and certain public bodies are expected to take a proactive role in managing and, where achievable, lowering overall flood risk. Local Authorities have powers as the Coast Protection Authority to carry out emergency coastal defence works and are exempted from the need for consent to carry out emergency operations on a SSSI.

The **UK Climate Impacts Programme (UKCIP)** provides scenarios that show how our climate might change, and co-ordinates research on dealing with our future climate. The implications of climate change for coastal hazards on Shetland are documented in **'Climate Change and Coastal Hazards on Shetland'.** The development of a Flood Risk Management Strategy and a Local Flood Risk Management Plan for the Shetland Islands will provide overarching guidance for the sustainable mitigation and adaptation to the impacts of climate change.

In accordance with the LDP, proposals to build below the 5 metre contour (5 metres above Ordnance Datum, Newlyn) or in other areas shown to be at risk of flooding or coastal erosion, will not be permitted unless a suitable flood risk assessment is submitted with the licence application. It is therefore strongly

Sandsayre Pier, Sandwick Image courtesy of Christina Kelly

advised that any developer considering proposals to develop within the coastal zone has regard to the LDP and, in particular, the policies on flooding avoidance and the accompanying Supplementary Guidance Flooding and Drainage.

Policy MSP CD1:
Coastal Defence Construction

The installation of new flood defences and coastal protection works will be considered if coastal erosion or flooding threatens existing public infrastructure and important built development and where there is a significant safety risk. Where this has been demonstrated, the planning authority and coast protection authority will ensure the construction of flooding or coastal defence developments have:

a) complied with all other policies in Policy Framework Section 5(a) and 5(b);
b) provided detail of relocation options;
c) detailed the design and assessed the risks and impacts, ensuring the retention or enhancement of the ecological characteristics, landscape character and popular coastal views; and
d) can demonstrate the wider implications of exacerbating flooding or coastal erosion have been considered and that potential impacts have been mitigated so far as possible.

Where coastal defence is deemed necessary, there should be an overall presumption in favour of soft rather than hard defences. The use of managed realignment of coastal defences where appropriate will be promoted.

Policy MSP CD2:
Coastal Defence Demolition

Permission for the demolition of coastal defence materials will only be permitted when it can be demonstrated that there are no adverse impacts for the environment, landscape or land use.

In particular, when considering the demolition of coastal defence structures, the following should be taken account of:

a) compliance with all policies in Policy Sections 5(a) and 5(b);
b) historic value of the structure in its surroundings;
c) potential to re-use the material;
d) implications for reinstatement; and
e) value to species and habitats, such as providing a substrate for an important rocky shore habitat, or shelter for otters.

Justification

As a result of cliff and beach erosion the shoreline of Shetland is naturally receding. Indeed, there would be no beaches if erosion were not to occur.

Development near the coast is preventing erosion from occurring and therefore creates a need for defence.

Many of the defences against erosion or flooding have traditionally been 'hard engineering' works. Hard coastal defence works include dykes and groynes, rock armour, seawalls and gabions. However, these are initially expensive and utilise large quantities of raw materials for concrete.

Soft coastal defence works include beach nourishment and beach re-enforcement by dune fencing, recharging, planting Marram grass, etc. Unofficial attempts at ‘soft’ defences (such as beach re-enforcement by means of nets over dunes) are now discouraged, with a focus currently being placed on using methods such as dune fencing to direct wind deposited sand where required.

The Flood Risk Management (Scotland) Act 2009 requires Local Authorities to produce Local Flood Risk Management Plans by 2015. It is anticipated that the plans will detail coastal areas prone to coastal flooding, as well as areas subject to erosion. Sub-district Advisory Groups were also established by the local authority in accordance with the Flood Risk Management (Scotland) Act 2009.

The installation of flood defences should consider the needs of public health and safety as well as the wider implications of the work and the potential environmental effects. Flood and coast protection policies will be supported where they account for wider marine interests.

Key legislative requirements and consultees

- Please refer to **Appendix A** for Checklist of Legislative Requirements and **Appendix B** for Key Consultees

Further Information

- **Shetland Islands Council - Flood and Coast Protection**
- **Shetland Islands Council’s Local Development Plan**

Scalloway breakwater Image courtesy of Christina Kelly

- **Shetland Islands Council - Strategic Flood Risk Assessment**
- **UK Climate Projections**
- **UK Climate Change Risk Assessment (CCRA)**
- **Scotland's Climate Change Adaptation Framework 2009**
- **Scotland's Climate Change Adaptation Framework. Sector Action Plans 2011**
- **Marine Climate Change Impacts Partnership**
- **SEPA - Flood Risk Management**
- **Scottish Planning Policy**
- **UK Marine Policy Statement 2011**
- **Coast Protection Act, 1949**
- **Flood Risk Management (Scotland) Act 2009**
- **Transport and Works Act 1992**
- **Zetland County Council Act 1974**

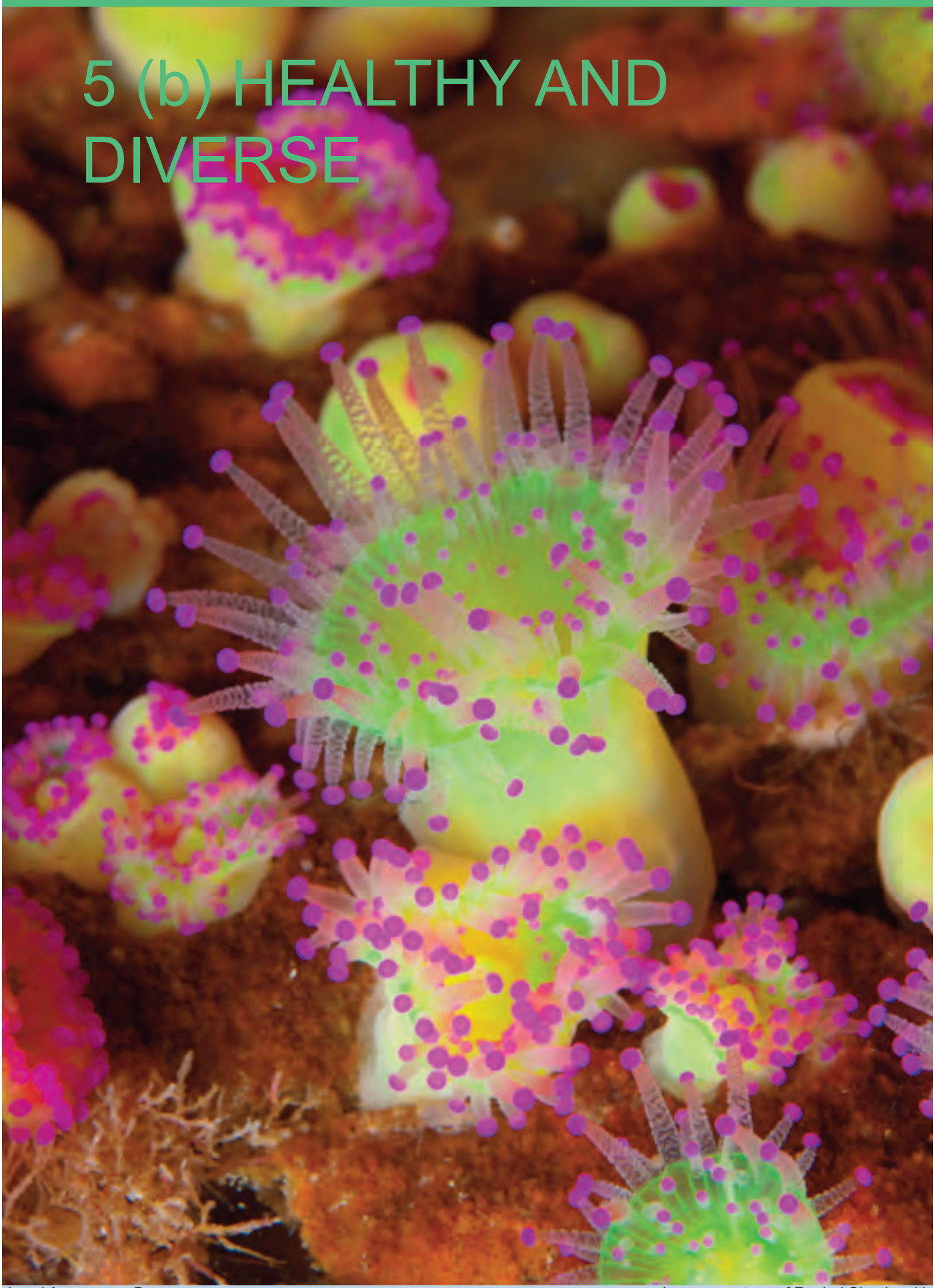
Sailing around Bressay
Image by Promote Shetland

HM Coastguard
Image courtesy of Promote Shetland

Common Seal
Image courtesy of Kenny Gifford

Round Trondra rowing
Image courtesy of Nicola Sinclair

5 (b) HEALTHY AND DIVERSE



Jewel Anemones, Bressay

Image courtesy of Rachel Shucksmith

5 (b) HEALTHY AND DIVERSE

Natural Heritage

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

Shetland has international, nationally and locally important marine natural heritage features and designated areas.

International Nature Conservation Designations

International sites are those with protection under European law- Special Protection Areas (SPAs) designated under the Council Directive on the conservation of wild birds (the Birds Directive), and Special Areas of Conservation (SACs) designated under the Council Directive 92/43/EEC on the conservation of natural habitats and of wild fauna and flora (Habitats Directive). SPAs and SACs taken together are commonly known as Natura 2000 sites. The requirements of the Habitats Directive and Birds Directive were transposed into Scottish law by the Conservation (Natural Habitats, &c.) Regulations 1994 (as amended in Scotland). These Regulations are referred to as the 'Habitats Regulations' and cover the requirements for protected European (Natura 2000) sites as well as those for European Protected Species, as well as other aspects of the Directive.

The Habitats Regulations require competent authorities to carry out an appropriate assessment (AA) for any plan of any proposal that might affect a Natura 2000 (European) site. This involves determining whether the proposal will is likely to have a significant effect on the site (i.e. whether it could affect any of the habitats or species for which the site is designated) either alone or in combination, and if so, carrying out an appropriate assessment of the implications of the proposal for the site's integrity. The full process is known as a Habitats Regulations Appraisal (HRA). A competent authority is any body that has the power to undertake or give any consent, permission or other authorisation for a plan or project. For example, the local planning authority i.e. Shetland Islands Council is the competent authority in respect of planning applications and works licences; Marine Scotland is the competent authority for marine licence applications; and DECC is the competent authority for reserved matters. Although not expressly required by the Habitat Regulations, authorities undertaking a HRA should consult Scottish Natural Heritage (SNH) when determining likely significant effect and before concluding that an AA is not required. Where an AA is required, the authority must consult SNH and should have regard to any representations they may make. A person applying

for any such consent, permission or other authorisation shall provide such information as the competent authority may reasonably require for the purposes of the assessment. It is strongly recommended that developers consult with the relevant competent authority in the early stages of the development proposal.

There are currently 12 SPAs and 12 SACs in Shetland, of which 11 SPAs are for seabirds and 7 SACs have a marine element. In addition the Pobie Bank Reef is a candidate SAC (cSAC) and is located approximately 20km to the east of Shetland. Internationally important wetland areas are protected under the Ramsar Convention on Wetlands of International Importance. In Shetland there is one Ramsar site, located at Ronas Hill – North Roe and Tingon, designated for its upland Bog area. For Ramsar sites, the Scottish Government has chosen as a matter of policy to apply the same considerations to their protection as if they were SPAs or SACs.

Policy MSP HER1:
Developments in or near Sites of International Interest (SACs, SPAs and Ramsar)

Developments that might affect a site designated or proposed to be designated as a SPA, SAC (collectively known as Natura 2000 sites) require competent authorities to carry out a Habitat Regulations Appraisal. This involves determining whether the proposal will have a likely significant effect on the site (i.e. whether it could affect any of the habitats or species for which the site is designated) either alone or in combination, and if so, carrying out an appropriate assessment of the implications of the proposal for the site's integrity.

The development will only be permitted in circumstances where the assessment ascertains that:
a) it would not adversely affect the objectives of the designation or the integrity of the site; or,
b) there is no alternative solution; and,
c) there are imperative reasons of over-riding public interest, including those of a social or economic nature.

SAC, SPA and Ramsar locations are shown in Map 5b(i).

Justification
Development not directly connected with or necessary to the management of a Natura 2000 site or a proposed Natura 2000 site, and which is likely to have a significant effect on the site (either individually or in combination with other plans or projects), must undergo an appropriate assessment (AA). The AA determines whether or not these would adversely affect the integrity of Natura 2000 sites. Should this assessment not show conclusively that there will be no adverse effect on the integrity of any Natura 2000 site competent authorities are required by the 1994 Regulations to refuse the application except in exceptional circumstances.

The Waddenzee Ruling 7th September 2004

Judgement of the European Court: Case C-127/02- The European Court of Justice in Case C-127/02 (the 'Waddenzee Ruling') 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'

A plan or project may only be authorised '*where no reasonable scientific doubt remains as to the absence of such effects*'. This is the so-called 'Precautionary Principle'.

For a proposal to be considered directly connected with or necessary to the conservation management of the site, it must be entirely in accordance with the conservation objectives of the qualifying interests of the site. On a multi-interest site therefore, a proposal which may benefit one interest may be contrary to the conservation objectives for another interest, and should therefore be subject to an Habitats Regulation Appraisal (HRA).

In the case of Natura 2000 sites, examples of imperative reasons of over-riding public interest for priority qualifying interests might include the following:

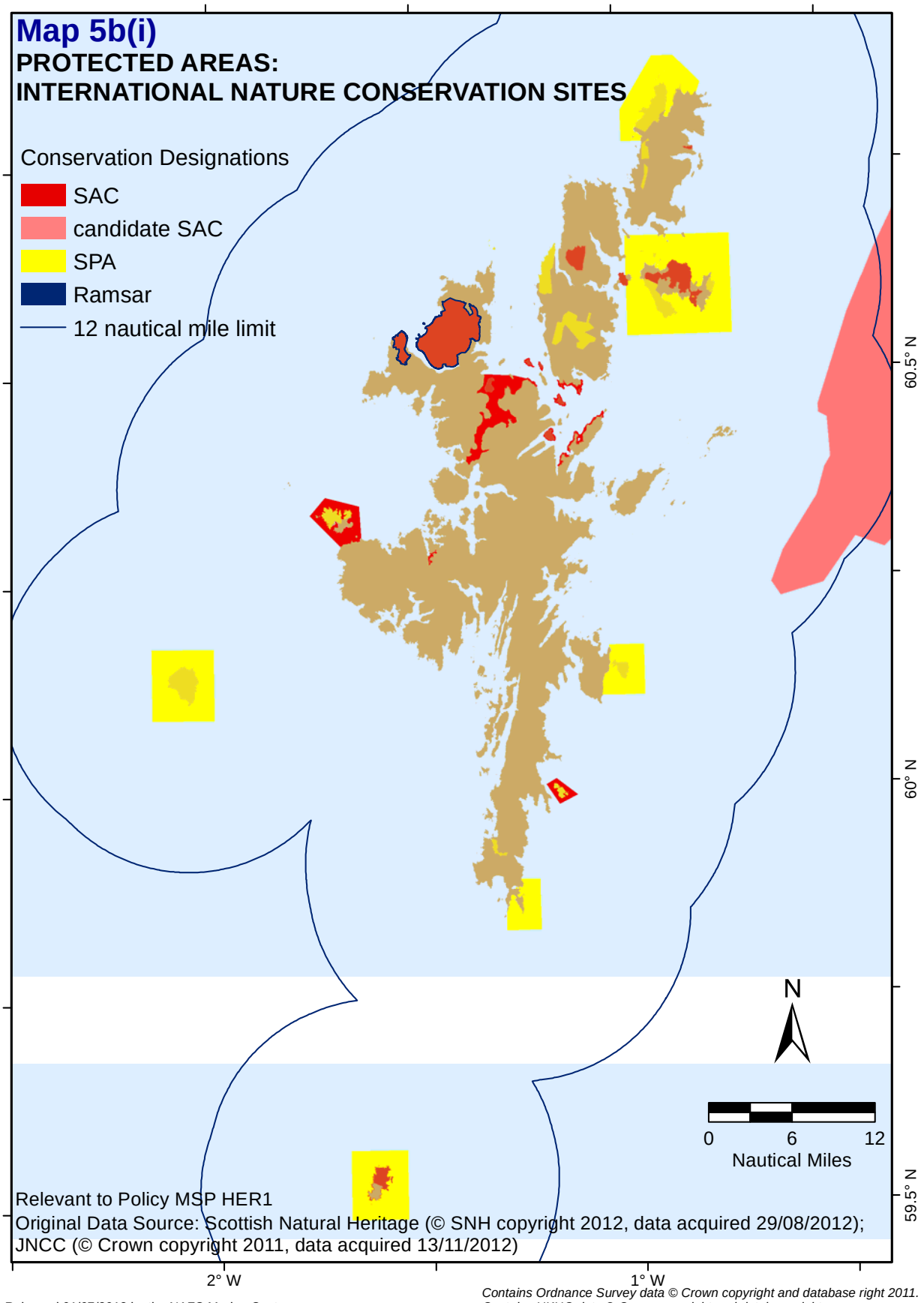
- works required for human health or public safety or beneficial consequences of primary importance to the environment;
- other reasons which in the opinion of the European Commission are imperative reasons of overriding public interest

Examples of imperative reasons of over-riding public interest for non-priority qualifying interests might also include the following:

- Works necessary in the interests of national security and defence;
- Provision of a clear and demonstrable direct environmental benefit on a national or international scale;
- A vital contribution to strategic economic development or regeneration; or,
- Where failure to proceed would have unacceptable social and/or economic consequences.

Papa Stour Cliffs Image courtesy of Christina Kelly

Hermaness SPA
Image courtesy of Shetland Amenity Trust



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National Nature Conservation Designations

National sites include Sites of Special Scientific Interest (SSSI) and Marine Protected Areas (MPAs). There are 78 designated SSSIs in Shetland, 31 are notified for marine biological features, including seabirds and red throated divers, and 36 are coastal sites notified for geological or geomorphological features, although on five of these the geological interest does not extend down to MHWS. A further two geological sites are within 100 metres of MHWS. These SSSI sites are included in Map 5b(ii).

In Shetland there are two nature conservation MPAs these areas are included in Map 5b(ii). Nature conservation MPAs are regions of the seas and coasts where wildlife is protected from damage and disturbance. The MPAs complement the marine components of sites designated as SACs, SPAs, SSSIs and Ramsar. Together these help to form an ecologically coherent network, as per international agreements including the OSPAR Convention and the Convention on Biological Diversity. In addition there is a proposed Demonstration and Research MPA, for further information see pages 68-69.

Policy MSP HER2:
Developments in or near SSSIs

Development likely to have an effect on a Site of Special Scientific Interest (SSSIs) will only be permitted:

a) if there is no adverse impact on the special interest of the site or it can be subject to conditions that will prevent damaging impacts on wildlife habitats or important physical features: or,

b) where there is no reasonable alternative or less ecologically damaging location and the reasons for the development clearly outweigh the value of the site by virtue of social or economic benefits of national importance.

All new marine-related developments should have regard to the Shetland Islands Council Local Development Plan and, in particular, Supplementary Guidance - Natural Heritage.

SSSI locations are shown in Map 5b(ii).

Justification

Sites of Special Scientific Interest (SSSI) are those areas of land and water (to the seaward limits of local authority areas) that SNH considers to best represent our natural heritage - its diversity of plants, animals and habitats, rocks and landforms, or a combinations of such natural features.
They are the essential building blocks of Scotland's protected areas for nature conservation. Many are also designated as Natura 2000 sites (Special Protection Areas or Special Areas of Conservation). The national network of SSSIs in Scotland forms part of the wider UK series.

SNH designates SSSIs under the Nature Conservation (Scotland) Act 2004. SSSIs are protected by law. It is an offence for any person to intentionally or recklessly damage the protected natural features of an SSSI.

Policy MSP HER3:
Nature Conservation Marine Protected Areas
Development capable of affecting any Nature Conservation MPA will only be permitted where it has been adequately demonstrated, to the satisfaction of the consenting authority, Marine Scotland and SNH, that the proposal has had due regard to the conservation objectives of the designated site and there will be no significant risk of hindering the conservation objectives of the Nature Conservation MPA.

Nature Conservation MPAs are shown in Maps 5b(ii).

Justification
Section 83 of the Marine (Scotland) Act, 2010 places a range of duties on public authorities to ensure that they do not grant authorisation to a development which would prevent the conservation objectives of a MPA being achieved. The draft Nature Conservation MPA Management Handbook sets out the aims, principles, roles, responsibilities, conservation objectives and management measures for the MPA network.

Marine Protected Areas (MPAs)

In Scotland three types of MPA can be established; nature conservation, demonstration and research, and historic. In Shetland there are two nature conservation MPAs, one community proposed Demonstration and Research MPA, and one Historic MPA (see page 107).

Nature Conservation MPAs

Nature Conservation MPAs are identified for features (the collective term for species, habitats and geology) that the Scottish Government believes require additional protection. There are two nature conservation MPA areas in Shetland, 'Fetlar to Haroldswick' and 'Mousa to Boddam'.

The Fetlar to Haroldswick MPA incorporates the sea area used for foraging by black guillemots while the inlets, sounds and stretches of open coastline support a range of seabed habitats and species. This includes extensive and biologically diverse maerl and horse mussel beds, as well as more widely distributed shallow tide-swept sands with burrowing bivalves and coarser sediment communities representative of Scotland's seas more generally.

The Mousa to Boddam MPA encompasses the known extent of sandeel grounds in two distinct areas around the island of Mousa and off the coast at Boddam, south-east Shetland. The MPA contains the area of most consistent and reliable sandeel recruitment in Shetland. Around Mousa, the MPA overlaps an existing Special Area of Conservation (SAC) designated for reefs, sea caves and harbour seals.

Both the 'Mousa to Boddam MPA' and the 'Fetlar to Haroldswick MPA' sit within the Shetland carbonate production area, a key geodiversity area in Scottish

waters. The Shetland carbonate production area is an internationally important example of a non-tropical shelf carbonate system. These sediments supply the carbonate sands of the coastal machair around Shetland. Machair supports specific and diverse grassland vegetation and is one of the rarest habitats in Europe.

Further information:
Scottish Government MPA
SNH MPA webpages

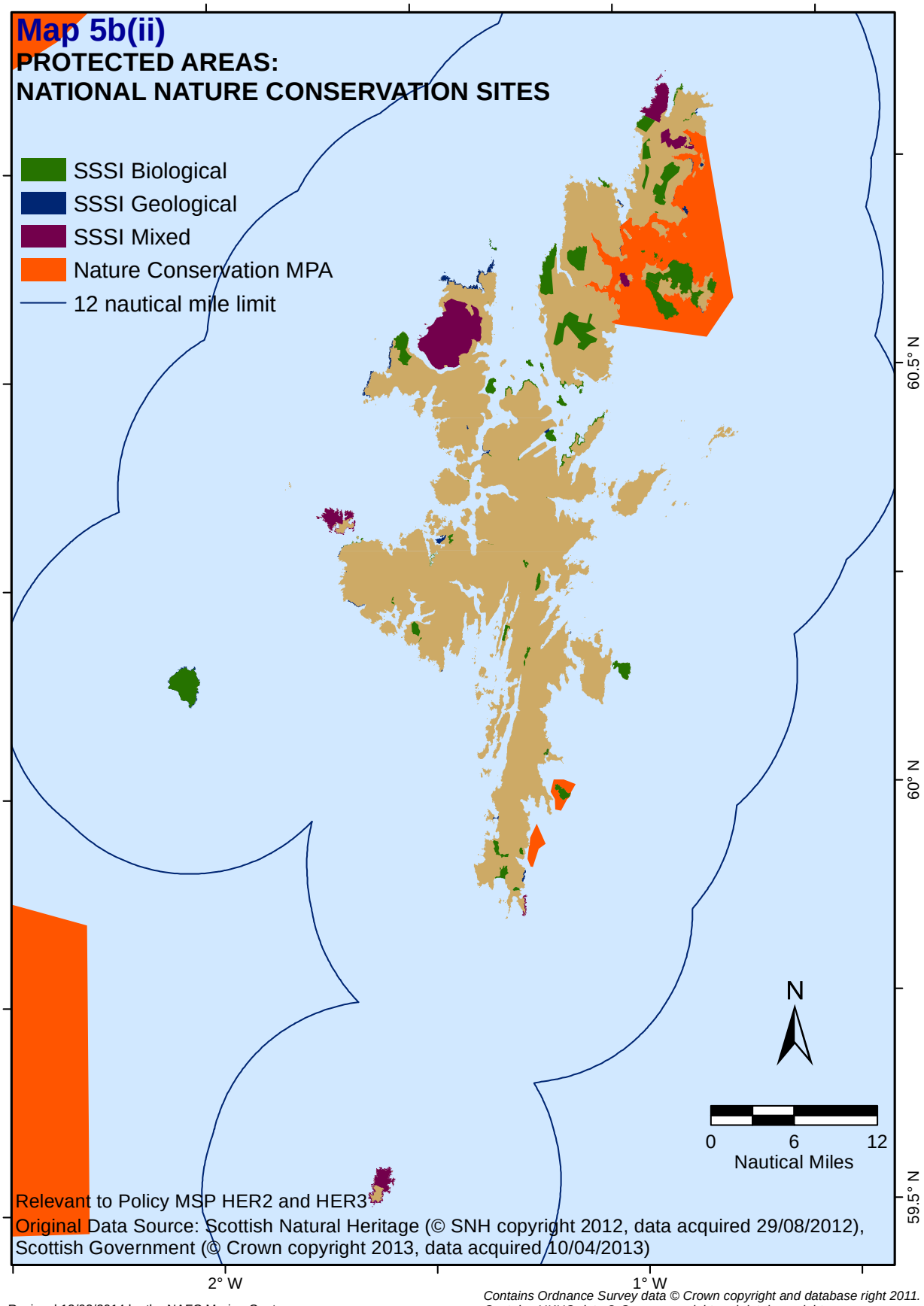
FIMETI proposal for a Demonstration and Research Marine Protected Area for the Waters around Fair Isle

The Fair Isle Marine Environment and Tourism Initiative (FIMETI), led by the Fair Isle community in partnership with Fair Isle Bird Observatory and The National Trust for Scotland, has put forward Fair Isle's case for a Demonstration and Research Marine Protected Area. The proposed MPA is intended to serve three purposes:

- to trial a series of management measures, supplemented by interpretation and dissemination, which demonstrate the role of MPAs in delivering fully sustainable marine management;
- to demonstrate the relationship between a fully functioning marine environment and the socio-economic stability of peripheral coastal communities;
- to meet a requirement of the Council of Europe in the form of a condition on the renewal of the Council of Europe Diploma for Fair Isle.

The proposal states:
'The suitability of Fair Isle stems from its rich marine environment, a considerable amount of biological and physical data already amassed and cooperative studies with academic institutions already under way. Above all, Fair Isle Bird Observatory Trust, assisted by the public purse, has invested heavily in a new building with excellent research facilities; and the community is fully in favour of and keen to support the MPA development. It is anticipated that sustainable management of the marine resource will bring many benefits. For the isle it means making full use of the research facilities on offer, the potential for development and extension of marine-related economic activities of benefit to all stakeholders, bringing Fair Isle's marine values to a wider audience to the benefit of tourism and allied ventures, and strengthening services, facilities and transport systems. For Scotland it offers the chance to address knowledge gaps while piloting measures of wide benefit to other coastal communities which depend on maintenance and enhancement of an essential socio-economic resource in the form of tourism, interpretation, education, heritage protection, recreation and sustainable economic use of the sea.'

Further information on Fair Isle and the MPA proposal:
MPA Proposal
Fair Isle Marine Environment and Tourism Initiative



Reviwed 12/02/2014 by the NAFC Marine Centre.

Local and Other Nature Conservation Designations

The Shetland Islands Council identified a network of 49 Local Nature Conservation Sites (LNCS) to highlight sites with important natural heritage features to both developers and the Council. These are shown in Map 5b(xv). In identifying LNCS the Council does not seek to prohibit development; they are a way of providing more information to ensure that development takes into account the important and sensitive features of these sites. However, there may be occasions where development would be considered inappropriate and would not be permitted.

Shetland has two national nature reserves (NNRs), managed by SNH, and six bird reserves, managed by the RSPB (Map 5b(iv)). National Nature Reserves and RSPB bird reserves are areas of land set aside for nature, where the main purpose of management is the conservation of habitats and species of national and international significance. These reserves not only highlight important natural heritage areas but also represent important tourism assets.

Shetland's geological diversity has also been recognised by achieving Geopark status. It is one of 54 Geoparks in the European Geopark Network and one of 92 Geoparks in the Global Network. Geosites are shown on Map 5b (iii). More information on the Shetland Geopark can be found on page 97 and policies to protect geodiveristy are included on page 95.

Fair Isle holds the Council of Europe Diploma, Map 5b(iv). The European Diploma of Protected Areas is a prestigious international award granted since 1965 by the Committee of Ministers of the Council of Europe to natural and semi-natural areas and landscapes of exceptional European importance for the preservation of biological, geological and landscape diversity and managed in an exemplary way (Council of Europe, 2012).

Shetland natural heritage is also valued as a recreational and tourism asset (see section 5c) and makes an important contribution to the local economy.

Local Nature Conservation Sites

Policy MSP HER4:
Development near to a Local Nature Conservation Site
Development that affects a Local Nature Conservation Site will only be permitted where:

a) it will not adversely affect the integrity of the area or the qualities for which it has been identified; or
b) any such effects are clearly outweighed by social, environmental or economic benefits.

All new marine-related developments should have regard to the Shetland Islands Council's Local Development Plan and in particular, Supplementary Guidance for Local Nature Conservation Sites.

Local Nature Conservation Sites are shown on Map 5b(iii).

Justification

LNCS identify sites of nature conservation value at the local scale; they may have been selected for their biodiversity or geodiversity interest. The introduction of a LNCS system will help to protect Shetland's natural heritage and consequently contribute to natural heritage objectives as well as other important objectives, such as tourism objectives. The identification of these sites early in the planning process will allow for the effective avoidance of unacceptable effects on the integrity of these sites, increasing the transparency of the process.

Key legislative requirements and consultees

- Please refer to **Appendix A** for Checklist of Legislative Requirements and **Appendix B** for Key Consultees

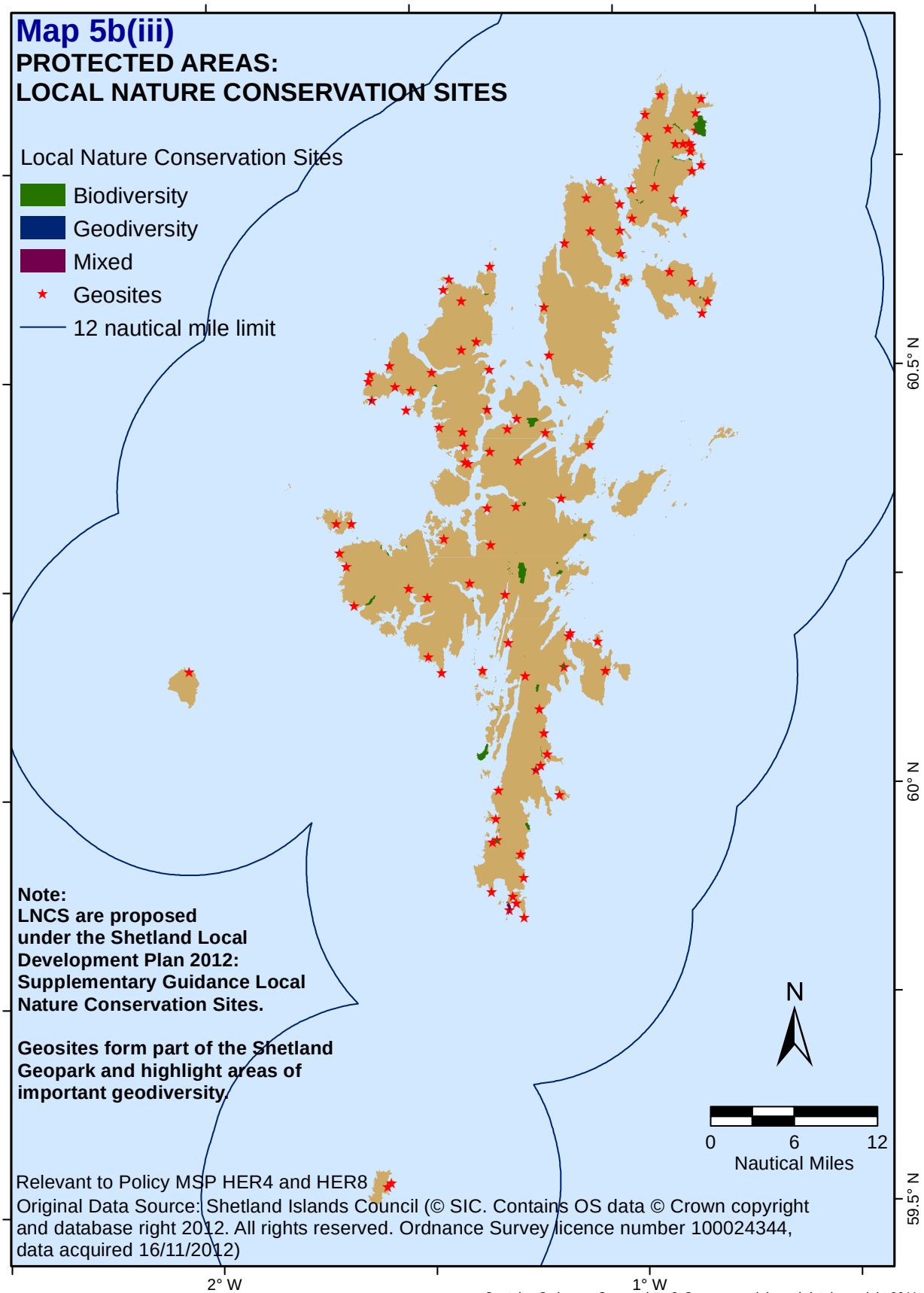
Further Information

- **Shetland Islands Council's Local Development Plan** and **Supplementary Guidance Natural Heritage**
- **Scottish Natural Heritage – Protected Areas**
- **EC Habitats Directive 92/43/EEC**
- **Scottish Natural Heritage – Nature Conservation MPAs**
- **Scottish Government- Marine Protected Areas**
- **Shetland Biological Records Centre**
- **RSPB. Wild Birds and the Law: Scotland**
- **Geopark Shetland**

Fulmar Image courtesy of Ian Napier

Map 5b(iii)

PROTECTED AREAS: LOCAL NATURE CONSERVATION SITES



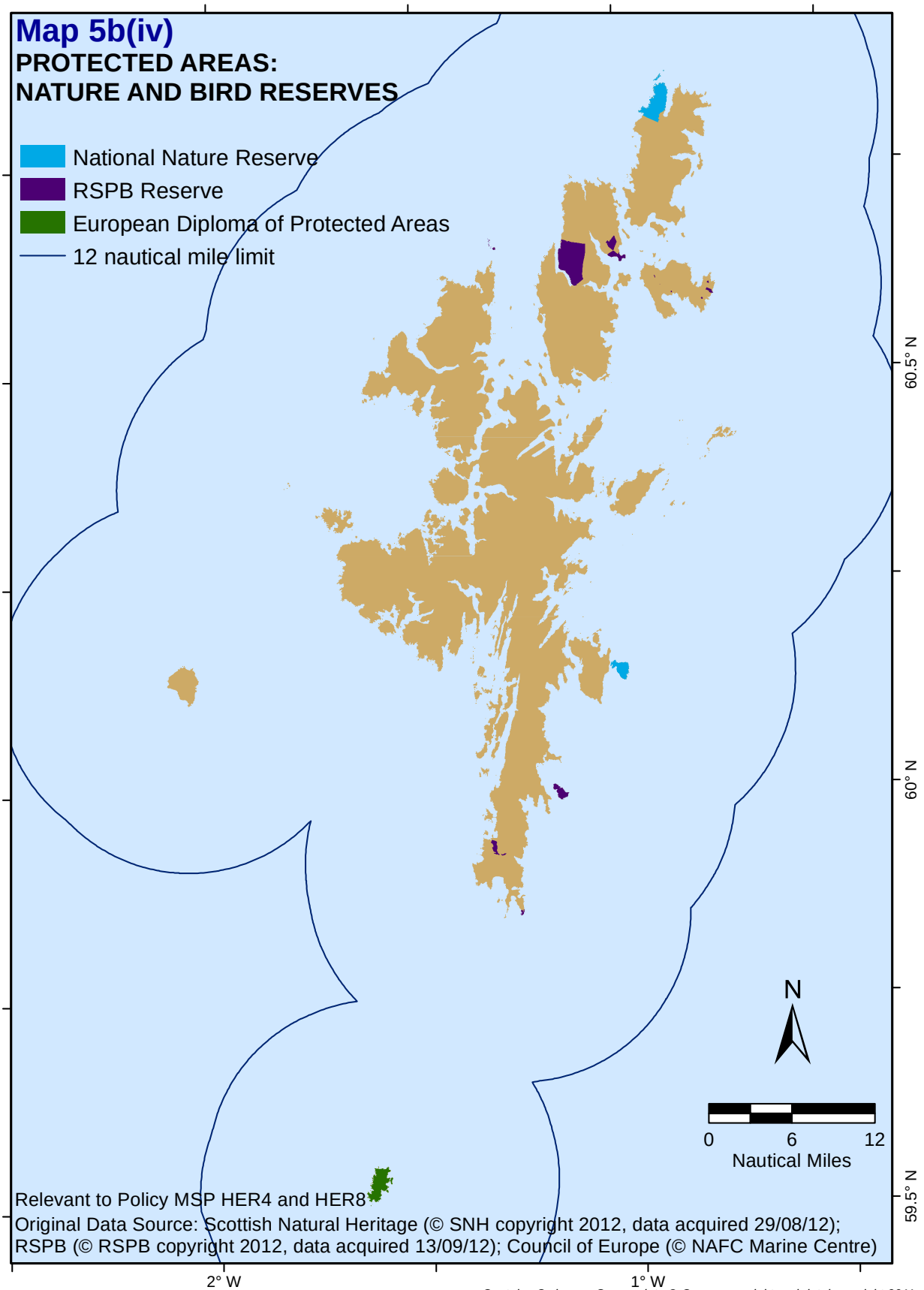
Note:
LNCS are proposed under the Shetland Local Development Plan 2012: Supplementary Guidance Local Nature Conservation Sites.

Geosites form part of the Shetland Geopark and highlight areas of important geodiversity.

Relevant to Policy MSP HER4 and HER8

Original Data Source: Shetland Islands Council (© SIC. Contains OS data © Crown copyright and database right 2012. All rights reserved. Ordnance Survey licence number 100024344, data acquired 16/11/2012)

Reviewed 28/10/2014 by the NAFC Marine Centre.



Reviewed 13/02/2014 by the NAFC Marine Centre.

Important Species and Habitats

Many species are legally protected and their presence or potential presence is an important consideration in decisions on planning applications, works licences and marine licences. The EU Habitats Directive requires strict protection of a number of marine species of European importance, as listed in Annex IV. In Shetland's marine environment these most notably include all species of cetaceans, some fish species, and the European otter, which forages in Shetland's coastal waters. The EU Habitats Directive also makes provision for the protection of select species from exploitation, as listed in Annex V. All species of wild birds are protected by the EU Birds Directive.

Species Licensing

Wildlife in Scotland is protected by a range of national and international legislation. These laws are designed to protect rare and vulnerable species as well as their breeding and resting places. However, it is also recognised that there are particular circumstances where it is desirable to licence acts which would otherwise be illegal.

Marine Scotland and SNH can issue licences under certain circumstances defined in wildlife legislation.

Scottish marine wildlife is protected under these main pieces of legislation:

- The Wildlife and Countryside Act 1981 (as amended);
- The Conservation (Natural Habitats &c.) Regulations 1994 (as amended)
- Nature Conservation (Scotland) Act 2004;
- Marine (Scotland Act), 2010; and
- Wildlife and Natural Environment (Scotland) Act 2011 (the 'WANE Act')

European Protected Species (EPS)

The Habitats Regulations also afford protection to certain species identified in the Habitats Directive including species in need of strict protection. The species listed in Annex IV of the Directive are called 'European Protected Species' (EPS). Marine EPS whose natural range includes any area in Scottish waters (both inshore and offshore) include otters, whales, dolphins and porpoises.

Regulation 39 of the Habitats Regulations make it an offence to deliberately or recklessly capture, injure, kill, harass or disturb any such animal. It is also unlawful to deliberately or recklessly obstruct access to a breeding site or resting place of any such animal, or to damage or destroy such a place, whether or not it is in use or occupied

If there is a risk that a marine activity could potentially be unlawful then in some instances a licence may be granted to carry out the activity (EPS Licence). When EPS are present, licences to permit development can only be granted subject to three strict tests being met:

- Test 1 : The reason for the licence must relate to one of several specified purposes listed in Regulation 44(2) of the Conservation

(Natural Habitats &c.) Regulations 1994 (as amended);

- Test 2 : There must be no satisfactory alternative; and
- Test 3 : The proposed action must not be detrimental to the maintenance of the species at 'favourable conservation status'.

More information on the tests is available on the SNH **website.**

The Scottish Government issues licences under Regulation 44 of the Habitats Regulations (as amended) for specific purposes. Marine Scotland is the responsible authority for licensing of cetaceans relating to development, whilst SNH deals with licences for research and survey work, including that associated with monitoring of developments. SNH are responsible for issuing licences for otters. In addition SNH provide statutory nature conservation advice to Marine Scotland within 12 nautical miles. Information is available from the Scottish Government **website** and the SNH **website**.

Nationally Important Species Protection and Licensing

The Wildlife and Countryside Act 1981 (W&CA), as amended and enhanced by the Nature Conservation (Scotland) Act 2004 and The Wildlife & Natural Environment (Scotland) Act 2011 (the 'WANE Act'), is the primary legislation which protects animals, plants, and certain habitats in Scotland. The W&CA (as amended) details a large number of offences in relation to the killing, injuring and taking of wild birds, other animals and plants. It is an offence (subject to exceptions) to intentionally or recklessly kill, injure, or take any wild bird; take, damage, destroy or interfere with the nest of any wild bird while that nest is in use or being built; at any other time takes, damages, destroys or otherwise interferes with any nest habitually used by any wild bird included in Schedule A1; obstructs or prevents any wild bird from using its nest; or take or destroys an egg of any wild bird.

The W&CA (as amended) makes it an offence (subject to exceptions) to intentionally or recklessly kill, injure or take any wild animal listed on Schedule 5 of the Act, including basking sharks and prohibits interference with places used for shelter or protection, or intentionally disturbing animals occupying such places. The W&CA (as amended) also makes it an offence to intentionally or recklessly disturb a basking shark.

The WANE Act was introduced to clarify and simplify existing laws and amend existing legislation including the W&CA (as amended). In particular, the WANE Act affords greater protection to wild birds by the introduction of new wildlife offences, and makes changes to the licensing system for protected species including licensing impacts on certain wild animals under a new purpose 'for any other social, economic or environmental purpose'.

Under the WANE Act, SNH is responsible for wildlife licensing in Scotland in relation to protected species such as wild birds, otters and basking sharks. Further information on the licensing of activities that might otherwise be against the law in relation to a protected species is available from the SNH

website and Marine Scotland **website.**

Basking Sharks

Whilst basking sharks are protected under the W&CA (as amended) and the WANE Act there are a number of circumstance in which a licence may be granted to permit actions that may overwise be considered an offence under the W&CA, these are listed in section 16 of the W&CA. In addition the WANE Act amended the W&CA so that a licence may be granted 'that undertaking the conduct authorised by the licence will give rise to, or contribute towards the achievement of, a significant social, economic or environmental benefit'.

Conservation of Seals and 'Seal licences'

In accordance with the 2010 Act, it is an offence to kill, injure or take a live seal (intentionally or recklessly) at any time of year except to alleviate suffering or where a licence has been issued to do so by Scottish Ministers. Marine Scotland, on behalf of the Scottish Ministers may grant a licence (a 'seal licence') authorising the killing or taking of seals under certain circumstances including:

- for scientific, research or educational purposes,
- to conserve natural habitats,
- to conserve seals or other wild animals (including wild birds) or wild plants,
- in connection with the introduction of seals, other wild animals (including wild birds) or wild plants to particular areas,
- to protect a zoological or botanical collection,
- to protect the health and welfare of farmed fish,
- to prevent serious damage to fisheries or fish farms,
- to prevent the spread of disease among seals or other animals (including birds) or plants,
- to preserve public health or public safety, or
- for other imperative reasons of overriding public interest, including those of a social or economic nature and beneficial consequences of primary importance for the environment.

It is strongly advised that consultation in relation to the conservation of seals is carried out with the **Seal Licensing Team** at Marine Scotland.

In addition under Section 117 of the Marine (Scotland) Act 2010, Scottish Ministers, consulting with the Natural Environment Research Council (NERC), are permitted to designate specific seal haul-out sites to provide additional protection for seals from intentional or reckless harassment. In 2014 the Scottish Government identified 194 seal haul-out sites which were designated through The Protection of Seals(Designation of Haul-Out Sites) (Scotland) Order 2014, 47 of these are in Shetland. Protected seal haulouts are shown in Map 5b(xvi).

Key legislative requirements and consultees

- Please refer to **Appendix A** for Checklist of Legislative Requirements

and **Appendix B** for Key Consultees

Further Information

- **Shetland Islands Council's Local Development Plan** and **Supplementary Guidance Natural Heritage**
- **RSPB. Wild Birds and the Law: Scotland**
- **Marine Scotland - Species Licencing**
- **EC Habitats Directive 92/43/EEC**
- **Scottish Natural Heritage - Species Licensing**
- **Scottish Natural Heritage - European Protected Species**
- **Marine Scotland- The protection of marine EPS from injury and disturbance - Guidance for Scottish Inshore waters**

Protected Species

Policy MSP HER5:
Development and European Protected Species

Development likely to have an adverse effect on a European Protected Species[24] will only be permitted where all of the following can be demonstrated:

a) there is no satisfactory alternative;

b) the development is required for preserving public health or public safety or for other imperative reasons of overriding public interest including those of a social or economic nature and beneficial consequences of primary importance for the environment; and

c) The development would not be detrimental to the maintenance of the population of a European Protected Species concerned at a favourable conservation status in its natural range.

Records of cetacean sightings are shown in Map 5b(v) and records of otter activity are shown in Map 5b(vi).

Policy MSP HER6:
Protection of Wild Birds Outwith Designated Sites

Where there is good reason to suggest that a wild bird protected under the Wildlife and Countryside Act 1981 (as amended), the Nature Conservation (Scotland) Act 2004 or listed in Annex 1 of the EC Birds Directive is present on site, or may be affected by a proposed development, the consenting authorities will require any such presence to be established. If such a species is present, a plan should be provided to avoid or mitigate any adverse effects on the species, prior to determining the application, works licence or marine licence.

Development that directly threatens wild birds, the destruction of their nests or eggs will only be permitted where it can be

[24] European protected species are species listed in Annex IV of the Habitats Directive (Directive 92/43/EEC)

demonstrated that:

a) the development is required for preserving public health or public safety; and

b) there is no other satisfactory solution.

Developers should also take into consideration any sensitive times of year for breeding within the area of the proposed development when planning construction, operation and decommissioning stages. Proposals should include avoidance measures or mitigation of disturbance during these sensitive times and within these sensitive locations.

If a species listed on Schedule 1 on the Wildlife and Countryside Act 1981 (as amended) is present either at the nest, or with dependent young, it cannot be disturbed without a licence from SNH.

Important areas for wintering and breeding seabirds, and eider ducks are shown in Maps 5b(vii) – 5b(viii).

Applicants and planners should seek advice from SNH and RSPB on seasonal sensitivity of species.

All new marine-related developments should have regard to the Shetland Islands Council Local Development Plan and, in particular, Supplementary Guidance - Natural Heritage.

Key legislative requirements and consultees

- Please refer to **Appendix A** for Checklist of Legislative Requirements and **Appendix B** for Key Consultees

Further Information

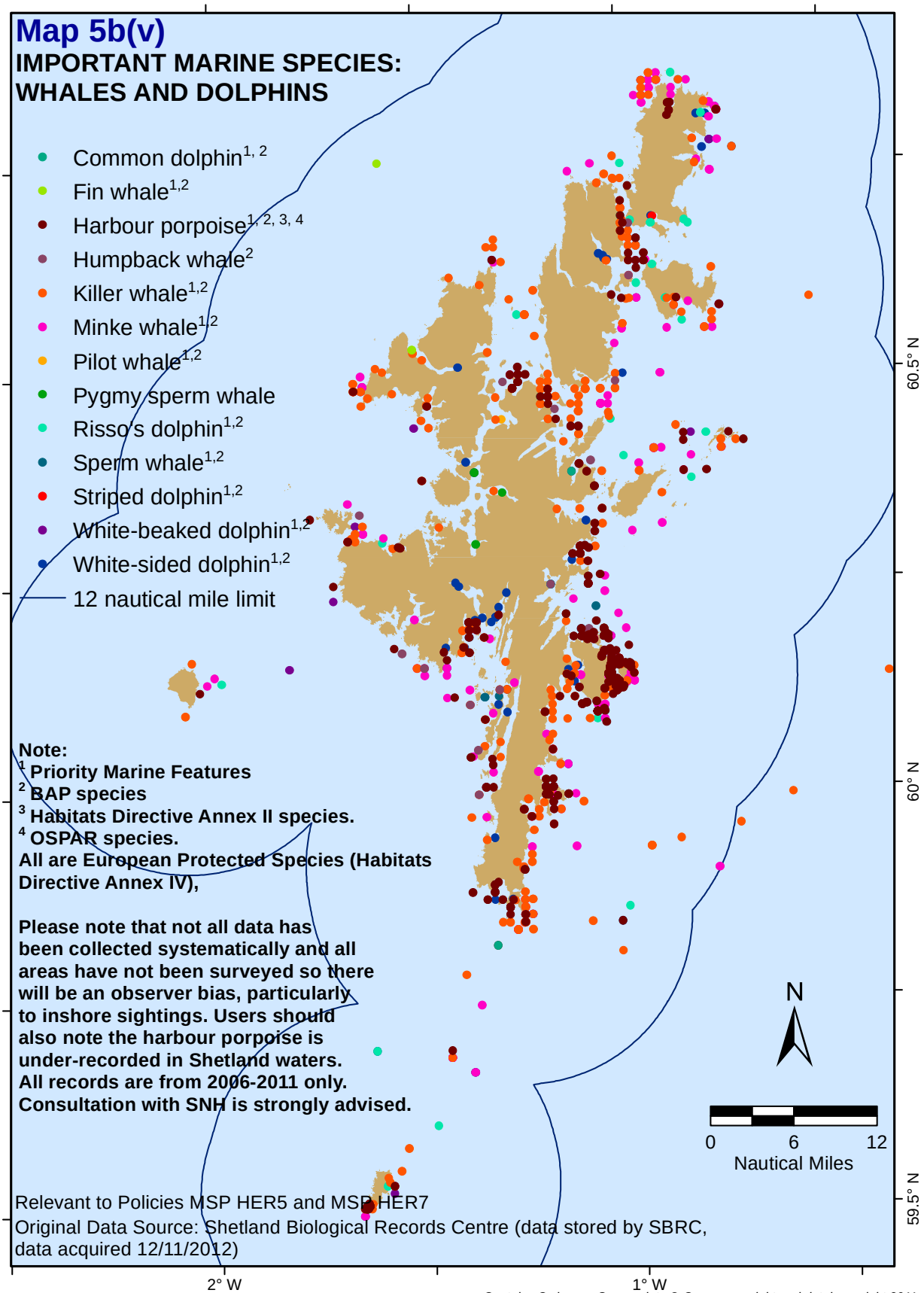
- **Shetland Islands Council's Local Development Plan** and **Supplementary Guidance Natural Heritage**
- **EC Habitats Directive 92/43/EEC**
- **RSPB. Wild Birds and the Law: Scotland**
- **Scottish Natural Heritage - Species Licencing**
- **Marine Scotland - Species Licencing**

Orcas Image courtesy of NAFC Marine Centre

Otters Image courtesy of Richard Shucksmith

Map 5b(v)

IMPORTANT MARINE SPECIES: WHALES AND DOLPHINS



Note:
[1] Priority Marine Features
[2] BAP species
[3] Habitats Directive Annex II species.
[4] OSPAR species.
All are European Protected Species (Habitats Directive Annex IV),

Please note that not all data has been collected systematically and all areas have not been surveyed so there will be an observer bias, particularly to inshore sightings. Users should also note the harbour porpoise is under-recorded in Shetland waters. All records are from 2006-2011 only. Consultation with SNH is strongly advised.

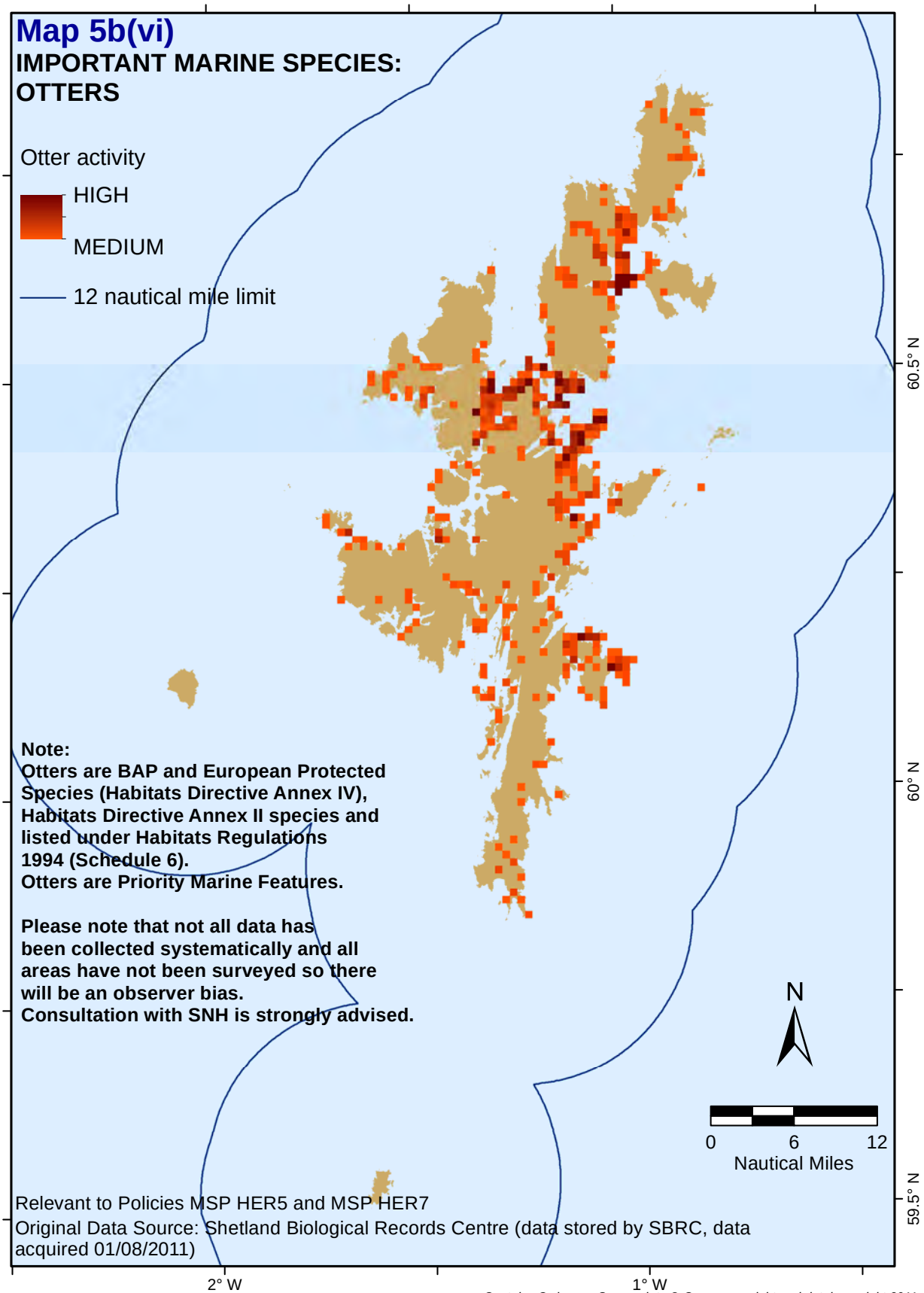
Relevant to Policies MSP HER5 and MSP HER7

Original Data Source: Shetland Biological Records Centre (data stored by SBRC, data acquired 12/11/2012)

Released 01/07/2013 by the NAFC Marine Centre.

Map 5b(vi)

IMPORTANT MARINE SPECIES: OTTERS



Note:
Otters are BAP and European Protected Species (Habitats Directive Annex IV), Habitats Directive Annex II species and listed under Habitats Regulations 1994 (Schedule 6).
Otters are Priority Marine Features.

Please note that not all data has been collected systematically and all areas have not been surveyed so there will be an observer bias.
Consultation with SNH is strongly advised.

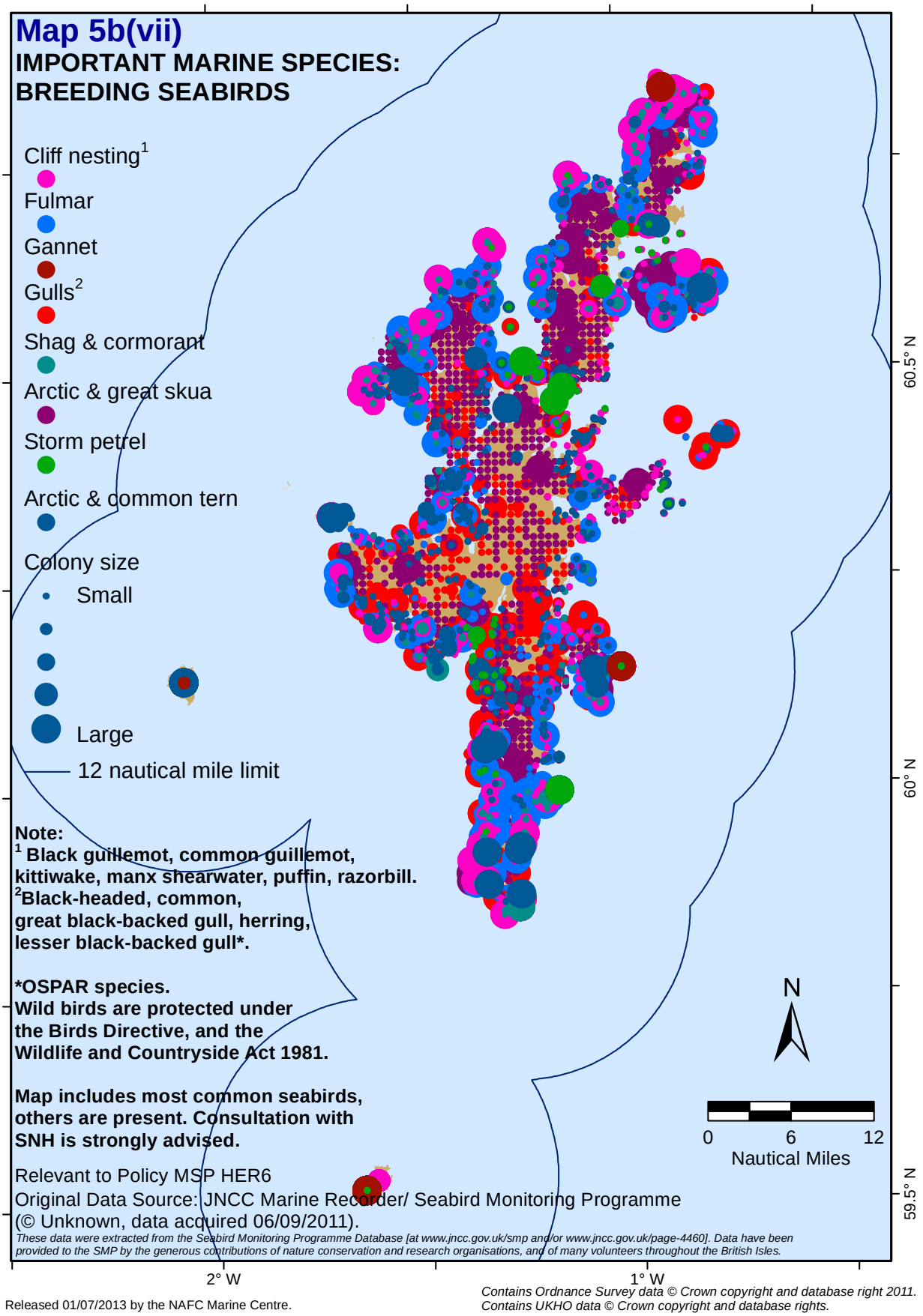
Relevant to Policies MSP HER5 and MSP HER7

Original Data Source: Shetland Biological Records Centre (data stored by SBRC, data acquired 01/08/2011)

Released 01/07/2013 by the NAFC Marine Centre.

Map 5b(vii)

IMPORTANT MARINE SPECIES: BREEDING SEABIRDS



Note:
[1] Black guillemot, common guillemot, kittiwake, manx shearwater, puffin, razorbill.
[2]Black-headed, common, great black-backed gull, herring, lesser black-backed gull*.

***OSPAR species.**
Wild birds are protected under the Birds Directive, and the Wildlife and Countryside Act 1981.

Map includes most common seabirds, others are present. Consultation with SNH is strongly advised.

Relevant to Policy MSP HER6

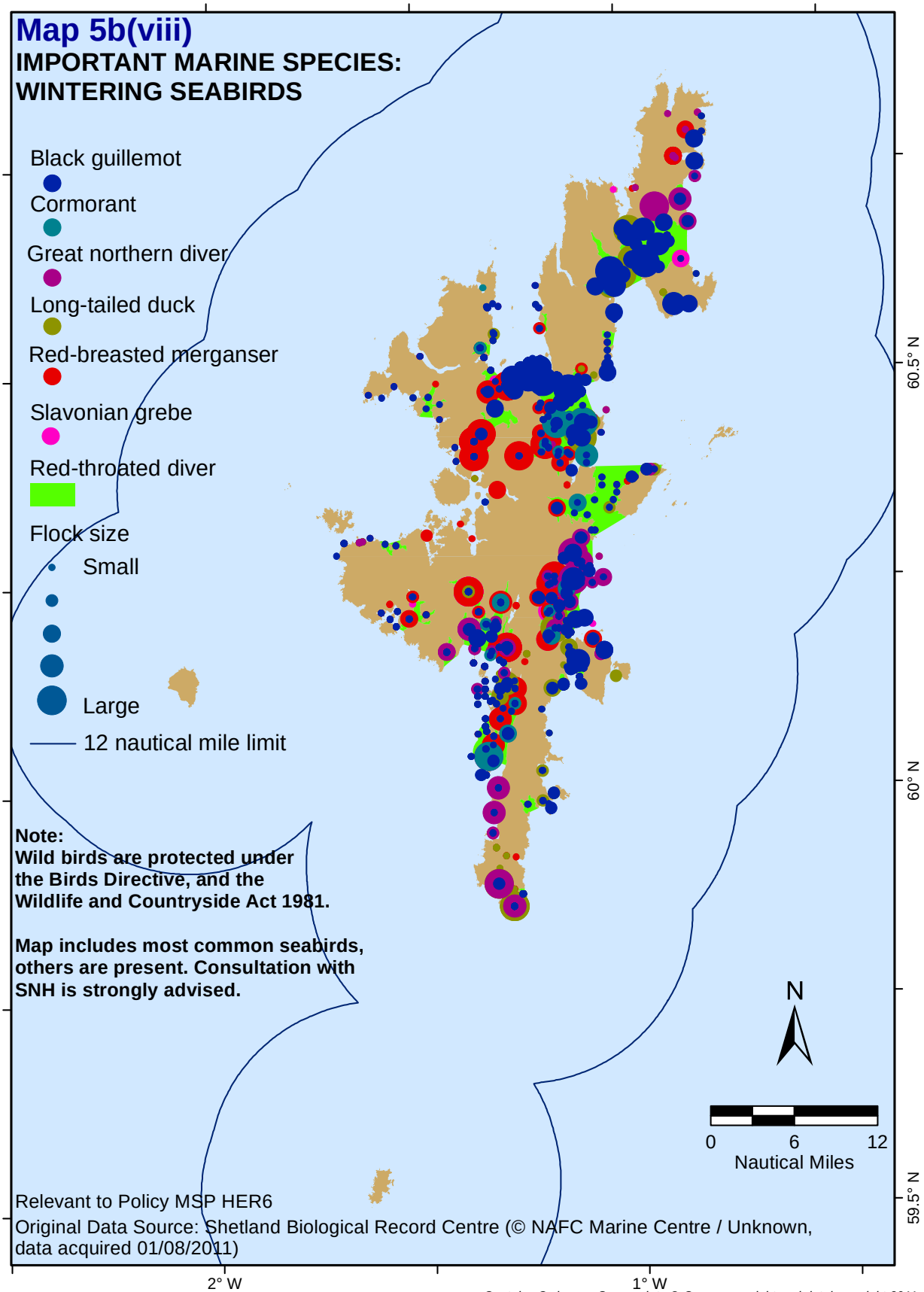
Original Data Source: JNCC Marine Recorder/ Seabird Monitoring Programme (© Unknown, data acquired 06/09/2011).

These data were extracted from the Seabird Monitoring Programme Database [at www.jncc.gov.uk/smp and/or www.jncc.gov.uk/page-4460]. Data have been provided to the SMP by the generous contributions of nature conservation and research organisations, and of many volunteers throughout the British Isles.

Released 01/07/2013 by the NAFC Marine Centre.

Map 5b(viii)

IMPORTANT MARINE SPECIES: WINTERING SEABIRDS



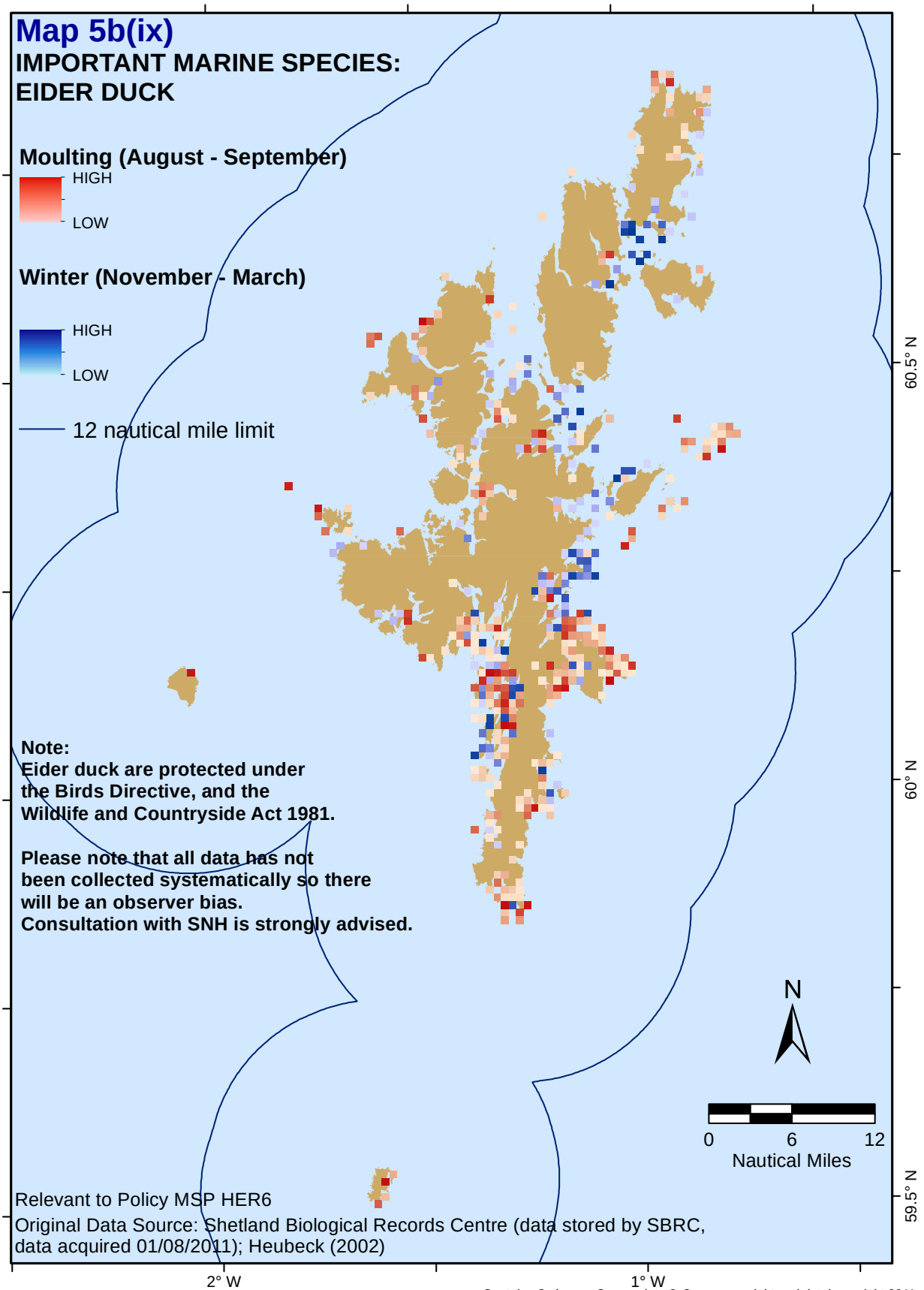
Relevant to Policy MSP HER6

Original Data Source: Shetland Biological Record Centre (© NAFC Marine Centre / Unknown, data acquired 01/08/2011)

Released 01/07/2013 by the NAFC Marine Centre.

Map 5b(ix)

IMPORTANT MARINE SPECIES: EIDER DUCK



Relevant to Policy MSP HER6

Original Data Source: Shetland Biological Records Centre (data stored by SBRC, data acquired 01/08/2011); Heubeck (2002)

Released 01/07/2013 by the NAFC Marine Centre.

Priority Marine Features (PMFs)

Scottish Natural Heritage and Marine Scotland have identified the most important components of Scotland's marine biodiversity. Priority Marine Features (PMF) are a prioritised list of 80 marine habitats and species (including the marine phases of some diadromous fish species) considered to be of national conservation importance. They should be taken account of in Environmental Statements and through relevant licensing/consenting decisions. All maps of important marine habitats and species (Maps 5b(x) to 5b(xiii)) indicate whether a species is a PMF and whether it is protected under other designations or legislation. PMFs are considered to be of national importance.

In supporting the Scottish Government's three pillar approach to marine nature conservation, this SMSP provides a mechanism to the protection of priority marine features which lie both within and outside formally designated Nature Conservation MPAs. These features are considered to be of both local and national importance and should be safeguarded in order that ecosystem health is maintained. 44 PMF species and habitats are known to be present in waters around Shetland.

Policy MSP HER7:
Priority Marine Features

Developments or activities likely to have a significant effect on a Priority Marine Feature (PMF) will only be permitted where it can be demonstrated that:

- ***a) there will be no adverse direct or indirect effect to the feature's integrity or important physical features; or***
- ***b) mitigation measures are included to minimise the impacts to the priority marine habitat or species including species behaviour such as breeding, feeding, nursery or resting; or***
- ***c) there is no reasonable alternative or less ecologically damaging location; and***
- ***d) the reasons for the development clearly outweigh the value of the feature by virtue of social or economic benefits of national importance.***

Records of PMFs are shown in Maps 5b(x) to 5b(xiii).

Applicants and planners should seek advice from Marine Scotland, the Shetland Biological Records Centre and SNH on sensitivity of species.

Justification

These policies aim to secure the conservation of Shetland's natural heritage through the protection of habitats at all levels from harmful development. This includes ensuring that species with protected status under British or European Law are not caused harm from developments that may affect their feeding, resting or breeding sites.

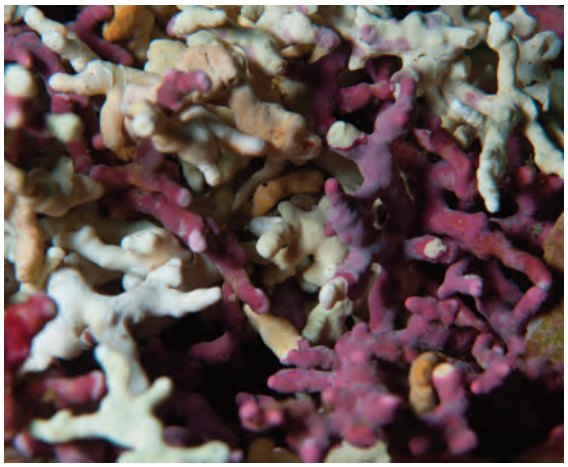
Developers should use the spatial information within the SMSP on important natural heritage features in pre-consultation discussions. Whilst the SMSP brings this information together for the first time, as not all data has been collected systemically, it is likely that data gaps remain. In addition where historical data exists that indicates the presence of a reef or bed, but its presence has not be verified these are included in the SMSP data as 'indicative beds'. The SMSP has also commissioned predicative mapping which has been undertaken by Envision Ltd (e.g. Map 5b(xii)). Predictive mapping provides a useful indication of where habitats or species might occur. Ground-truthing surveys should be used to support and refine predictive information on habitat and species distribution.

Key legislative requirements and consultees

- Please refer to **Appendix A** for Checklist of Legislative Requirements and **Appendix B** for Key Consultees

Further Information

- **Shetland Islands Council's Local Development Plan** and relevant Supplementary Guidance
- **Shetland Local Biodiversity Action Plan**
- **Shetland Biological Records Centre**
- **Geopark Shetland**
- **Marine Life Information Network**
- **RSPB. Wild Birds and the Law: Scotland**
- **Scottish Biodiversity Strategy. Scotland's Biodiversity: It's in Your Hands - A strategy for the conservation and enhancement of biodiversity in Scotland**



Maerl bed Fetlar
Image courtesy of Rachel Shucksmith

Fair Isle Wildlife Club
Image courtesy of Thomas H Hyndman

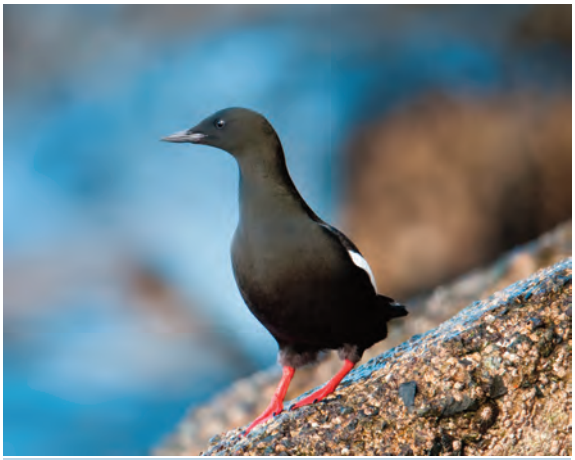
Important species and habitats in Shetland are protected under a range of legislation, clearly shown in the accompanying maps (Map 5b(v) to 5b (xv)), including:

i. EC Habitats Directive (Annex I, II, IV and V);
ii. EC Birds Directive (Annex I and Migratory Species);
iii. OSPAR list of threatened and / or in decline species and habitats;
iv. The Wildlife and Countryside Act 1981 as amended;
v. Nature Conservation (Scotland) Act 2004;
vi. Biodiversity Action Plan (UK and Local);
vii. Birds Of Conservation Concern; and
viii. Priority Marine Features (PMFs)

Sources of information

In Shetland there are a number of sources of information available in relation to Shetland's natural and historic marine environment. These include **SNH**, **RSPB**, **NAFC Marine Centre** and the **Shetland Biological Records Centre**, housed within the Shetland Amenity Trust. These organisations provide an invaluable source of local information for planning staff and developers.

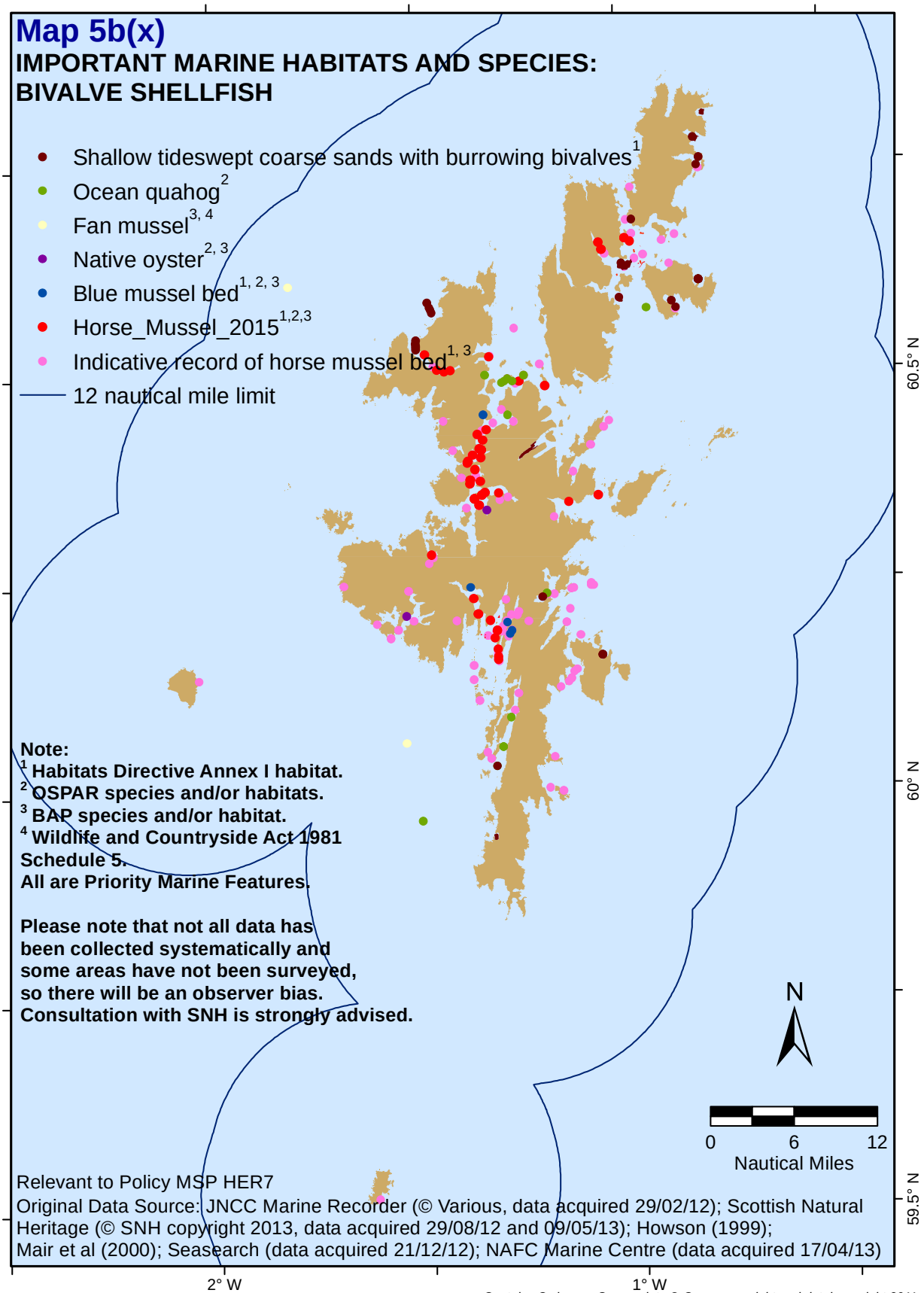
Horse mussel bed, Fetlar
Image courtesy of Richard Shucksmith



Black Guillemot 'Tystie'
Image courtesy of Richard Shucksmith

Map 5b(x)

IMPORTANT MARINE HABITATS AND SPECIES: BIVALVE SHELLFISH



Note:
[1] Habitats Directive Annex I habitat.
[2] OSPAR species and/or habitats.
[3] BAP species and/or habitat.
[4] Wildlife and Countryside Act 1981 Schedule 5.
All are Priority Marine Features.

Please note that not all data has been collected systematically and some areas have not been surveyed, so there will be an observer bias. Consultation with SNH is strongly advised.

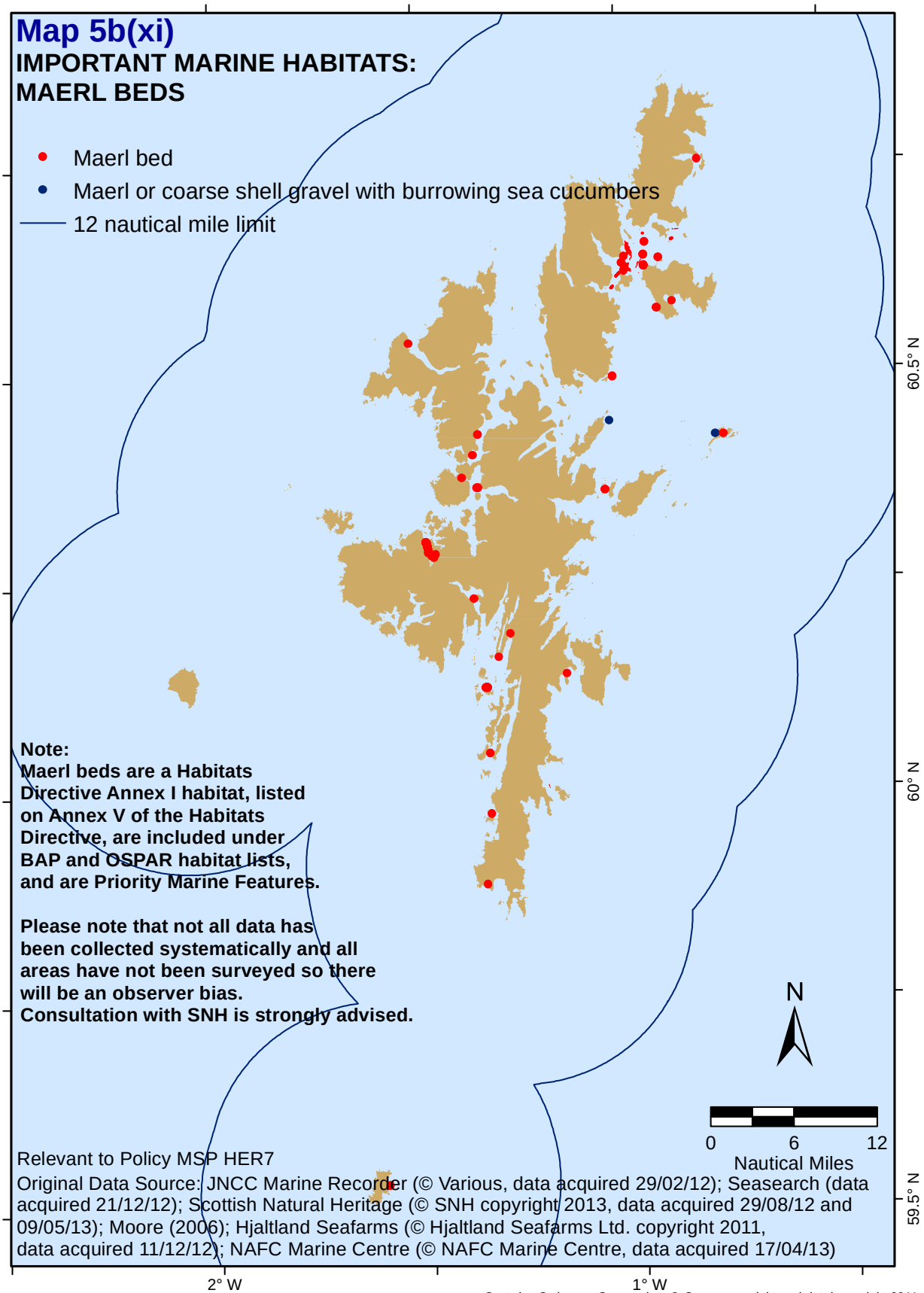
Relevant to Policy MSP HER7

Original Data Source: JNCC Marine Recorder (© Various, data acquired 29/02/12); Scottish Natural Heritage (© SNH copyright 2013, data acquired 29/08/12 and 09/05/13); Howson (1999); Mair et al (2000); Seasearch (data acquired 21/12/12); NAFC Marine Centre (data acquired 17/04/13)

Reviewed 11/03/2015 by the NAFC Marine Centre.

Map 5b(xi)

IMPORTANT MARINE HABITATS: MAERL BEDS



Note:
Maerl beds are a Habitats Directive Annex I habitat, listed on Annex V of the Habitats Directive, are included under BAP and OSPAR habitat lists, and are Priority Marine Features.

Please note that not all data has been collected systematically and all areas have not been surveyed so there will be an observer bias. Consultation with SNH is strongly advised.

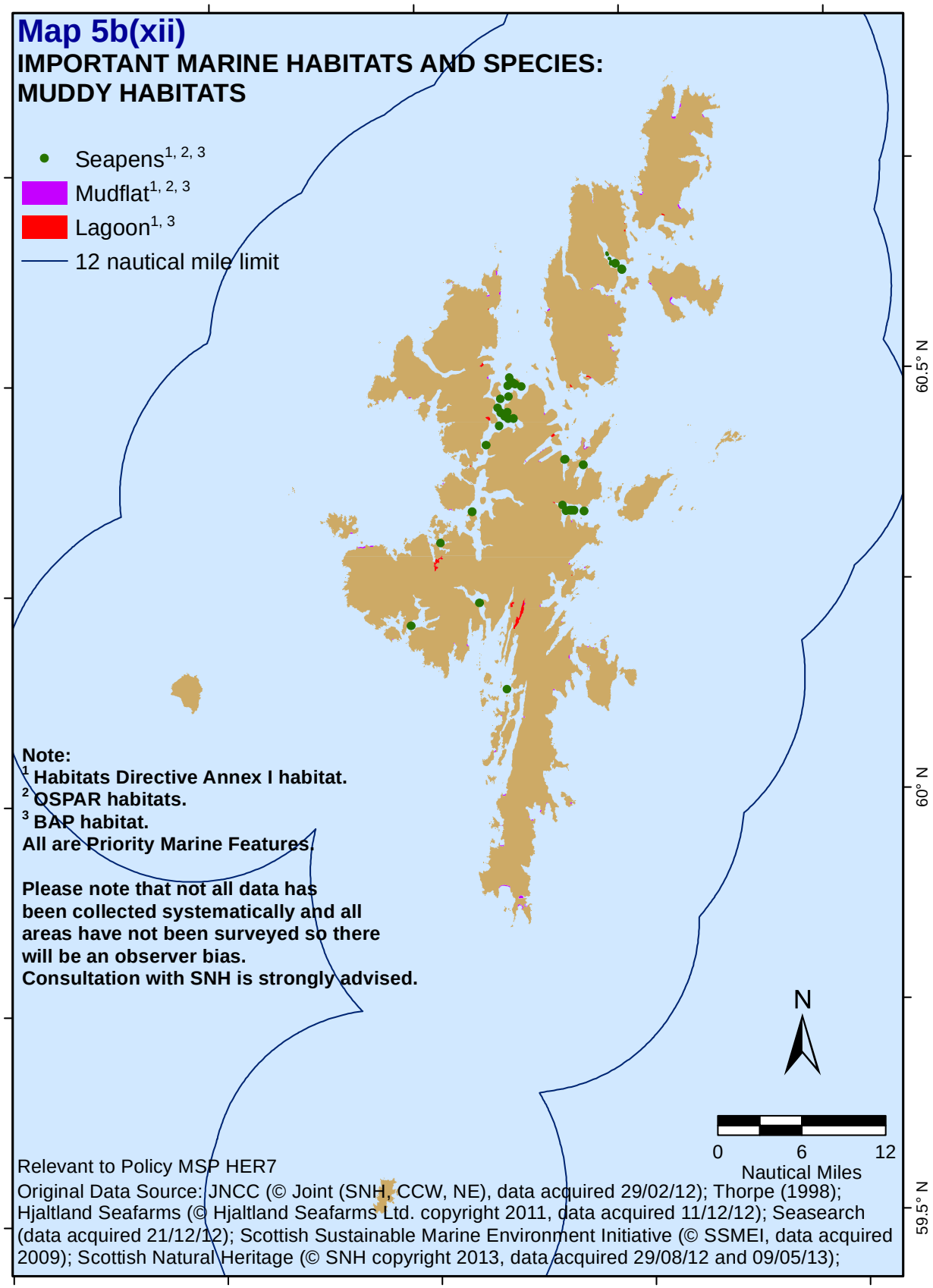
Relevant to Policy MSP HER7

Original Data Source: JNCC Marine Recorder (© Various, data acquired 29/02/12); Seasearch (data acquired 21/12/12); Scottish Natural Heritage (© SNH copyright 2013, data acquired 29/08/12 and 09/05/13); Moore (2006); Hjaltland Seafarms (© Hjaltland Seafarms Ltd. copyright 2011, data acquired 11/12/12); NAFC Marine Centre (© NAFC Marine Centre, data acquired 17/04/13)

Reviewed 12/02/2014 by the NAFC Marine Centre.

Map 5b(xii)

IMPORTANT MARINE HABITATS AND SPECIES: MUDDY HABITATS



Note:
[1] Habitats Directive Annex I habitat.
[2] OSPAR habitats.
[3] BAP habitat.
All are Priority Marine Features.

Please note that not all data has been collected systematically and all areas have not been surveyed so there will be an observer bias.
Consultation with SNH is strongly advised.

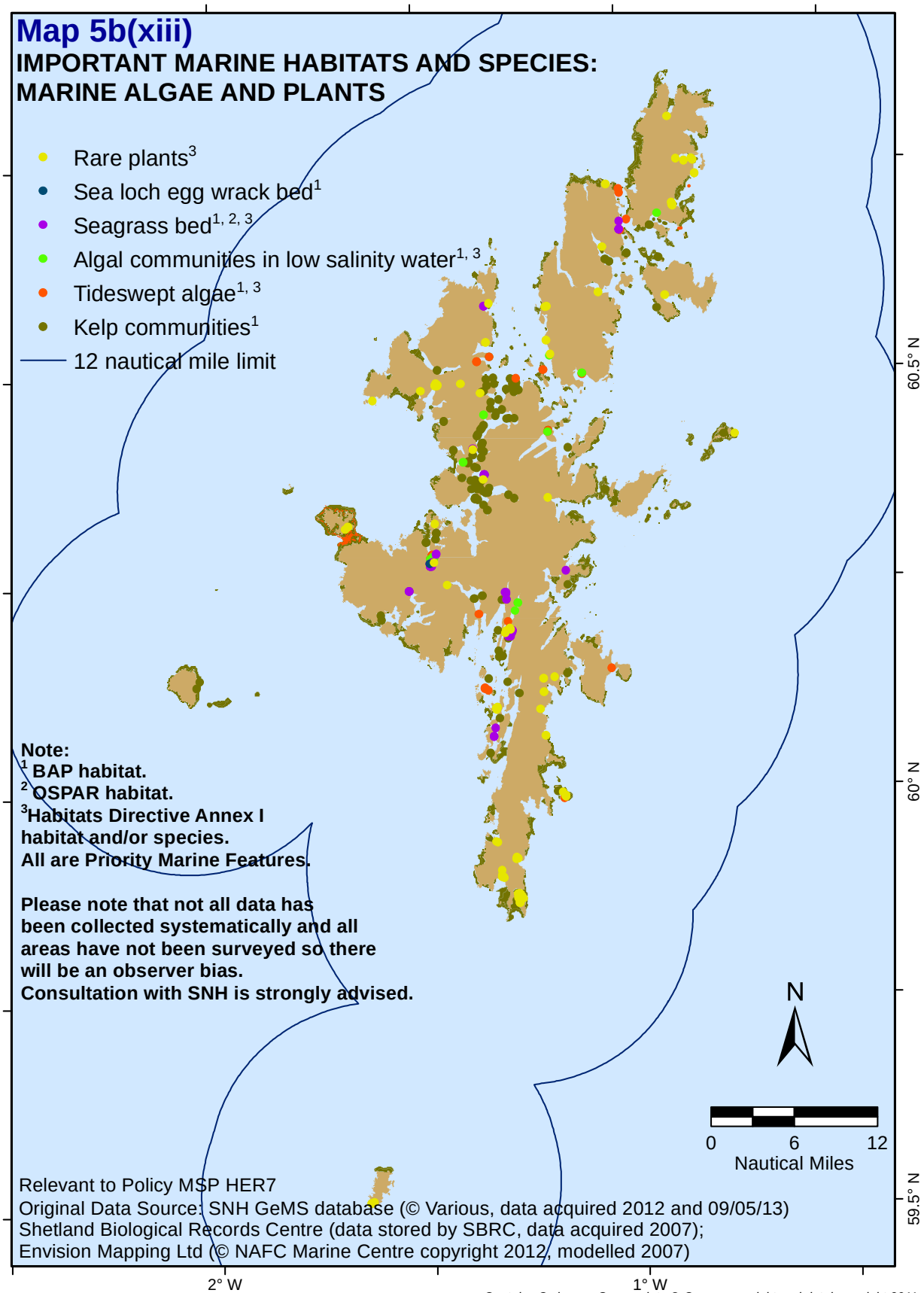
Relevant to Policy MSP HER7

Original Data Source: JNCC (© Joint (SNH, CCW, NE), data acquired 29/02/12); Thorpe (1998); Hjaltland Seafarms (© Hjaltland Seafarms Ltd. copyright 2011, data acquired 11/12/12); Seasearch (data acquired 21/12/12); Scottish Sustainable Marine Environment Initiative (© SSMEI, data acquired 2009); Scottish Natural Heritage (© SNH copyright 2013, data acquired 29/08/12 and 09/05/13);

Reviewed 12/02/2014 by the NAFC Marine Centre.

Map 5b(xiii)

IMPORTANT MARINE HABITATS AND SPECIES: MARINE ALGAE AND PLANTS



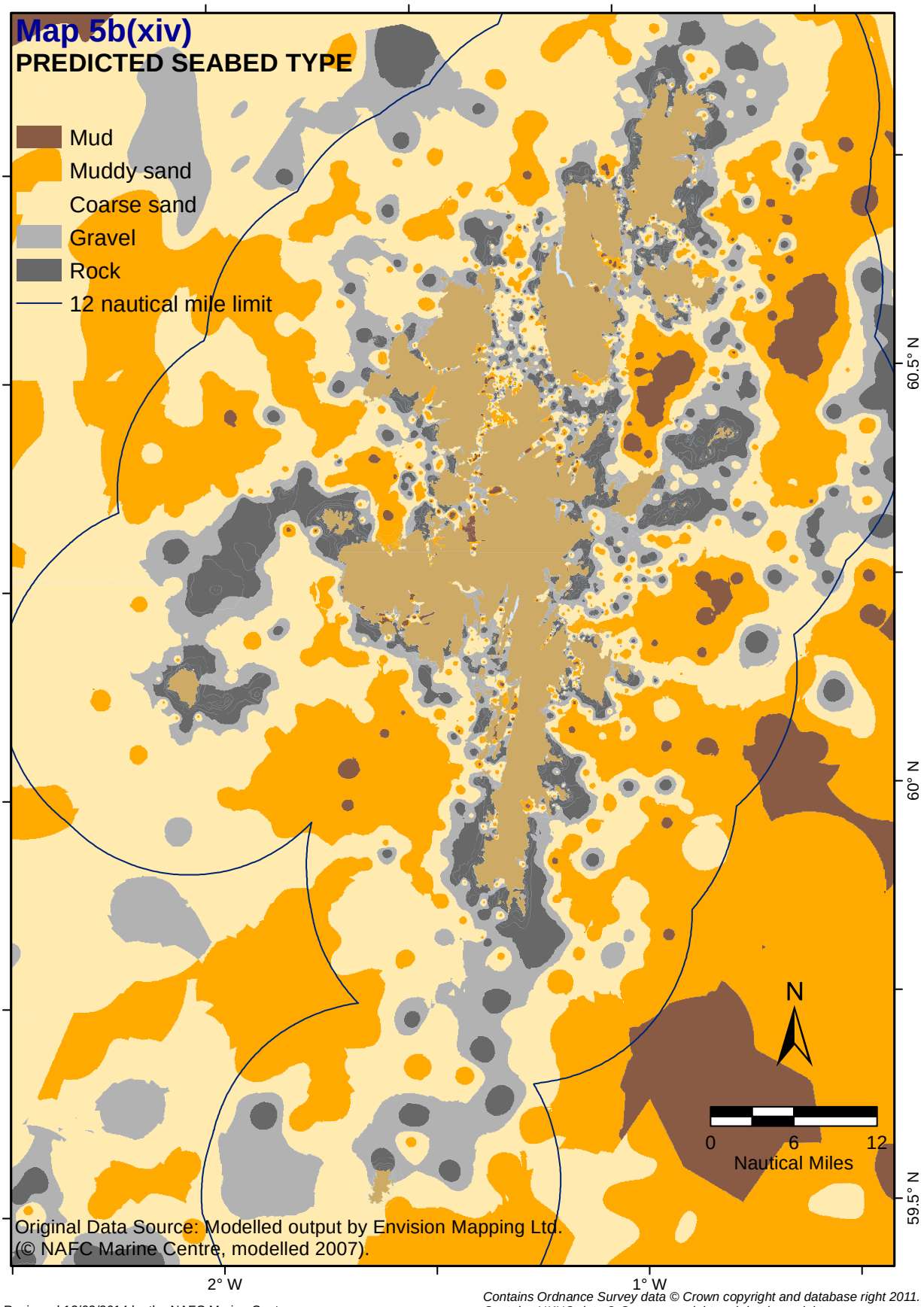
Note:
[1] BAP habitat.
[2] OSPAR habitat.
[3]Habitats Directive Annex I habitat and/or species.
All are Priority Marine Features.

Please note that not all data has been collected systematically and all areas have not been surveyed so there will be an observer bias.
Consultation with SNH is strongly advised.

Relevant to Policy MSP HER7

Original Data Source: SNH GeMS database (© Various, data acquired 2012 and 09/05/13)
Shetland Biological Records Centre (data stored by SBRC, data acquired 2007);
Envision Mapping Ltd (© NAFC Marine Centre copyright 2012, modelled 2007)

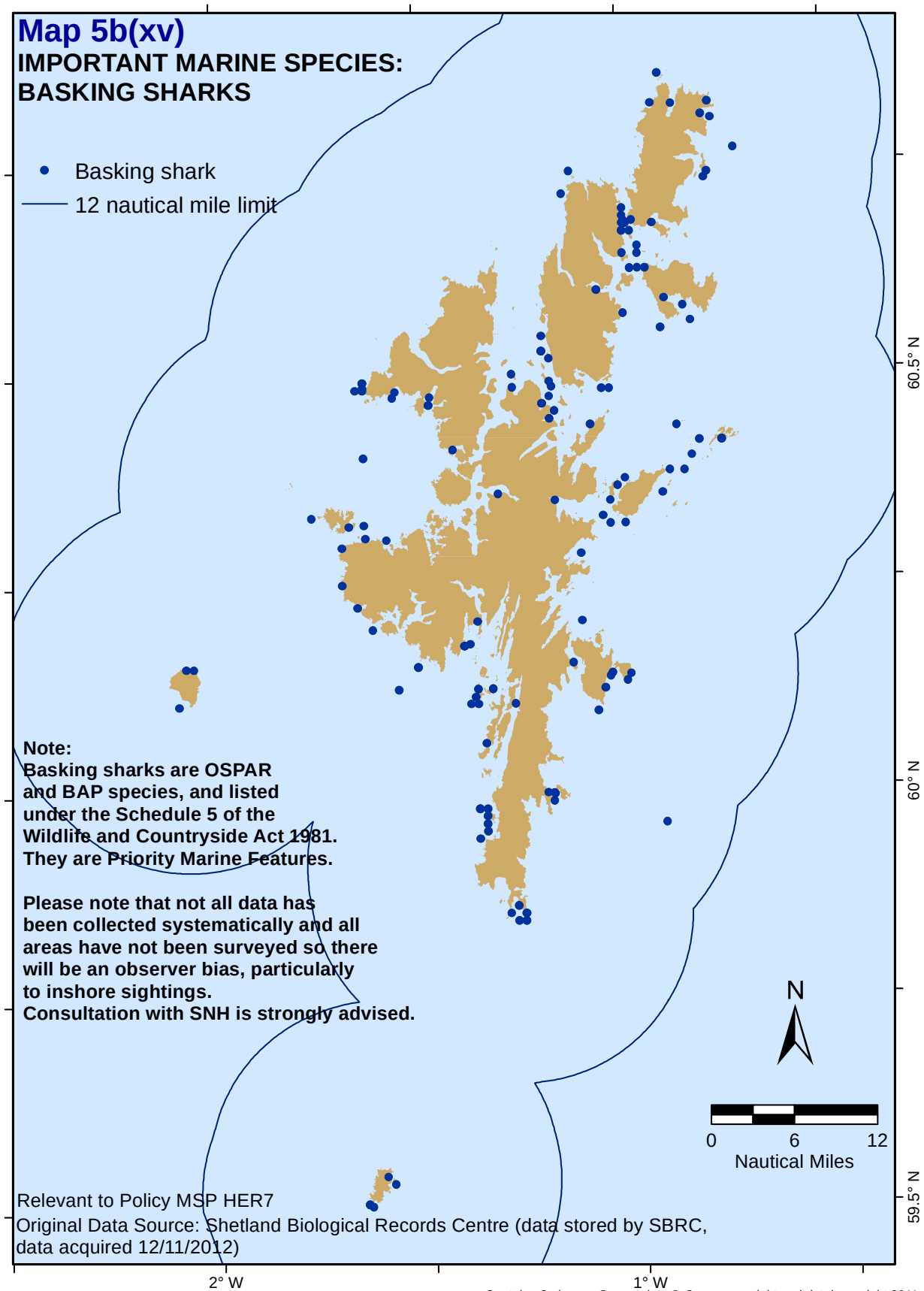
Reviewed 12/02/2014 by the NAFC Marine Centre.



Reviewed 12/02/2014 by the NAFC Marine Centre.

Map 5b(xv)

IMPORTANT MARINE SPECIES: BASKING SHARKS



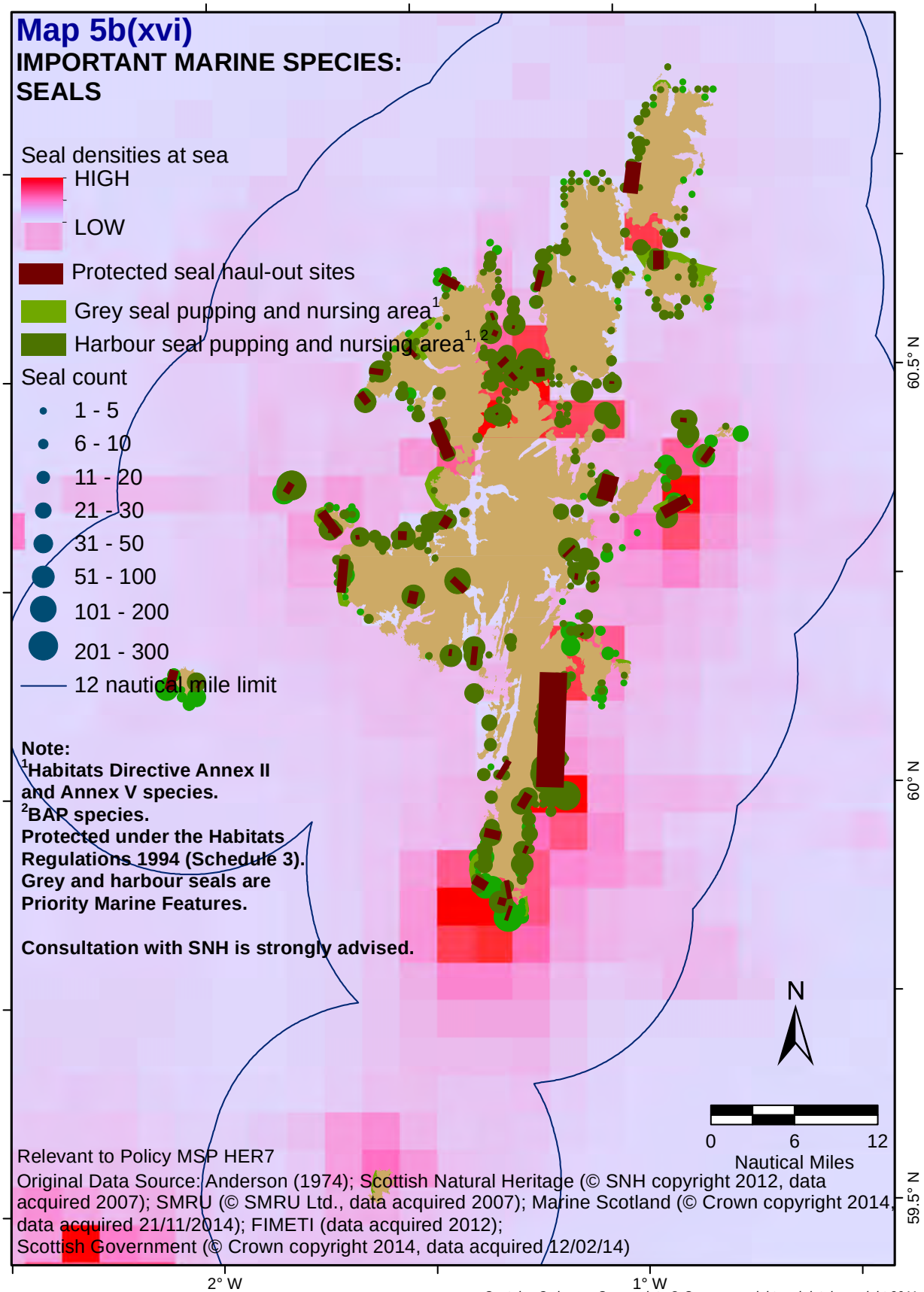
Relevant to Policy MSP HER7

Original Data Source: Shetland Biological Records Centre (data stored by SBRC, data acquired 12/11/2012)

Released 01/07/2013 by the NAFC Marine Centre.

Map 5b(xvi)

IMPORTANT MARINE SPECIES: SEALS



Relevant to Policy MSP HER7

Original Data Source: Anderson (1974); Scottish Natural Heritage (© SNH copyright 2012, data acquired 2007); SMRU (© SMRU Ltd., data acquired 2007); Marine Scotland (© Crown copyright 2014, data acquired 21/11/2014); FIMETI (data acquired 2012); Scottish Government (© Crown copyright 2014, data acquired 12/02/14)

Released 21/11/2014 by the NAFC Marine Centre.

Geodiversity

Geodiversity is the variety of rocks, fossils, minerals, natural processes, landforms and soils that underlie and determine the character of our landscape and environment. Geodiversity is literally all around us. It influences the way we live, the resources we need and use and how the world changes. Understanding and valuing geodiversity is critical to understanding the Earth and the decisions we make for the future of our environment.

Policy MSP HER8:
Safeguarding Marine Geodiversity

Development will only be permitted where appropriate measures are taken to protect and/or enhance important marine geological and geomorphological resources and sites, including those of educational or research value.

Proposals that will have an unavoidable effect on marine geodiversity will only be permitted where it has been demonstrated that:

a) the development will have benefits of overriding public interest including those of a social or economic nature that outweigh the local, national or international contribution of the affected area in terms of its geodiversity;

b) any loss of marine geodiversity is reduced to acceptable levels by mitigation, and a record is made prior to any loss.

Important sites for marine geology are shown on Map 5b(iv) and SSSI for geological reasons are shown on Map 5b(ii).

Justification

Geodiversity has an important role to play in ensuring that the natural environment continues to provide important ecosystem services. Geodiversity contributes to the following ecosystem services:

Meal Beach, Burra — Image courtesy of Christina Kelly

- Provisioning services: fresh water (surface and ground water), mineral resources (including oil and gas, renewable energy);
- Regulating services: carbon sequestration and climate regulation, regulation of erosion and natural hazards, such as flooding;
- Supporting services: soil formation, geomorphological processes, terrestrial and marine habitats;
- Cultural services: aesthetic values, landscape character, resources for recreation and outdoor activities, tourism and education and lifelong learning.

The loss of geodiversity or its mismanagement, as a consequence of factors such as unsustainable development, changing land use or climate change, presents real threats to biodiversity and can result in significant economic and social costs. Conversely, the sustainable management of geodiversity can have positive economic, social, cultural and educational benefits. It is a misconception that geodiversity is robust enough not to require management and protection.

Shetland is one of 54 Geoparks in the European Geopark Network and one of 92 Geoparks in the Global Network. The Geopark label is about much more than just geology. One element of the Geopark is the suite of Geosites – sites important for their geology, see Map 5b(iv). Of the 107 Geosites, 47 are geological SSSIs or part of a geological SSSI and further 5 are on biological SSSIs, see Map 5b(ii)

.

Key legislative requirements and consultees

- Please refer to **Appendix A** for Checklist of Legislative Requirements and **Appendix B** for Key Consultees

Further Information

- **Shetland Islands Council's Local Development Plan** and **Supplementary Guidance Local Nature Conservation Sites**
- **Shetland Local Biodiversity Action Plan**
- **Shetland Biological Records Centre**
- **Geopark Shetland**
- **Scottish Geology**
- **Scottish Geodiversity Forum**

Geopark Shetland

A Geopark is an area or territory with geological heritage of international significance. Geoparks use that heritage to promote sustainable development, primarily through tourism and education. Geoparks take a holistic approach to interpretation, highlighting the close links between geodiversity and cultural and natural heritage. They also raise awareness of key issues facing society in the context of the dynamic planet we live on, such as climate change and geological hazards like volcanoes, earthquakes and tsunamis. Geoparks seek to conserve the natural environment and encourage sustainable use of natural resources. They are supported by UNESCO.

Geopark Shetland aims to safeguard and increase the awareness and understanding of Shetland's rich geological heritage and to use this as a driver for sustainable development by:

- Conserving Shetland's rich geological heritage and demonstrating its clear links with natural and cultural heritage.
- Raising awareness and increasing understanding of Shetland's geological heritage.
- Enhancing the image of Shetland and promoting sustainable development linked to geological heritage and geotourism.

Benefits of the Geopark

Supporting regional and national tourism

- Natural and cultural heritage tourism, a major industry in the Highlands and Islands
- Geopark contributes to heritage tourism infrastructure in imaginative, innovative ways
- Adds value to visitor experience and appreciation of natural and cultural heritage
- Enhances the green tourism product with a knock on effect on whole industry and local SMEs
- Provides opportunities to develop spin off projects - e.g. Intangible Cultural Heritage.

Supporting Scotland's schools and lifelong learning

- Plays an important role in delivery of Curriculum for Excellence
- Offers school activities in partnership with a range of environmental organisations
- Delivers courses, workshops, lectures and activities to involve the wider community

Geopark Shetland is supported by the Geopark Shetland Working Group (GSWG). The GSWG includes representatives from several partners including Shetland Amenity Trust, Shetland Islands Council, Scottish Natural Heritage, Highlands and Islands Enterprise, Visit Scotland, Promote Shetland, Shetland Tourism Association, the Association of Shetland Community Councils, Anderson High School and several community groups.

Landscape and Seascape

Marine developments and activities in the coastal zone have the potential to have both a positive and negative impact on the landscape including seascapes. The effects will be development-specific and dependent on the type of development activity, its location and setting. The definition of landscape, according to the European Landscape Convention (ELC), is '*an area, as perceived by people, whose character is the result of the action and interaction of natural and/or human factors*'[25]. However, there is no legal definition, as yet, of 'seascape' in the UK. For the purposes of the SIMSP, 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[26].

The quality of Shetland's landscape has been recognised nationally by the designation of National Scenic Areas (NSAs), and locally by the designation of Local Landscape Areas (LLA). Seven separate areas of coastal landscape in Shetland have been identified as of outstanding scenic interest, and designated as NSAs. They lie principally in the south-west and northern extremities of the archipelago and include Fair Isle, Foula, the western flank of Dunrossness and the Deeps, part of Muckle Roe, Eshaness, Uyea Isle and Fethaland, and Hermaness. LLAs have been introduced locally to help to protect and enhance some of Shetlands unique environment and may provide direction for access and tourism.

Policy MSP HER9:
Safeguarding National Scenic Areas (NSAs) and Local Landscape Areas (LLAs)

Developments that affects a NSA or LLA will only be permitted where:

a) it will not adversely affect the integrity of the area or the qualities or protected features for which it has been designated, or

b) any such adverse effects are clearly outweighed by social, environmental or economic benefits of national importance for NSAs and local importance for LLAs.

NSA and LLAs are shown in Maps 5b(xvii).

Some marine developments will have an impact on NSAs by virtue of their proximity, scale and design; therefore stricter planning control should be enforced as appropriate. Developers may be required to submit a Design Statement in support of a development application. It is recommended that consenting authorities should have regard to the **NSA Special Qualities Statements** for Shetland published by SNH.

[25] UK Marine Policy Statement
[26] *ibid*

Policy MSP HER10:
Safeguarding Seascape Character and Visual Amenity
Any development or activity should demonstrate:

a) how the proposal takes into account existing character and quality of local landscape/ seascape; how highly it is valued; and its capacity to accommodate change specific to any development.

b) a high standard of design, in terms of siting, scale, colour, materials and form to ensure the various types of development or coastal use change might best be accommodated within particular landscape and seascape types.

Landscapes including areas of coastal wild land or isolated coast are sensitive to inappropriate development, and consenting authorities should ensure that potential effects, including the cumulative effect of incremental changes, are considered when deciding planning applications, works licences and marine licences.

All new marine-related developments should have regard to the Shetland Islands Council Local Development Plan and in particular, Supplementary Guidance for Local Landscape Areas. For developments that require an Environmental Impact Assessment, a Landscape and Visual Impact Assessment (LVIA) is usually required when there are likely to be negative effects on the landscape. It is recommended that developers consult with the relevant consenting authorities as early as possible when proposing any new or revised development.

Shetlands terrestrial and coastal landforms are shown in Maps 5b(xviii) and Map 5b(xix). Areas of wildness around Shetland's coasts are shown in Map 5b (xx).

Justification
Landscape including seascape is constantly changing; the aim of the SIMSP is to facilitate positive change whilst maintaining and enhancing distinctive

Eshaness Image courtesy of Promote Shetland

character. Different landscapes will have a different capacity to accommodate new development, and the siting and design of development should be informed by local landscape character including wildness. The most sensitive landscapes, however, may have little or no capacity to accept new development and should be protected from inappropriate development. Inappropriate development brings about change that can damage existing features, diminish wildlife in ecological areas and neglect traditional features, all of which have important implications for the landscape qualities of the Shetland Isles. Some change is not only inevitable, it is desirable and whilst the protection of the landscape and natural heritage may sometimes impose constraints on development, with careful planning and design conflict can be minimised and the potential for enhancement maximised.

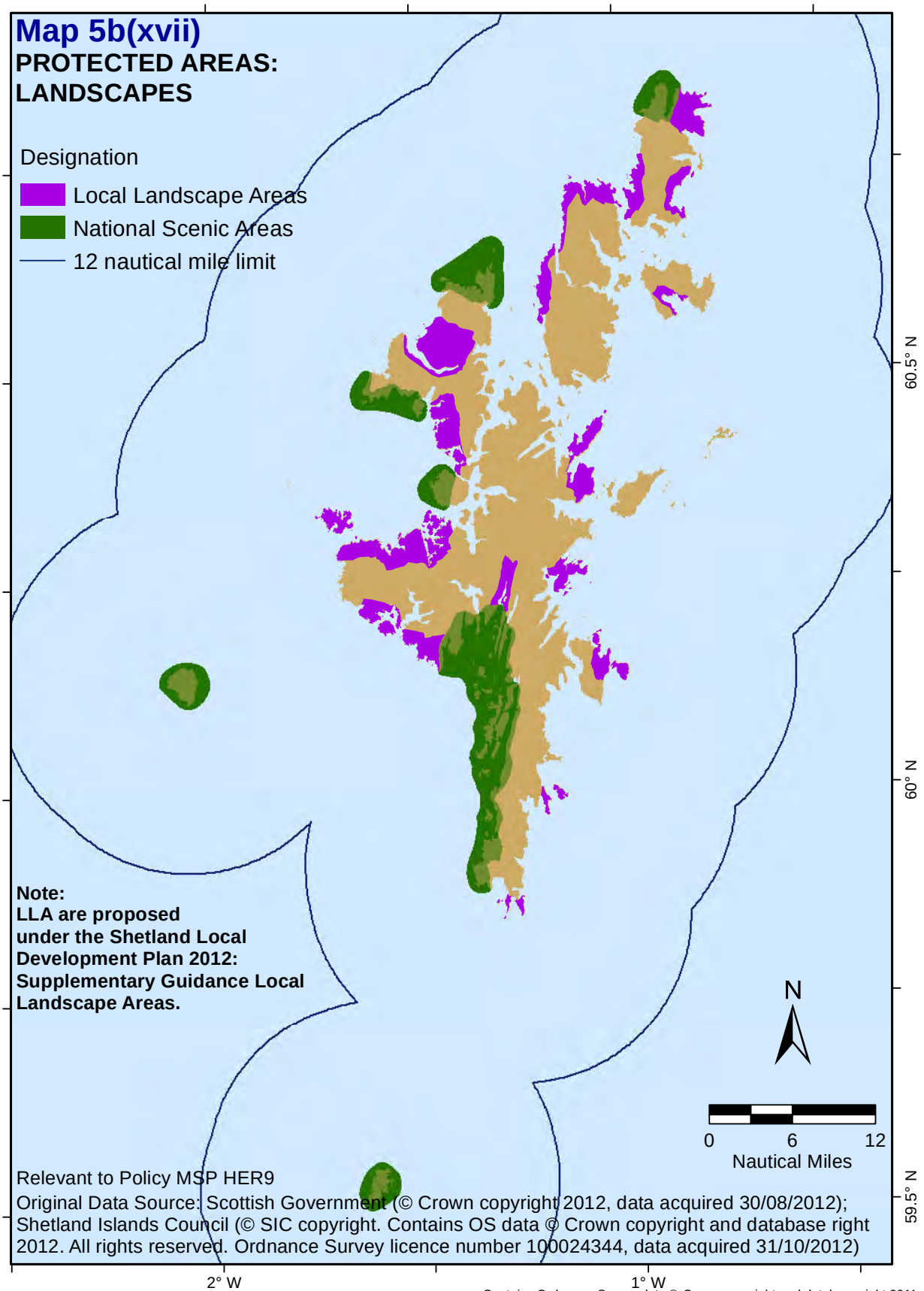
Key legislative requirements and consultees

- Please refer to **Appendix A** for Checklist of Legislative Requirements and **Appendix B** for Key Consultees

Further Information

- **Shetland Islands Council's Local Development Plan** and relevant Supplementary Guidance for **Natural Heritage** and **Local Landscape Areas**
- **SNH - Landscape and Visual Impact Assessment**
- **SNH - Looking after our landscapes**
- **Gillespies. 1998. A landscape assessment of The Shetland Isles. Scottish Natural Heritage Review No 93.**
- **Scottish Planning Policy. 2010**

North Lighthouse Fair Isle — Image courtesy of Promote Shetland



Relevant to Policy MSP HER9

Original Data Source: Scottish Government (© Crown copyright 2012, data acquired 30/08/2012); Shetland Islands Council (© SIC copyright. Contains OS data © Crown copyright and database right 2012. All rights reserved. Ordnance Survey licence number 100024344, data acquired 31/10/2012)

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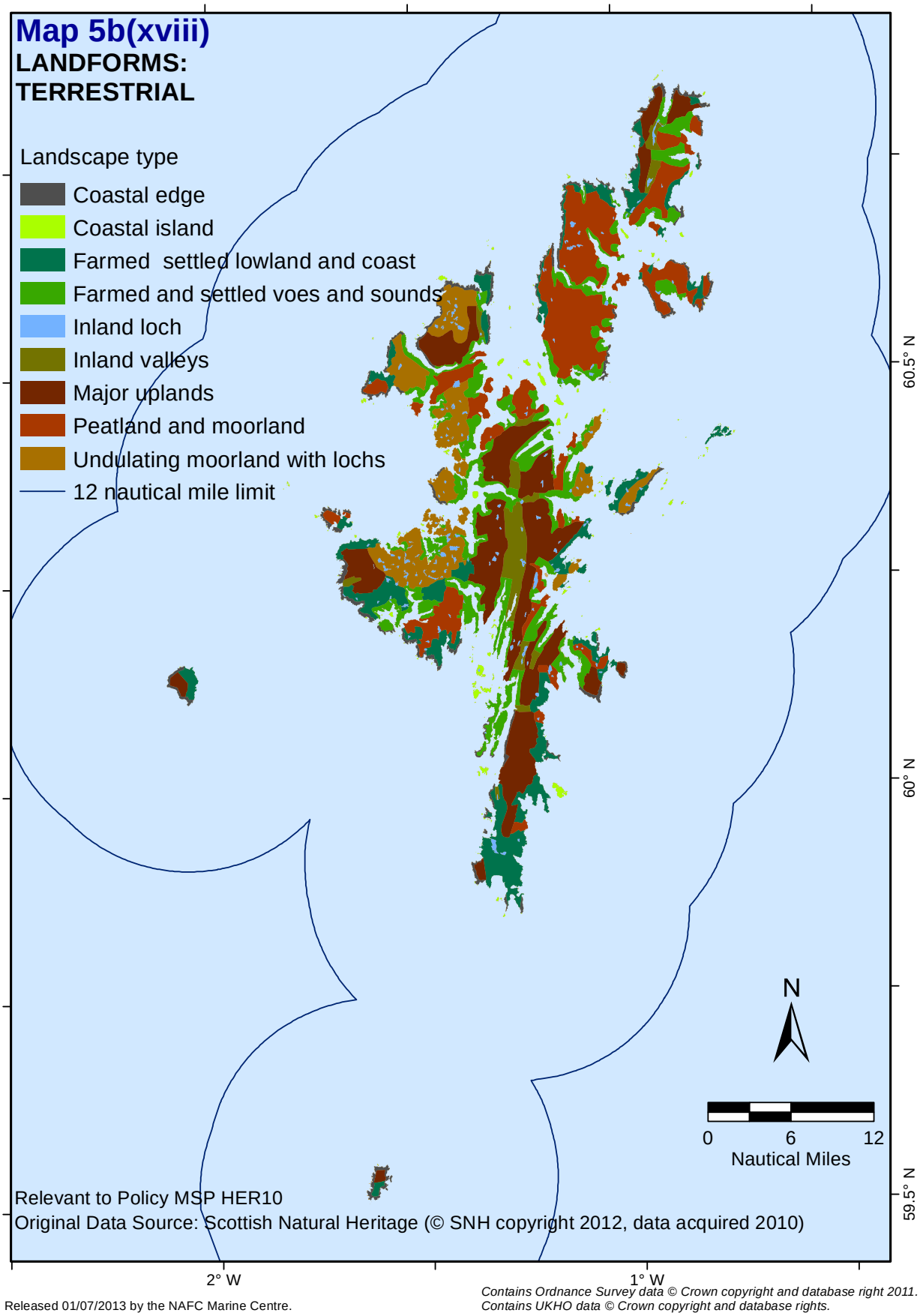
Map 5b(xviii)

LANDFORMS: TERRESTRIAL



Relevant to Policy MSP HER10

Original Data Source: Scottish Natural Heritage (© SNH copyright 2012, data acquired 2010)

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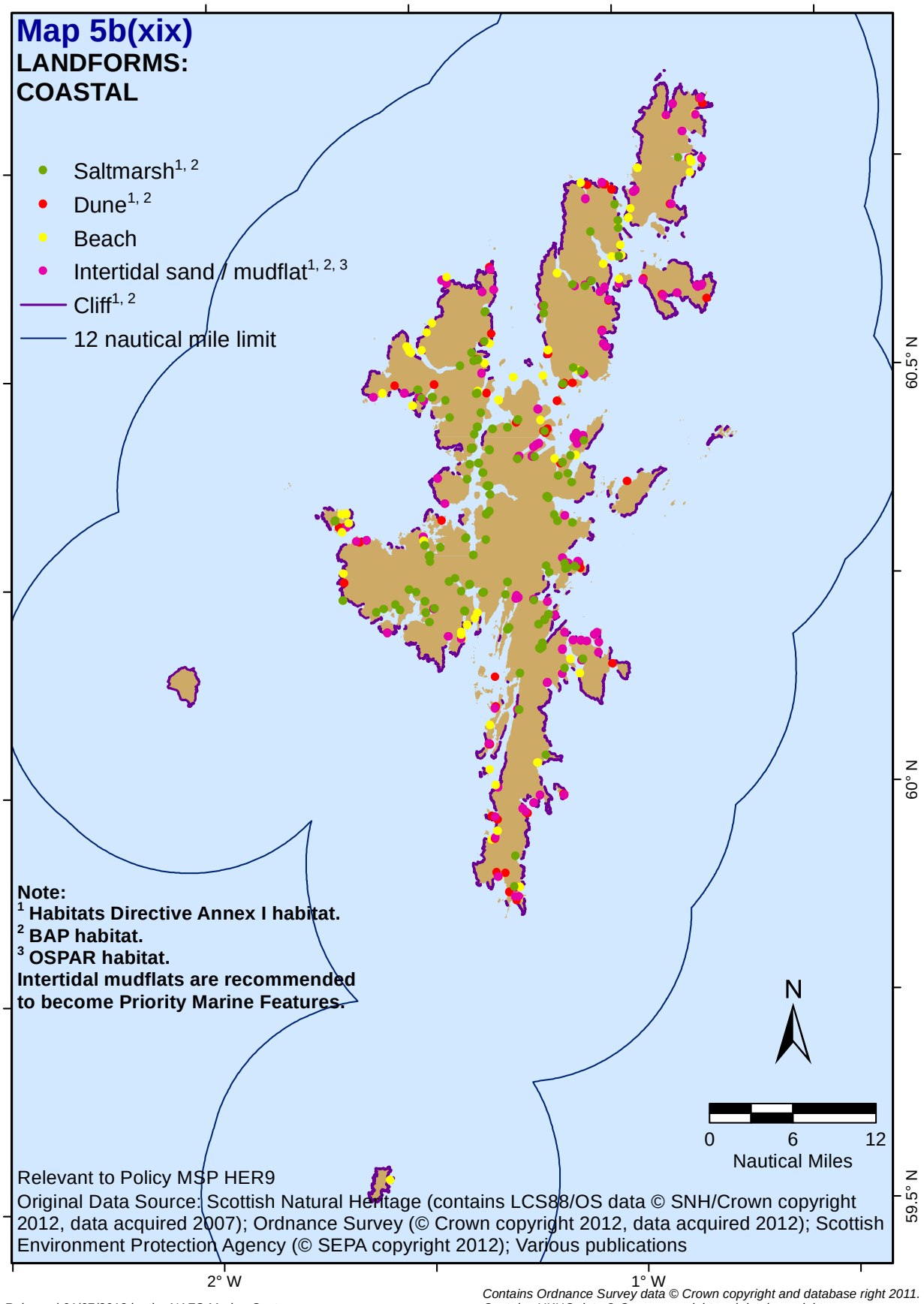

Relevant to Policy MSP HER9

Original Data Source: Scottish Natural Heritage (contains LCS88/OS data © SNH/Crown copyright 2012, data acquired 2007); Ordnance Survey (© Crown copyright 2012, data acquired 2012); Scottish Environment Protection Agency (© SEPA copyright 2012); Various publications

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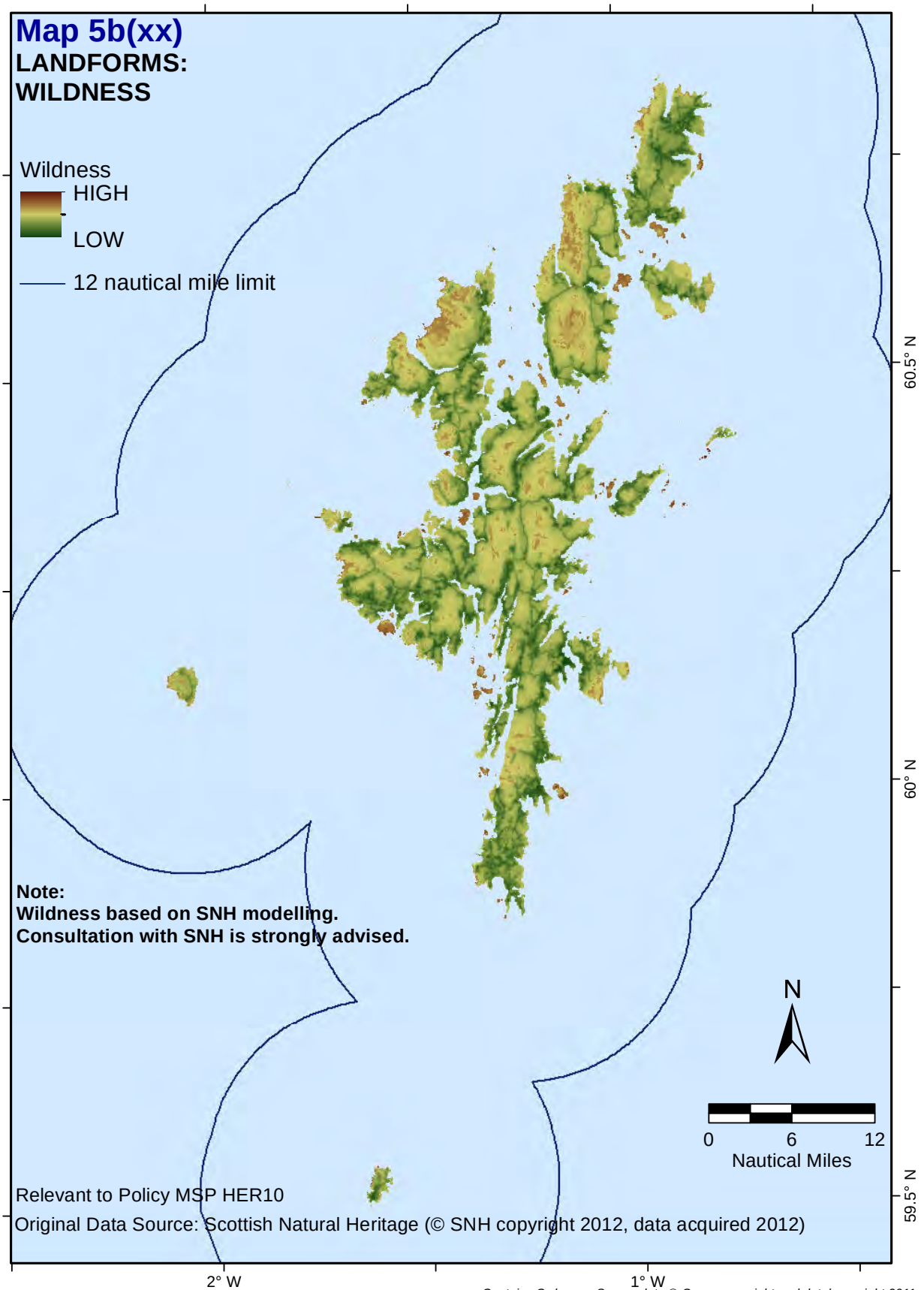

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Historic Environment

The historic environment includes all aspects of the environment resulting from the interaction between people and places through time, including all surviving physical remains of past human activity, whether visible, buried or submerged. It helps give a sense of place, well-being and cultural identity and enhances regional and local distinctiveness. Shetland's coasts and seas have been an integral part of Shetland's cultural identity. It is important that this inheritance is managed and protected so that future generations will be able to enjoy it. Elements of the historic environment such as buildings, monuments, sites or landscapes which are deemed significant are termed 'heritage assets'. Far less is known about heritage surviving on the seabed than about heritage assets on land. As our knowledge increases, it is becoming clear that Shetland's coasts and seas contain a rich cultural heritage that includes the remains of important heritage assets of all periods from prehistory to the recent past. Marine historic assets around our coast include: the wrecks of boats, ships, submarines and aircraft; harbours, lighthouses and other built structures; and drowned terrestrial archaeological sites and cultural landscapes.

Many of these assets are unique and valuable but 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. The SIMSP supports the Scottish Government's aims which are: to advance knowledge about marine heritage and make information widely available; improve stewardship of key marine heritage sites; and develop wider understanding and enjoyment of marine heritage[27].

Some significant heritage assets are designated and protected under national legislation. In coastal/intertidal zones and inshore/offshore waters designated heritage assets may include scheduled monuments (designated under the Ancient Monuments and Archaeological Areas Act 1979) and Historic Marine Protected Areas (designated under the Marine (Scotland) Act 2010).

Jarlshof Prehistoric and Norse Settlement
Image courtesy of Promote Shetland

Mousa Broch
Image courtesy of Promote Shetland

[27] **Historic Scotland. The Marine Historic Environment Strategy for the Protection, Management and Promotion of Marine Heritage 2012-15**

Archaeology

The sea around the Shetland Islands hosts a rich and diverse cultural heritage. At the coast there are numerous structures of archaeological and historical interest, shown in Map 5b (xxi). There are around 1,490 known shipwrecks on the seabed, shown in Map 5b(xxii), but only a small proportion are known in detail. Two wrecks are designated within a Historic Marine Protected Area, and the seabed around 14 wrecks is leased by Shetland Islands Council as a means of protecting the resources within them, shown in Map 5b(xxii)*. The seabed is also of palaeo-environmental interest, particularly areas that were once dry land during ice age conditions and where there is potential for a wide range of buried deposits of archaeological interest.

Historic Scotland, an executive agency of Scottish Government, takes the lead in providing statutory protection for nationally important elements of Shetland's coastal and marine historic environment through the scheduling of ancient monuments, the listing of historic buildings, and the designation of historic shipwrecks. However, not all nationally important heritage assets have been designated and there is always the possibility of discovering new sites. In addition, Historic Scotland directly manages several Properties in Care (PiC) that fall within the scope of this Plan (e.g. Jarlshof; Mousa Broch).

Shetland's archaeology is a key part of what gives the islands their distinctive and unique character. The archaeology includes Scheduled Sites but also includes many other sites which are of 'schedulable' quality, in addition to sites of regional and local importance. Shetland Amenity Trust has a responsibility in maintaining an up-to-date record of them known as the Shetland Sites and Monuments Record (SMR). The SMR currently holds information on about 8,000 sites, a high proportion of which are coastal/marine. Archaeology, once designated at a site, designs the 'dominant use' for cultural and historic reasons.

Policy MSP HIS1:
Historic Marine Protected Areas

Development within or adjacent to the boundaries of any Historic MPA will only be permitted where it has been adequately demonstrated, to the satisfactory of both the planning authority and Historic Scotland, that the proposal has had due regard to the preservation objectives of the designated site and there will be no adverse direct or indirect effects on the objectives of this Historic MPA.

Development proposals should assess the likely impacts on hydrodynamic processes and any seabed biology/water chemistry over the protected area and, where appropriate, develop an archaeological mitigation strategy to minimise any potential impacts. Developers may be expected to arrange for appropriate archaeological investigation, at their own expense to take place prior to the commencement of work, in consultation with the local planning authority and Historic Scotland.

An area within the Out Skerries is a Historic MPA for the remains of two wrecked vessels, the Kennemerland and the Wrangels Palais, lying on or in the seabed.

Historic MPA locations are shown in Map 5b(xxii).

Out Skerries Historic MPA

Under Part 5 of the Marine (Scotland) Act 2010 Scottish Ministers have powers to select, designate and manage Historic MPAs which are to protect marine historic assets of national importance.

The marine historic assets located within the Out Skerries Historic MPA are the remains of two vessels lying wrecked on or in the seabed, the Dutch-East Indiaman Kennemerland and the Danish warship Wrangels Palais, all objects formerly contained in the vessels, and deposits or artefacts which evidence previous human activity on board the vessels. Designation is proposed to enhance appreciation of the significance of these sites and to encourage responsible approaches to their access, management and protection by sea users and relevant agencies and authorities.

These two wrecks, located within close distance of one another, are of national importance as arguably the best preserved and best recorded examples of the numerous wrecks of vessels of international origins that are known to have occurred in the waters around Shetland during the 16th-18th centuries.

Preservation objectives for an Historic MPA serve to guide the management of these important sites, depending on the specific needs of individual areas. The draft preservation objectives for the proposed Out Skerries Historic MPA are focused around maintaining the extent of survival of marine historic assets *in-situ* and maintaining site condition. Additional objectives have been included in order to set out those instances where the recovery of marine historic assets (in whole or part) may be acceptable and to restrict commercial exploitation of marine historic assets for trade or speculation.

More information is available on the **Historic Scotland website**.

*The following extract describes the protection afforded by Shetland Islands Council:
"The council leased from the Commissioners of Crown Lands the seabed rights of specified areas where some of the more important wrecks are known to lie. Such a lease does not give the council any rights to the individual wrecks in question, but it would give that body control to prevent any person interfering with the seabed within the defined areas. And since the ships themselves are broken and scattered and their remains can only be reached by excavation the interference need not be stressed."
Henderson (1985).

Policy MSP HIS2:
Safeguarding Nationally Important Heritage Assets

Development which results in substantial loss or harm to a scheduled monument or the integrity of its setting should not be permitted unless it can be demonstrated that the harm or loss is necessary in order to deliver social, economic or environmental benefits that outweigh the harm or loss.

Where the loss of the whole or a material part of a heritage asset's significance is deemed justifiable, suitable mitigating actions will be required to be undertaken by the developer in agreement with the relevant regulator and advisors (e.g. the Regional Archaeology Service) to record and advance understanding of the significance of the heritage asset before it is lost.

Scheduled monuments are an important, finite and non-renewable resource and should be protected and preserved in situ wherever feasible. Where preservation in situ is not possible consenting authorities will, through the use of conditions or a legal agreement, ensure that developers undertake appropriate excavation, recording, analysis, publication and archiving before and/or during development. If archaeological discoveries are made during any development, a professional archaeologist should be given access to inspect and record them. All requirements should be based on advice from the relevant regulator and advisors.

Coastal archaeology is shown in Map 5b(xxi) and wrecks are shown in Map 5b(xxii).

Policy MSP HIS3:
Safeguarding Locally Important Heritage Assets

All other archaeological resources should be preserved in situ wherever feasible. Where preservation in situ is not possible the consenting authority should ensure that developers undertake appropriate archaeological excavation, recording, analysis, publication and archiving in advance of and / or during development.

Developments within the vicinity of heritage assets must respect the original structure in terms of design, scale and, where appropriate, setting.

Coastal archaeology is shown in Map 5b(xxi) and wrecks are shown in Map 5b(xxii).

It is strongly advised that developers consult with the Regional Archaeology Service at pre-application stage and have regard to the Shetland Islands Council Local Development Plan and Supplementary Guidance - Historic Environment. Shetland Amenity Trust holds the local

Sites and Monuments Record (SMR), which contains details of all known monuments and archaeological sites and finds in Shetland.

Justification
The aim of these policies is to provide protection to marine heritage in accordance with current guidance and legislation. Marine archaeology makes a significant contribution to the character and amenity of Shetland. It is a valuable resource that can stimulate enjoyment of the wider environment and act as an important medium for education, recreation and tourism.

Shetland's Historic Environment
Examples of nationally and locally important heritage assets around Shetland include:
- Scheduled ancient monuments
- Historic plane wrecks and designated ship wrecks
- Brochs and burnt mounds
- Any associated marine buildings such as böds, piers, sea walls
- Protected wrecks and unscheduled monuments with significant value.

Key legislative requirements and consultees
- Please refer to **Appendix A** for Checklist of Legislative Requirements and **Appendix B** for Key Consultees

Additional responsibilities
- Regional Archaeologist, Shetland Amenity Trust - provides advice to the
- Shetland Islands Council's Planning Department under a Service Level Agreement on the enforcement of the Ancient Monuments and Archaeological Areas Act, 1979. The Trust also holds the local Sites and
- Monuments Record (SMR), which contains details of all known monuments and archaeological sites and finds in Shetland
- Historic Scotland – activities or works which would have a direct impact on scheduled monuments or designated wrecks require the consent of Scottish Ministers through Historic Scotland
- Historic Scotland and/or Northern Constabulary - enforce appropriate action in the event of damage to a Scheduled Monument


Out Skerries
Image courtesy of Promote Shetland


Fethaland fishing station
Image courtesy of Christina Kelly

- Maritime and Coastguard Agency (MCA) - all items of 'wreck' recovered from any area must, by law, be reported to the Receiver of Wreck, MCA
- Northern Constabulary, MCA and Lerwick Port Authority in collaboration with Historic Scotland – enforce the Protection of Wrecks Act 1973 in the event that unauthorised works / activities took place within a protected area

Further Information:

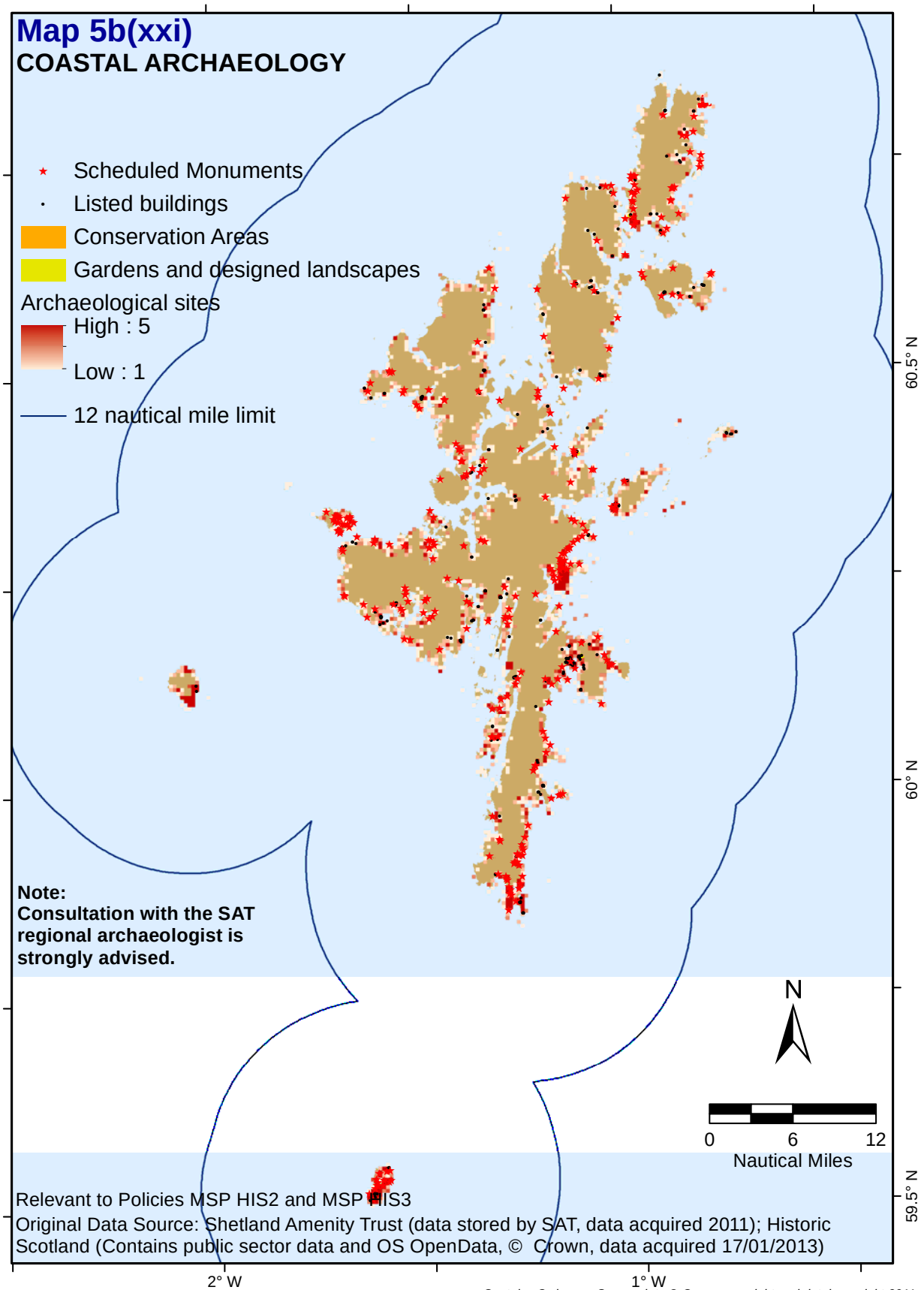
- **Shetland Islands Council's Local Development Plan – Supplementary Guidance Historic Environment**
- **UK Marine Policy Statement 2011**
- **Scottish Planning Policy 2010**
- **Planning Advice Note 2/2011 Planning and Archaeology**
- **Historic Scotland. The Marine Historic Environment Strategy for the Protection, Management and Promotion of Marine Heritage 2012-15**
- **Designation of Historic MPAs under the Marine Scotland Act, 2010**
- **Historic Scotland. Marine Protected Areas in the Seas around Scotland. Guidelines on the selection, designation and management of Historic Marine Protected Areas.**
- **Historic Scotland. Scottish Historic Environment Policy 2011**
- **Historic Scotland. 2012. Scheduled Monuments: A guide for owners, occupiers and land managers**

Sumburgh Lighthouse
Image courtesy of Promote Shetland

Shed with boat roof, Bannamin Beach, Burra
Image courtesy of Christina Kelly

Map 5b(xxi)

COASTAL ARCHAEOLOGY

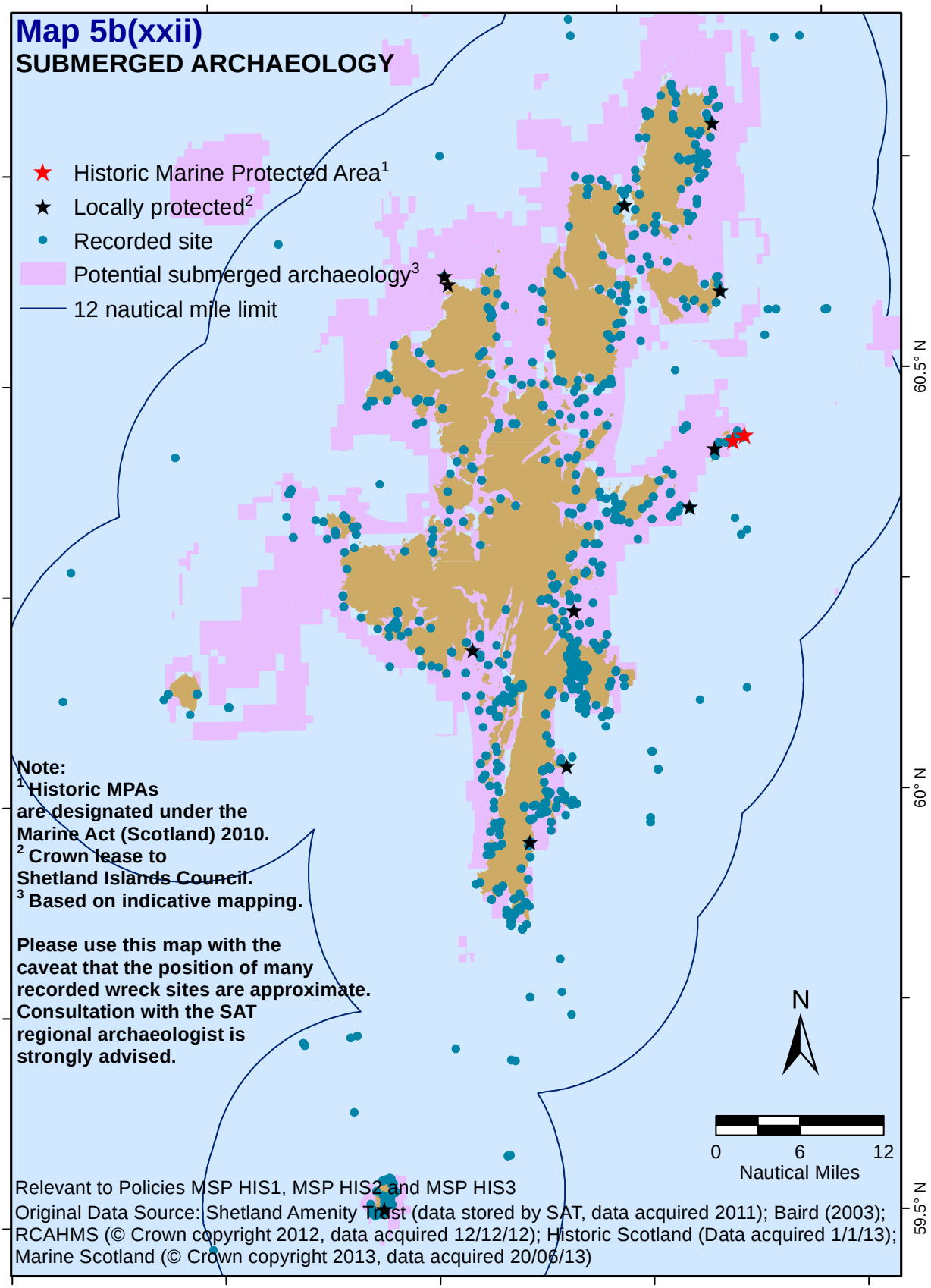


Relevant to Policies MSP HIS2 and MSP HIS3

Original Data Source: Shetland Amenity Trust (data stored by SAT, data acquired 2011); Historic Scotland (Contains public sector data and OS OpenData, © Crown, data acquired 17/01/2013)

Released 06/02/2014 by the NAFC Marine Centre.

Map 5b(xxii)
SUBMERGED ARCHAEOLOGY



Note:
[1] Historic MPAs are designated under the Marine Act (Scotland) 2010.
[2] Crown lease to Shetland Islands Council.
[3] Based on indicative mapping.

Please use this map with the caveat that the position of many recorded wreck sites are approximate. Consultation with the SAT regional archaeologist is strongly advised.

Relevant to Policies MSP HIS1, MSP HIS2 and MSP HIS3

Original Data Source: Shetland Amenity Trust (data stored by SAT, data acquired 2011); Baird (2003); RCAHMS (© Crown copyright 2012, data acquired 12/12/12); Historic Scotland (Data acquired 1/1/13); Marine Scotland (© Crown copyright 2013, data acquired 20/06/13)

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Communities

Quality of Life for Communities

The Scottish Government is committed to ensuring a strong, healthy and just society. The SMSP supports this objective, and includes policies to maintain the diversity of the marine environment, its seascapes, and natural and cultural heritage.

The marine environment not only provides economic benefits but can also directly contribute to the quality of life and well-being of coastal communities. The SMSP will enhance this benefit by safeguarding equitable access for those who want to use and enjoy the coast and seas, and their wide range of resources and assets.

Community councils are the most local tier of statutory representation in Scotland. Their primary purpose is to ascertain and express the views of the community to the local authority and other public bodies. There is a statutory requirement for local authorities to consult with them on planning applications.

Under Sections 22-24 of the 2010 Act, pending regulations[28] will require pre-application consultation for certain large-scale licensable marine developments with potential for significant impacts. Pre-application consultation will allow local communities, conservation groups and other interested parties to comment on and help shape proposals prior to the submission of an application to MS LOT.

Policy MSP COM1:
Community Considerations

Applications for marine-related developments should demonstrate that there will be no adverse social impact on the local community and will only be considered where it has shown that:

a) there is no alternative location for this type of development;
b) all necessary mitigation measures have been included in the development proposal;
c) local stakeholders, community councils, groups and other marine and coastal users have been consulted and engaged in the development process; and
d) an assessment of social impacts of major developments has been carried out to the satisfaction of the consenting authority.

Community council areas are shown in Map 5b(xxiii).

Justification

The aim of this policy is to help the local communities of Shetland to achieve their full potential on a long term, sustainable basis. The Shetland community has a long affinity and connection with the coast and marine environment.

[28] **Consultation on Registerable Marine Activities and on Marine Licence Applications Requiring Pre-Application Consultation**

The marine environment is a valuable asset in that it not only fulfils a provisioning and regulating role, but also a cultural and spiritual role. The non-material benefits people obtain from ecosystems include spiritual enrichment, cognitive development, reflection, recreation, and aesthetic experience, including, e.g. knowledge systems, social relations, and aesthetic values. While these intangible benefits are difficult to evaluate, the social impacts from any development are a key consideration in any decision-making process.

Development can have social implications for the local community. Social impacts can be diverse and complex in their nature, but are most likely to be felt by individuals, families, or groups at a local rather than regional or national level. Development can restrict the choices available to users for safe and accessible recreation locations. Development therefore has the potential to affect the well-being of individuals and groups who value their use of the marine environment as integral to their 'way of life' and social identity. Certain developments may also cause equity issues within local communities, if some stakeholder groups feel marginalised in favour of other groups. The ability and/or willingness of local communities to absorb these impacts can, and does, directly affect the success or failure of marine developments. Understanding what people value about their living environment, and why they care about a particular place or region, can lead to a deeper understanding of potential conflicts that might be negated if addressed at an early stage of any development proposal.

Marine Recreation

The sea around Shetland provides a variety of sporting and recreational opportunities. These include swimming, sailing, rowing, coasteering, recreational snorkelling and SCUBA diving, sea angling, kayaking, canoeing, windsurfing and surfing, as well as exploration of underwater and coastal heritage assets. Coastal recreation activities include walking and hiking, cycling, climbing, visiting heritage assets and wildlife watching. The coast also provides inspiration for a range of artistic and cultural activities.

Policy MSP REC1:
Safeguarding Marine Recreation

Developments that are likely to result in the reduction or loss of a marine recreational amenity will only be considered where it can be demonstrated that the proposal is necessary in order to deliver social, economic or environmental benefits that outweigh the reduction or loss.

Developments should ensure that continued access rights to the marine and coastal resource for recreational use is maintained where reasonable and practical.

Marine recreation areas are shown in Map 5b(xxiv).

Justification
Marine recreational activities support and enhance the local community through social integration, improving quality of life, and providing benefits to physical and mental well-being. These activities will be enhanced by a well-managed and healthy marine environment, attractive and well-maintained beaches and seashore, and good water quality. It should be noted that marine recreation and associated facilities are also an economic asset, and these polices should be considered in conjunction with policy MSP TR1 for tourism and leisure development.

Whilst nearly all of the coastal environment may be used for marine recreation, important locations are shown in Map 5a(xxiv).

Key legislative requirements and consultees

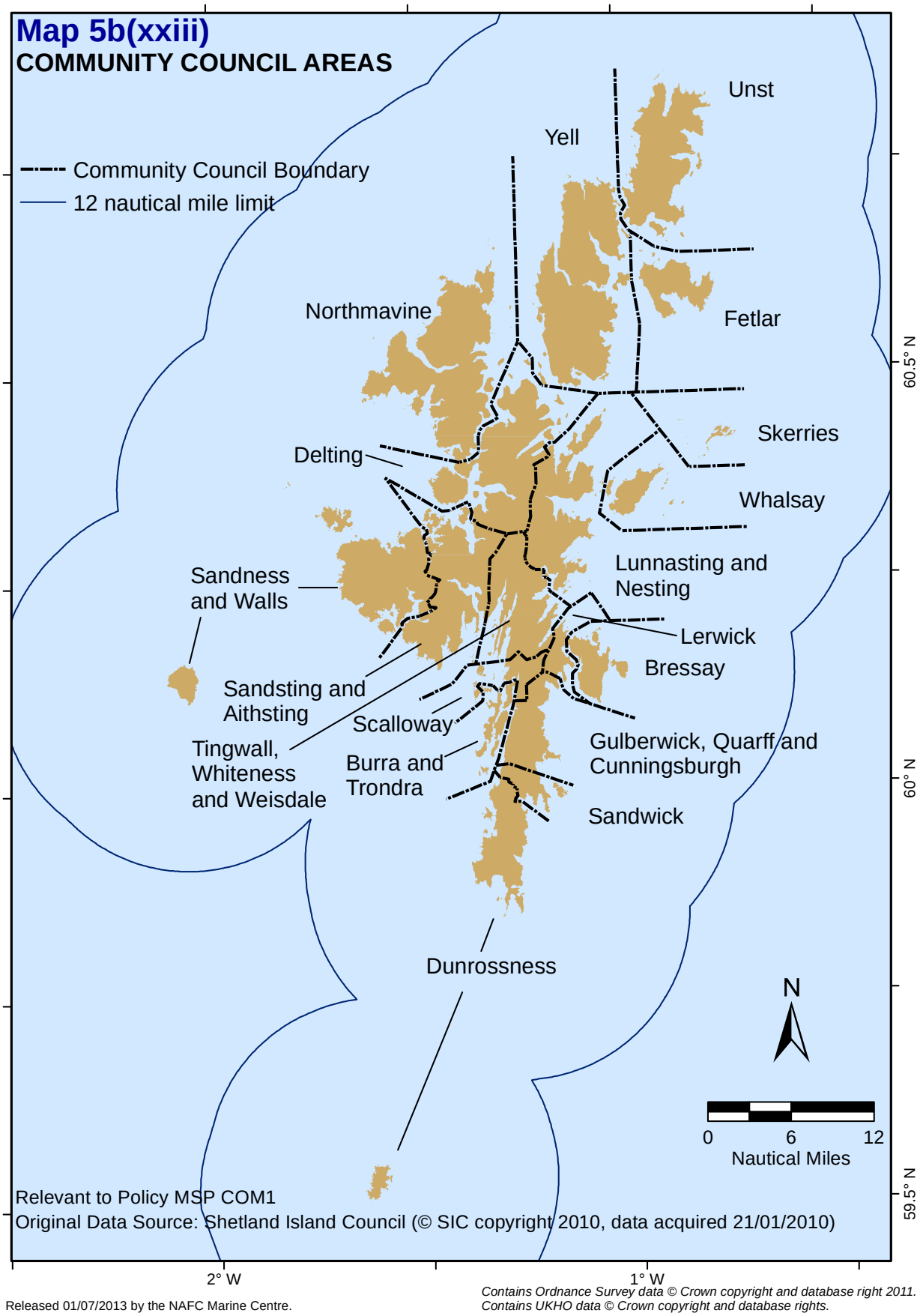
- Please refer to **Appendix A** for Checklist of Legislative Requirements assets and **Appendix B** for Key Consultees

Further Information:

- **Scottish Government Community Council background information**
- **Shetland Community Councils**
- **Shetland Community Groups and Clubs**
- **Shetland Cycling Routes**
- **Shetland Marinas**
- **Shetland Walks**
- **Shetland Countryside Access Strategy**
- **Shetland Countryside and outdoor access**
- **Land Reform Act (Scotland) 2003**

Paddling at Scousburgh beach
Image courtesy of Richard Shelmerdine

Yoal rowing Image courtesy of Nicola Sinclair



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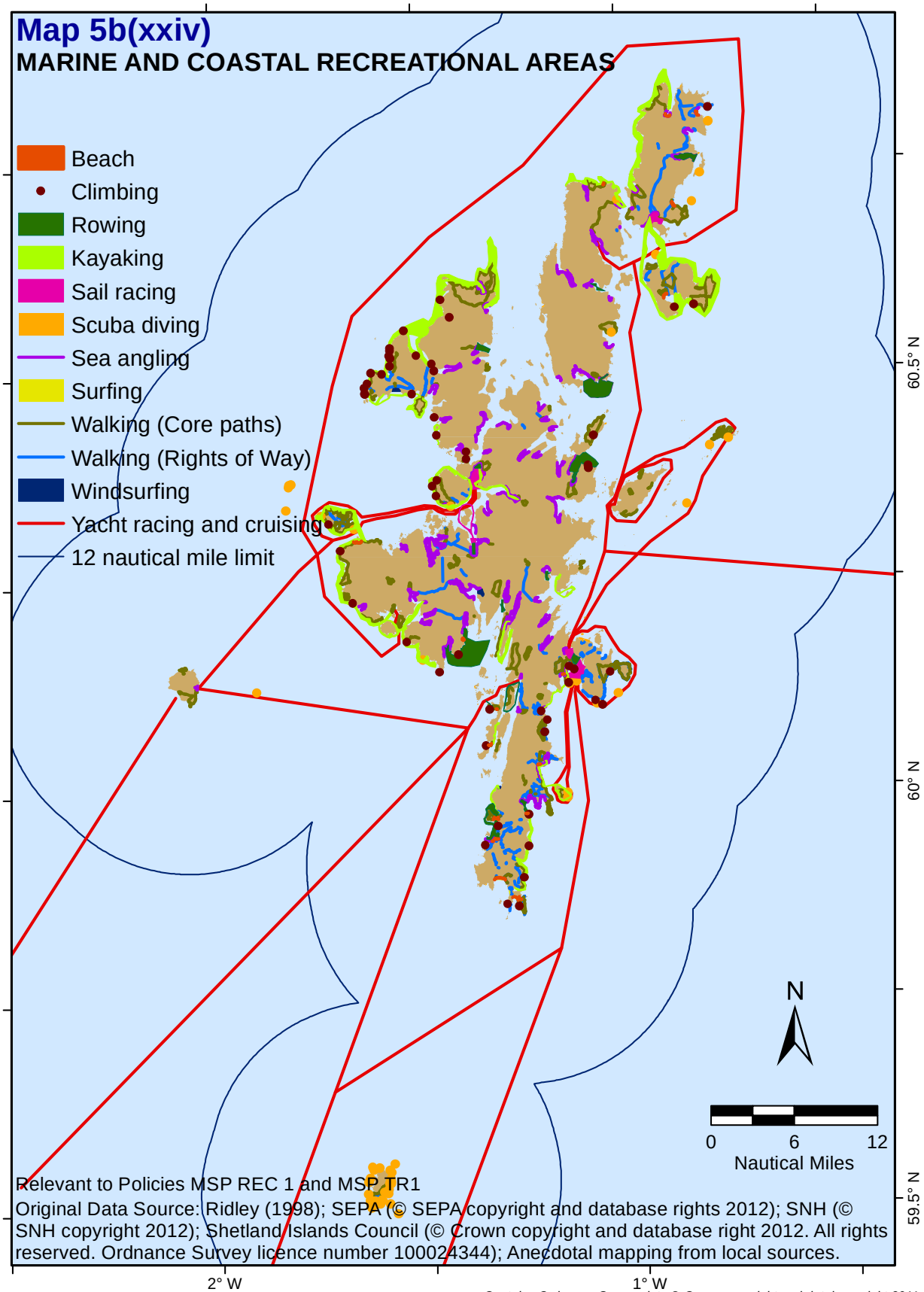
Map 5b(xxiv)

MARINE AND COASTAL RECREATIONAL AREAS



Relevant to Policies MSP REC 1 and MSP TR1

Original Data Source: Ridley (1998); SEPA (© SEPA copyright and database rights 2012); SNH (© SNH copyright 2012); Shetland Islands Council (© Crown copyright and database right 2012. All rights reserved. Ordnance Survey licence number 100024344); Anecdotal mapping from local sources.

Released 01/07/2013 by the NAFC Marine Centre.

5 (c) PRODUCTIVE

Lerwick Harbour

Image courtesy of Christina Kelly

5 (c) PRODUCTIVE

There is a presumption in favour of sustainable development and use of the marine environment when consistent with the policies and objectives of this plan. This approach to development should also help in attaining sustainable economic growth by providing greater certainty to businesses and investors utilising the marine resource. Plan-led sustainable development will also help to secure the respect and protection that Scotland's natural and historic marine environment requires. In doing so this will provide the opportunities and means to enhance quality of life, reduce poverty and disadvantage, increase wealth, health and well being, and build stronger, more sustainable and empowered communities.

One of the aims of the Marine Strategy Framework Directive (MSFD) is to ensure that marine waters are productive, as well as clean, safe and healthy. These aims are intrinsically linked and one is usually reliant on the other, i.e. if waters are unclean or unhealthy, they are unlikely to be productive. The key intention is to ensure that the use of marine waters is at a level which is sustainable, and that they maintain good environmental status.

The marine waters around Shetland are very productive, and contribute significantly to the local and national economies. It is imperative that the SIMSP includes policies that promote and manage this productivity through sustainable development and safeguard its potential for present and future generations. To achieve this goal, it is the intention of the SIMSP to promote the adoption of an integrated approach to the protection and enhancement of ecosystems.

Policy MSP DEV1
Marine Developments
Proposals for marine-related developments will be considered favourably where it can be demonstrated that:

a) they comply with all policies included in Policy Framework Sections 5(a) and 5(b) and Policy MSP FISH1
b) the developer has engaged in pre-application discussions with the consenting authorities, any adjacent marine user and the local community council;
c) the compatibility of the proposed development with existing marine users has been taken into consideration to minimise conflict and any potential adverse impacts;
d) all co-existence options with other users have been considered in the design and location of the proposed development to maximise the efficient use of the marine space;
e) the potential individual and cumulative effects of the proposed development have been addressed and will be managed sustainably in terms of spatial and temporal overlaps.

Justification

Shetland industry figures indicate that the marine environment is a mainstay for local coastal communities, with many local businesses relying on this marine asset for their livelihoods. This economic dependency should be safeguarded to protect existent local jobs and ensure economic diversity. Policy MSP DEV1 seeks to promote economic growth through a well-managed and healthy marine environment which considers equality, community cohesion, well-being and health, as well as implications for the marine environment. Developments which contribute to the overall marine environment and resource (i.e demonstrate best practice in environmental/ marine management) are encouraged and will be supported where feasible.

Key legislative requirements and consultees

- Please refer to **Appendix A** for Checklist of Legislative Requirements and **Appendix B** for Key Consultees

Further Information

- **Shetland Islands Council's Community Planning and Development**
- **Shetland Islands Council's Economic Development**
- **Scottish Government. 2010. Report on Social and Economic Objectives for a Scottish Marine Plan**
- **Shetland Islands' Community Councils**
- **Shetland Fishermen's Association**
- **Shetland Aquaculture (finfish aquaculture)**
- **Seafood Shetland** (fish processing and shellfish growing)
- **Shetland Renewable Energy Forum**
- **Shetland Islands Council Ports and Harbours**
- **Lerwick Port Authority**
- **Shetland Tourism**
- **Department of Energy and Climate Change**

Lerwick Harbour

Image courtesy of Promote Shetland

Commercial Fishing

The marine fisheries sector comprises all socio-economic activities related to the capture of wild marine organisms (fish and shellfish), and the subsequent handling and processing of catches. The following species make up the bulk of Shetland catches of finfish and shellfish species: mackerel and herring (pelagic); haddock, cod, whiting, saithe and monkfish (demersal); squid, velvet and brown crabs, lobster, king and queen scallops, and whelks (shellfish). The most important fishing grounds around Shetland are shown on Maps 5c(i) - 5c(iii) but it should be borne in mind that the distribution of fishing activity is fluid; the relative importance of different fishing grounds can and does change over time, and fishing may spread to new areas. These maps should thus be regarded as indicative only; consultation with organisations and associations representing fishermen is strongly recommended.

Shetlanders have fished the waters around their islands for thousands of years, and fishing remains one of Shetland's most important industries. In 2011 there were 231 full time and 217 part-time fishermen. In addition there are over 250 jobs directly supported by the fishing industry including fish processing, transport, marketing, engineering and supply. In 2011 there were 175 active commercial fishing vessels in Shetland. Virtually all of them are owned by local shareholder crewmen, and many are based in rural areas of Shetland where there may be few alternative opportunities for economic activity.

More than £90 million worth of fish were landed in Shetland in 2011, making Shetland one of the UK's leading fishing ports (second only to Peterhead). One quarter of all fish landed in Scotland and one sixth of all fish landed in the UK are landed in Shetland, and more finfish are landed in Shetland than in all of England, Wales and Northern Ireland combined. The conservation of local fisheries is therefore very important for socio-economic reasons.

The Shetland Fishermen's Association (SFA), Shetland Shellfish Management Organisation (SSMO) and, more recently, the Shetland Inshore Fishermen's Association (SIFA), are consulted by the Shetland Islands Council in relation to development applications. It should be noted that in some instances it may also be appropriate to contact the Scottish Fishermen's Federation (SFF) and the Scottish Pelagic Fishermen's Association (SPFA), particularly for large scale offshore development, e.g. pipelines and renewable energy devices, where non-Shetland vessels may be affected.

Safeguarding Marine Fisheries

Marine developments have the potential to prevent, displace, discourage fishing activities and can damage fishing grounds and fish stocks, with far-reaching social, economic and environmental consequences. These consequences include loss of income, loss of jobs and increased pressure on other fishing grounds. Impacts on fisheries, fishing grounds and fish stocks may be temporary or permanent depending on the nature of the development and the degree of disturbance.

Fisheries Management

At a national level, the effective management of our seas is currently being integrated with wider marine policy, including marine nature conservation. This is instrumental in delivering 'good environmental status' (GES) under the Marine Strategy Framework Directive (MSFD). GES requires populations of all commercial fish and shellfish stocks to be exploited within safe biological limits, exhibiting a population age and size distribution that is indicative of a healthy stock. Achieving GES will also involve better management and mitigation of the impact of fisheries on the wider marine environment, such as wider biodiversity impacts.

Finfish fisheries in UK waters are managed through the EU Common Fisheries Policy (CFP). The CFP sets Total Allowable Catches (TAC) for most commercial species within European Waters and allocates quotas to Member States based on historic fishing rights. The Scottish Government is responsible for implementing fisheries management measures in the waters around Scotland.

Within 6 nautical miles of the Shetland coast, shellfish fishing is managed by the Shetland Shellfish Management Organisation (SSMO) via the Shetland Regulated Fishery (Scotland) Order 2012. The SSMO manages fishing methods and fishing gear, restricts fishing seasons, sets minimum sizes for shellfish and manages shellfish beds for stock conservation. The SSMO also undertakes the collection of data which allows a comprehensive stock assessment to be developed year on year. This allows fishery management to be based on best possible data and analyses.

Since 2010 the SSMO has as implemented a spatial management framework that prohibits dredge fishing for shellfish in designated areas where specific priority marine features (maerl, horse mussels, sea grass) have either been confirmed or are suspected of occurring.

Scallop dredge Image courtesy of Kathryn Allan

Creels used for shellfishing
Image courtesy of Richard Shelmerdine

Policy MSP FISH1:
Safeguarding Fishing Opportunities

Developments will only be permitted where it can be demonstrated that:

a) there will be no significant damage[1] or permanent obstruction to an important[2] fishing area;

b) there will be no damage to a known/designated spawning or nursery area for commercially exploited species of fish;

c) it will not cause an unsafe navigational hazard for commercial fishermen; or

d) there is no reasonable alternative and any such adverse effects are clearly outweighed by social, environmental or economic benefits of national importance.

It is strongly recommended that developers consider the types of fishing activity that may be affected by a proposed development, to consult with local fishermen and relevant organisations (e.g. the SFA, SIFA, SSMO, SFF, SPFA), and to demonstrate that they have taken account of the advice, information and views received. Developers may refer to Maps 5c(i) - (iii) for information on important fishing grounds but as the distribution of fishing activity is liable to change over time consultation with organisations and associations representing fishermen is strongly recommended. Consideration should be given to how proposed developments may affect fishing activity in both the short and long term, and to the cumulative effects of developments.

The consenting authorities and developers should engage with other marine

[1]'Damage' may include the disturbance or removal of sediment, the deposition of sediment or other materials, changes to sea-bed topography (including the creation of trenches, mounds, pits, etc., or the exposure of boulders), or other changes to the characteristics of the sea-bed that may affect the distribution or abundance of commercially important species of fish and/or hinder commercial fishing operations.

[2]Fishing areas may be 'important' in relation to the species caught, gear(s) used, the size or type of fishing vessels that operate in the area, and/or the communities where those vessels are based.

Whitefish trawl
Image courtesy of Paul MacDonald

Whitefish haul
Image courtesy of Paul MacDonald

users in the regions to where activity is displaced, to ensure that a comprehensive picture of cumulative impacts is developed and unintended consequences are avoided. Wherever possible, developers and decision-makers should seek to encourage opportunities for co-existence between fishing and other activities. In some circumstances it may be possible for developments to enhance or otherwise positively influence fisheries through careful siting and design. There are a number of industry specific guidance documents (e.g. for the offshore and renewables sectors) which provide industry specific guidance on potential impacts on fisheries and best practise fisheries liaison information.

Justification

Policy MSP FISH1 seeks to safeguard fishing opportunities and the socio-economic benefits they bring to the local economy. Marine developments can restrict access to fishing grounds. They can also damage important habitats, and consequently the commercial species that live there. Similarly, the displacement of fishing effort can cause disruption beyond the development area. Increased fishing in other grounds can place additional pressure on the viability of fish stocks, for example. Reductions in fishing activity, redistribution of fishing effort and knock-on effects on related businesses may have potential negative implications on local viability and Shetland as a whole.

Supporting the Development of Sustainable Fisheries

It is an objective of the SIMSP to ensure the marine waters around Shetland achieve good environmental status under the MSFD, and as a result are healthy and biologically diverse. Sustainable fisheries management measures can help to achieve this aspiration. The development and implementation of fisheries management measures will be led by fisheries management and representative organisations such as Marine Scotland, SFF, SFA and SSMO.

The development of local fisheries spatial management measures that protect and conserve important habitats and species (as detailed in the matrix of sensitivities, **Appendix C**) can contribute to sustainable fisheries management. The SIMSP can play a role by providing relevant and up-to-date spatial information on important marine habitats and species to support appropriate bodies. Existing measures are detailed in the box on the adjacent page.

Creeling, Scalloway Isles Image courtesy of Richard Shelmerdine

Scallop fishing
Image courtesy of SSMO

Velvet crab
Image courtesy of SSMO

Key legislative requirements and consultees

- Please refer to **Appendix A** for Checklist of Legislative Requirements and **Appendix B** for Key Consultees

Further Information

- **EC Common Fisheries Policy**
- **Sea Fish (Conservation) Act 1967**
- **Inshore Fishing (Scotland) Act, 1984**
- **Marine Scotland - Cod and Haddock spawning grounds**
- **Marine Scotland - Cod and Haddock nursery grounds**
- **Marine Scotland - Herring and Mackerel spawning grounds**
- **Marine Scotland - Herring and Mackerel nursery grounds**
- **Fisheries Sensitivity Maps**
- **A Fishing Industry Guide to Offshore Operators**
- **Best Practice Guidance for offshore renewable development**
- **SNH – Marine Fisheries**
- **SeaFish**
- **Kingfisher Oil and gas surface and subsea obstructions**
- **Kimo International**
- **Safeguarding our Seas - A Strategy for the Conservation and Sustainable Development of our Marine Environment (DEFRA)**

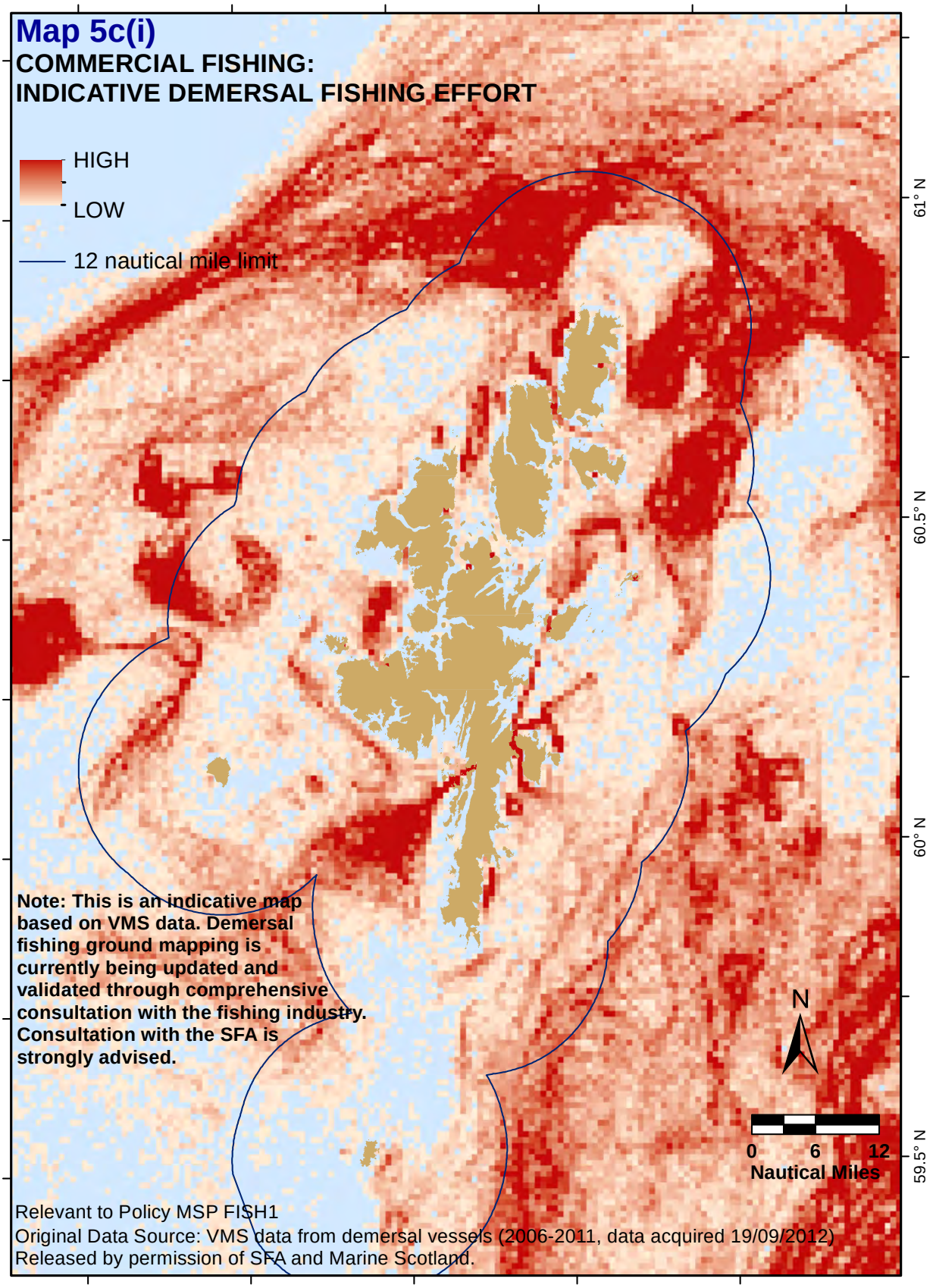
Local Sustainable Fisheries Management

Fishing provides significant economic and social benefits to Shetland. The Shetland fishing industry is committed to sustainability and has proactively implemented measures to reduce the potential for negative impacts on non-target species and habitats.

These measures include the spatial management of the sand eel fishery to protect important bird species foraging around Fair Isle, Foula and Mousa. The SSMO in partnership with the Shetland shellfish fleet has implemented management measures, including shellfisheries closures to reduce the potential impacts on important seabed habitats, shown in Map 5c(ii). These locations were based on data provided by the SIMSP on the distribution of important seabed habitats including maerl, horse mussel beds and eel grass. In 2012 the Shetland shellfish fleet gained Marine Stewardship Council (MSC) accreditation for three shellfish stocks (king scallops, brown and velvet crabs) and is an example of how the local Shetland inshore fishing industry has endorsed conservation measures to gain potential market advantage.

Antares Pelagic Fishing vessel
Image courtesy of Paul MacDonald

Fishing trawlers in Lerwick Harbour
Image courtesy of Christina Kelly



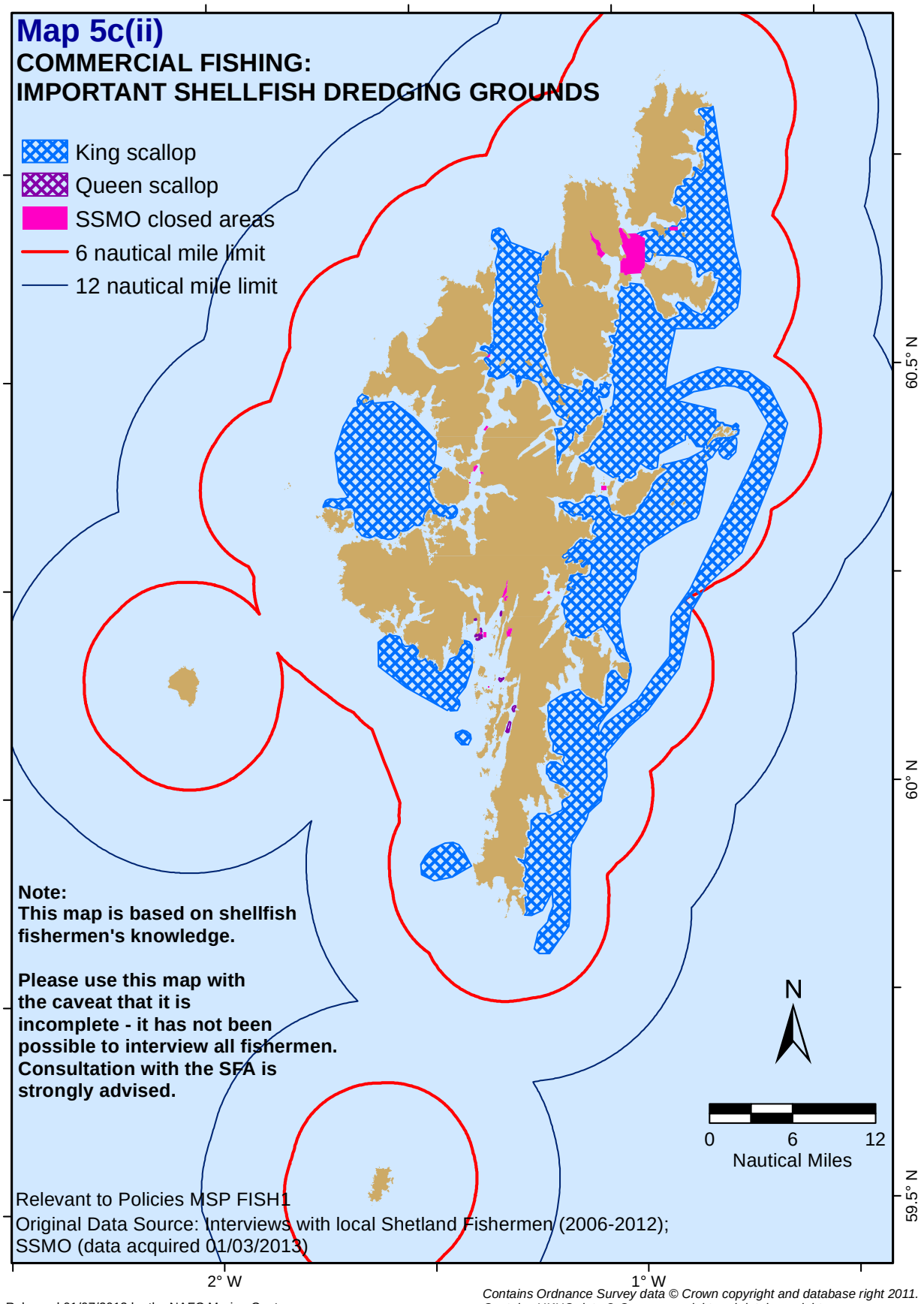
Relevant to Policy MSP FISH1

Original Data Source: VMS data from demersal vessels (2006-2011, data acquired 19/09/2012)
Released by permission of SFA and Marine Scotland.

Released 01/07/2013 by the NAFC Marine Centre.

Map 5c(ii)

COMMERCIAL FISHING: IMPORTANT SHELLFISH DREDGING GROUNDS



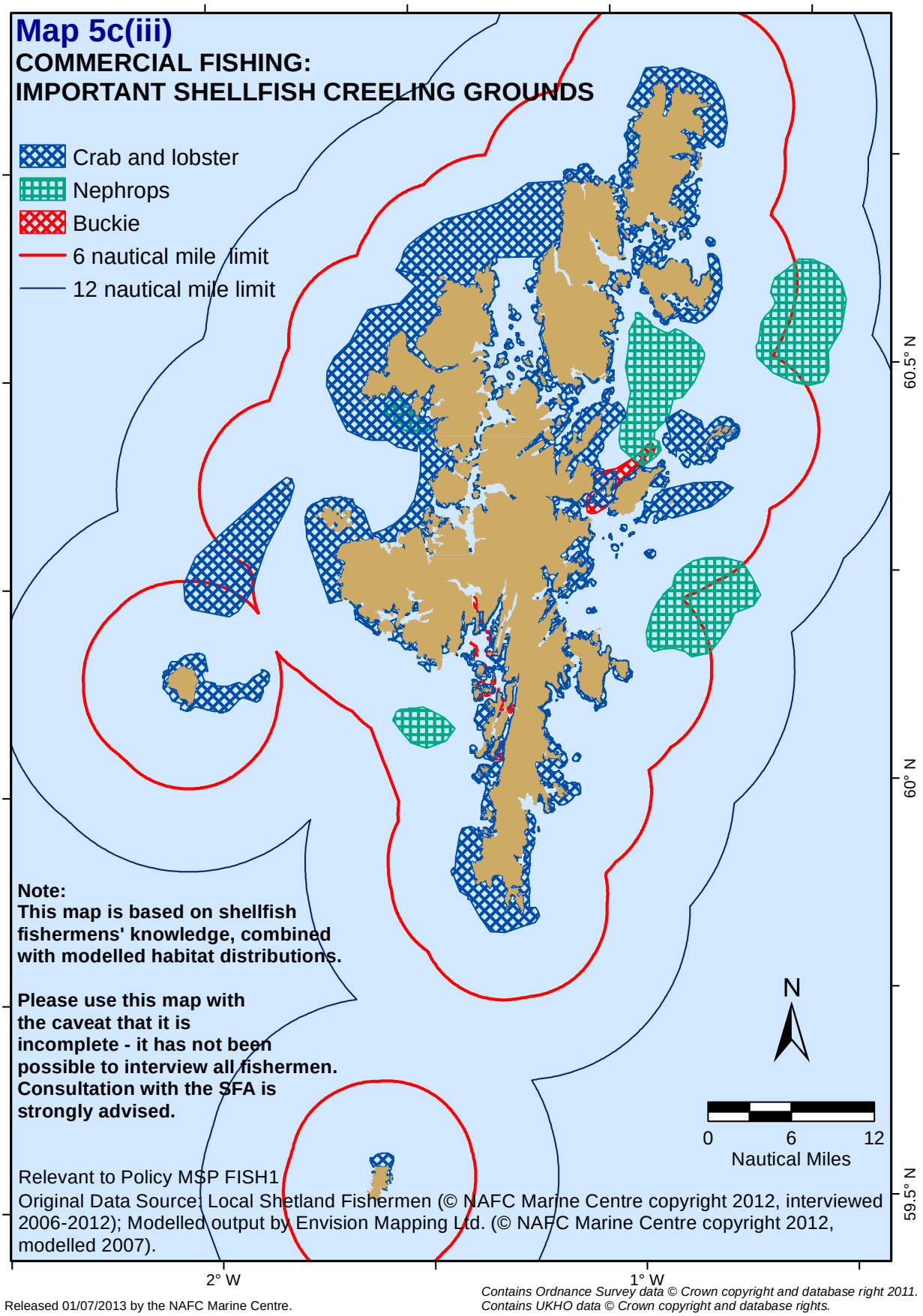
Note:
This map is based on shellfish fishermen's knowledge.

Please use this map with the caveat that it is incomplete - it has not been possible to interview all fishermen. Consultation with the SFA is strongly advised.

Relevant to Policies MSP FISH1

Original Data Source: Interviews with local Shetland Fishermen (2006-2012); SSMO (data acquired 01/03/2013)

Released 01/07/2013 by the NAFC Marine Centre.



Relevant to Policy MSP FISH1

Original Data Source: Local Shetland Fishermen (© NAFC Marine Centre copyright 2012, interviewed 2006-2012); Modelled output by Envision Mapping Ltd. (© NAFC Marine Centre copyright 2012, modelled 2007).

Released 01/07/2013 by the NAFC Marine Centre.

Aquaculture Planning Framework

The aquaculture industry in Shetland has two major components: finfish farms, and the cultivation of shellfish. The location of licenced finfish, shellfish and seaweed cultivation sites are shown in Map 5c(iv). The aquaculture industry is a major component of the Shetland economy, worth £156.3m in 2011, supporting 462 full time and 78 part-time jobs, as well over 200 jobs in fish processing, marine engineering and transportation. Shetland is a major finfish producer, yielding over 30% of Scotland's farmed salmon. In addition, small quantities of sea trout, cod and halibut have been produced in the past. Shellfish cultivation is dominated by mussel farming, with Shetland producing 69% of Scotland's farmed mussels.

This section of the SIMSP covers the legislative framework at the coast and on the seabed for development consent for aquaculture. Currently there is limited potential for new shellfish or finfish sites within Shetland's voes without the revocation of existing licences. However, as technology advances there is the potential for the growth of offshore aquaculture.

Planning Application Jurisdiction

Proposals for aquaculture development are considered under the scope of the Town and Country Planning (Scotland) Act 1997 and the Planning etc. (Scotland) Act, 2006. The Shetland Islands Council's Local Development Plan (LDP) sets out the policies and criteria against which planning applications submitted in Shetland will be considered. All applications for new or modified marine and freshwater fish farming developments shall have regard to the LDP's Supplementary Guidance - Aquaculture Policy. It applies to the placement of equipment in the sea, on the seabed or on the foreshore, i.e. from below Mean High Water Spring (MHWS) out to 12 nautical miles, or in freshwater bodies.

All applications for aquaculture development shall also have regard to **Policy CST1 Coastal Development** in the LDP.

Planning Application Process

Permissions for fish farming are granted after an informed judgement is made based on the best available evidence, through the application, consultation and Environmental Impact Assessment (EIA) procedures. Shellfish farm applications are not subject to EIA regulations.

On receipt of a planning application, Shetland Islands Council determines the application in accordance with the Supplementary Guidance - Aquaculture Policy, following consultation with the statutory consultees identified in Annex II of the Aquaculture Policy, and also listed in **Appendix B** of this document.

Potential developers should use the **Supplementary Guidance - Aquaculture Policy** while they consider the siting of the proposal using the SIMSP policies and maps provided.

Where applications are outwith policy or attract objections from consultees (SNH, SEPA, Marine Scotland Science, Historic Scotland, or the Community Council), and conditions cannot address those issues but the recommendation is for approval, it will be determined by the Planning Committee of Shetland Islands Council. As part of the decision-making process both applicants and objectors are offered the opportunity of addressing the Committee, in the interests of open, fair and transparent governance. A final decision of the Council will continue to be required where the Committee recommends for approval an application that is outwith policy.

Policy MSP AQ1:
Aquaculture - Key Conditions
Aquaculture development applications will be considered favourably where they have complied with:

a) all policies included in Policy Framework Section 5(a) and 5(b) and Policy MSP DEV1;
b) Supplementary Guidance - Aquaculture Policy;
c) Locational Guidelines (for fin fish farming only); and
d) local policy restrictions[1].

Existing aquaculture sites and policy restricted areas are shown in Map 5c(iv). Locational Guidelines areas are shown in Map 5c(v).

The planning authority may refuse any applications that do not comply with separation distances from adjacent aquaculture developments (as detailed in Supplementary Guidance - Aquaculture Policy: 1,000 m for finfish; 500 m for shellfish).

Developers should have regard to the '**A Code of Good Practice for Scottish Finfish Aquaculture',** in addition finfish developers should refer to the voluntary '**Protocol for Preparing Planning Applications for Aquaculture Development'.** All marine aquaculture proposals must demonstrate that anti-predator measures deter or prevent predation through the use of methods which are non-lethal and do not cause any significant harm. For the avoidance of doubt, the use of monofilament nets for such purposes is not permitted.

Justification
The purpose of this policy is to highlight the key conditions that restrict the placement of new aquaculture proposals as per the Council's Supplementary Guidance - Aquaculture Policy.

Locational Guidelines area classifications are determined on the basis of predictive models developed by Marine Scotland Science which assess the relative sensitivity of a sea loch/ voe system to additional nutrient loading by fish farm developments. As a result, there will be areas outwith classification which are or could be sensitive to aquaculture development, but have not been specifically highlighted as they do not contain aquaculture development presently.

Policy MSP AQ2:
Fish farm Management Agreements

All aquaculture developments should seek agreement with other operators in the area to reduce the potential for disease transmission, increase fish welfare or control and manage sea lice numbers. This can be achieved through a Farm Management Agreement (FMA), an Area Management Agreement (AMA) or Farm Management Statement (FMS) which;

a) reflects (as far as possible) the recommendations of the Code of Good Practice;
b) includes a stocking and fallowing plan; and
c) is formally reviewed between signatories at least every 2 years.

Finfish disease management areas are shown in Map 5c(vi). Section 4A of the Aquaculture & Fisheries (Scotland) Act 2013 sets out the requirement on fish farm operators to be party to an FMA or prepare an FMS, and prescribes the content of the agreement or statement.

Policy MSP AQ3:
Aquaculture Development Management Plans

Area wide aquaculture development management plan proposals will be supported and encouraged where they aim to:

a) comply with all policies included in Policy Framework Section 5(a) and 5(b) and Policy MSP DEV1;
b) increase separation distance between developments;
c) reduce overall environmental impacts and/ or reduce potential impact on protected species or habitats;
d) safeguard or improve fishing opportunity;
e) produce community benefits i.e. reduced visual impact, noise or impact on recreation/ access; and
f) increase socio-economic benefit i.e. from job creation or increased economic viability.

Subsequent developments which reverse the gains made by a management plan may not be permitted.

Justification

Development management plans and fish farm management agreements are plans that adopt a holistic, multiple site approach to management which aim to bring benefits to industry and/ or other users and interests. This may be through the development of disease control and prevention measures, optimising production, to benefit the fishing industry, recreational users, the community or natural heritage interests.

It is important that when these plans are being developed the potential impacts, both positive and negative, are fully considered. It is also important that the aims of the plans are not undermined by subsequent applications. This may be of particular relevance where space for new developments has

only been made available by the actions of a development management plan. Conflict resolution opportunities have worked successfully in the past in Shetland (such as Yell Sound Coast SAC Seal Plan) and will become more common as scope for growth becomes limited.

Key legislative requirements and consultees

- Please refer to **Appendix A** for Checklist of Legislative Requirements and **Appendix B** for Key Consultees

Further Information

- **Shetland Islands Council's Local Development Plan and Supplementary Guidance - Aquaculture Policy**
- **Shetland Islands Council's Coastal Zone Mangement Service**
- **Marine Scotland - Running a Fish farm**
- **The siting and design of aquaculture in the landscape: visual and landscape considerations. (2011).Scottish Natural Heritage.**
- **The Crown Estate - Aquaculture**
- **SEPA - Aquaculture**
- **Delivering Planning Reform for Aquaculture, 2010**
- **Aquaculture and Fisheries Act (as amended)**
- **A Fresh Start: The renewed Strategic Framework for Scottish aquaculture**
- **Scottish Planning Series: Planning Circular 1 2007: Planning Controls for Marine Fish Farming**
- **The EC Regulation on Alien Species in Aquaculture (708/2007 as amended)**
- **A Code of Good Practice for Scottish Finfish Aquaculture**
- **The Water Environment (Controlled Activities) (Scotland)**

[1] Over time, the Council has adopted policies in coastal areas of Shetland where there is a general presumption against aquaculture development. Such policies are as follows:

(a) 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;

(b) No aquaculture developments will be permitted in Whiteness Voe north of a line between Usta Ness and Grutwick or the upper part of Weisdale Voe between the Taing of Haggersta and Vedri Geo;

(c) No further new aquaculture developments will be permitted in Busta Voe north of a line drawn between Hevden Ness, Mainland and Green Taing, Muckle Roe as a matter of policy, and variations to existing sites north of this line should not result in either an increase in site size, a change in site location or an increase in environmental or visual impact.

These areas are shown on Map 5c(iv).

Regulations 2011
- Kimo International
- NetRegs Environmental Guidance For Your Business in Northern Ireland and Scotland
- Association of Scottish Shellfish Growers (ASSG) Code of Good Practice, 2005

Seaweed Cultivation

Seaweed cultivation is a relatively new industry in Shetland and Scotland. Seaweed is cultivated for food and non-food uses, including as a source of biofuels, and is currently attracting interest from the Scottish Government and the aquaculture sector who will continue to work to develop opportunities in this field. It is an objective of the Scottish Government to encourage the growth of seaweed production for food and non-food uses, as well as supporting the development of multi-trophic aquaculture, where the by-products from one species are recycled to become inputs for another. For example, finfish aquaculture can be combined with seaweed or shellfish aquaculture to create balanced systems, with benefits to both species[29].

The co-existence of seaweed cultivation should therefore be explored in relation to other aquaculture uses and marine renewable developments. The Scottish Government recognises the potential for synergies to exist between these sectors and continues to work with industry to ascertain possibilities in this regard. The SIMSP will support these objectives, encouraging the sustainable development of seaweed cultivation and harvesting in harmony with other marine developments, where there are no significant adverse impacts to their operations, to other marine users or to the marine environment. The Scottish Government's pending Seaweed Policy Statement (SPS)[30] will provide an overarching framework for the management and regulation of seaweed cultivation in Scottish waters (0-12 nm), and facilitate the sustainable development of the seaweed cultivation industry in Scotland.

Policy MSP AQ4:
Seaweed Cultivation

Applications for the development of seaweed cultivation will be considered favourably where the following is demonstrated:

a) compliance with all policies included in Policy Framework Section 5(a) and 5(b) and Policy MSP DEV1;
b) only seaweed species native to Shetland will be grown;
c) measures are included to prevent the introduction and spread of non-native species; and
d) there is no artificial enrichment of the marine environment to aid production.

Seaweed cultivation sites are shown in Map 5c(iv).

[29]Scotland's National Marine Plan Pre-Consultation Draft, 2011
[30] Scottish Government's Draft Seaweed Policy Statement Consultation Paper 2013

Justification:

Seaweed growing and harvesting in Shetland is currently small scale, with one commercial company operating at Lunnaness. Seaweed is traditionally hand gathered for fertilisers, plant food, animal feeds and food. More recently, a work licence has been granted for a new seaweed farm at Sandsound, for the cultivation of *Laminaria digitata*, *Saccharina latissima*, *Alaria esculenta*, *Laminaria hyperborea* and *Palmaria palmata*, all of which are Shetland native species. Seaweed production requires high nutrient levels and good water clarity.One of the main benefits of seaweed cultivation is that seaweed, being a primary producer, does not require feed. They can also be beneficial to the local marine environment by increasing local fish populations through providing shelter and food for herbivorous fishes, and acting as a 'nutrient sink' by taking up inorganic nutrients from the water.

Key legislative requirements and consultees

- Please refer to **Appendix A** for Checklist of Legislative Requirements and **Appendix B** for Key Consultees

Further Information

- **Shetland Islands Council's Coastal Zone Management Service**
- **Shetland Islands Council's Local Development Plan** and **Supplementary Guidance Aquaculture Policy**
- **The siting and design of aquaculture in the landscape: visual and landscape considerations. (2011). Scottish Natural Heritage**.
- **Scottish Planning Policy**
- **The Crown Estate - Aquaculture**
- **The EC Regulation on Alien Species in Aquaculture (708/2007 as amended)**
- **The Water Environment (Controlled Activities) (Scotland) Regulations 2011**
- **SNH - seaweed harvesting**
- **BioMara Research**

Fishfarm, Ronas Voe
Image courtesy of Christina Kelly

Mussel harvesting
Image courtesy of Ian Napier

Integrated Multi-Trophic Aquaculture (IMTA)

Integrated multi-trophic aquaculture (IMTA) provides the by-products, including waste, from one aquatic species as inputs (fertilisers, food, energy) for another. Fed aquaculture (e.g. finfish) is combined with inorganic extractive (e.g., seaweed) and organic extractive (e.g., shellfish) aquaculture to create balanced systems for greater efficiency in resource use: feedstuffs, space, labour and a reduction in the environmental impact of the aquaculture process.

IMTA can be provided offshore with the use of buoys with lines on which the seaweed grows which are placed adjacent to the fish cages in which the fish grows. This method is used commercially in Canada and is under development in Norway, Scotland, and Ireland.

In a typical IMTA set up, finfish occupy higher trophic levels whereby they excrete soluble ammonia and phosphorus. Seaweeds and similar species can extract these inorganic nutrients directly from their environment. Finfish also release organic nutrients which feed shellfish.

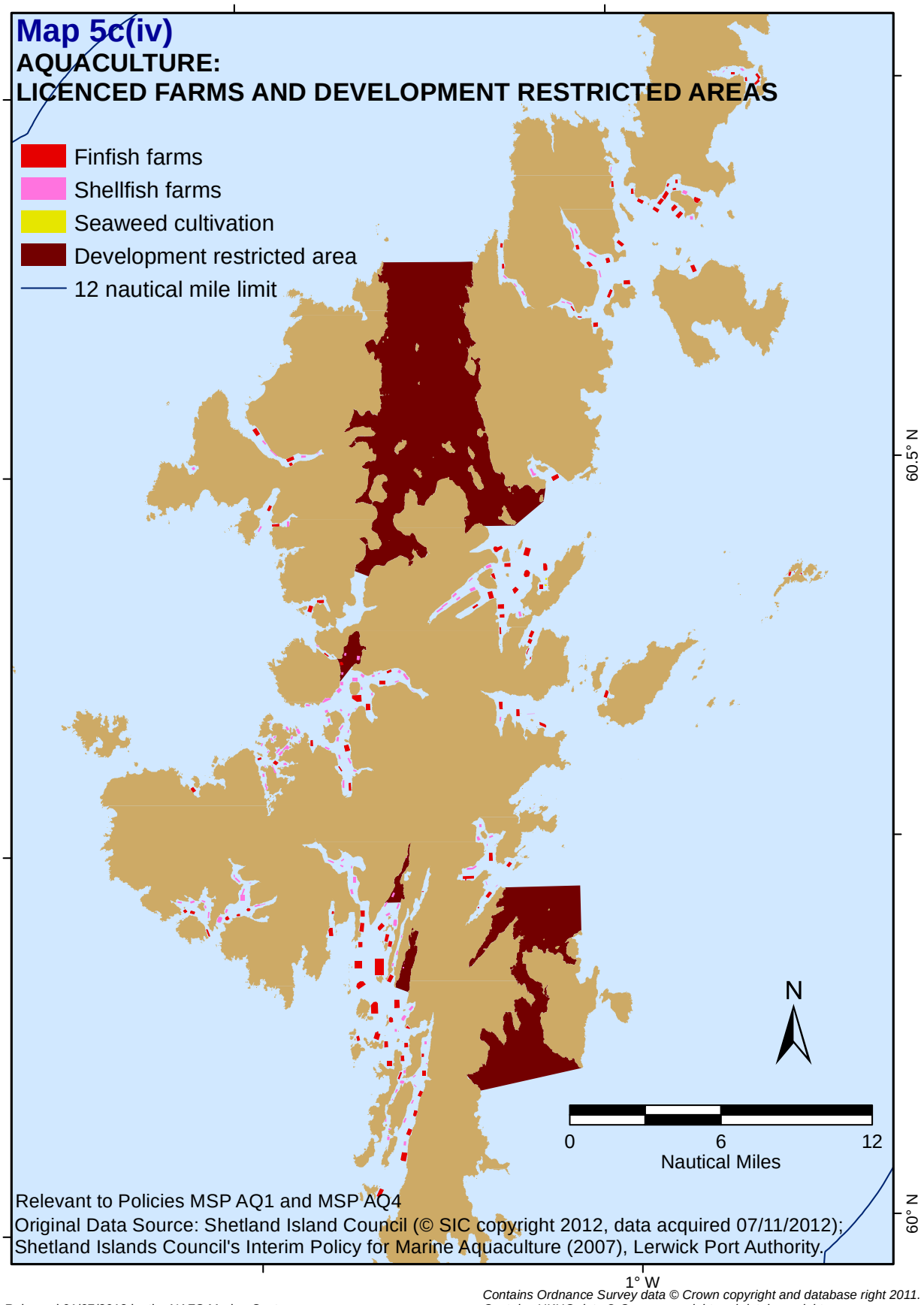
More information on IMTA research in Scotland is available on the SAMS **website** and within the **Draft Seaweed Policy Statement Consultation Paper 2013.**

Mussel farm, Vaila
Image courtesy of Richard Shelmerdine

Finfish farm, Scalloway
Image courtesy of Christina Kelly

Map 5c(iv)

AQUACULTURE:
LICENCED FARMS AND DEVELOPMENT RESTRICTED AREAS



Relevant to Policies MSP AQ1 and MSP AQ4

Original Data Source: Shetland Island Council (© SIC copyright 2012, data acquired 07/11/2012); Shetland Islands Council's Interim Policy for Marine Aquaculture (2007), Lerwick Port Authority.

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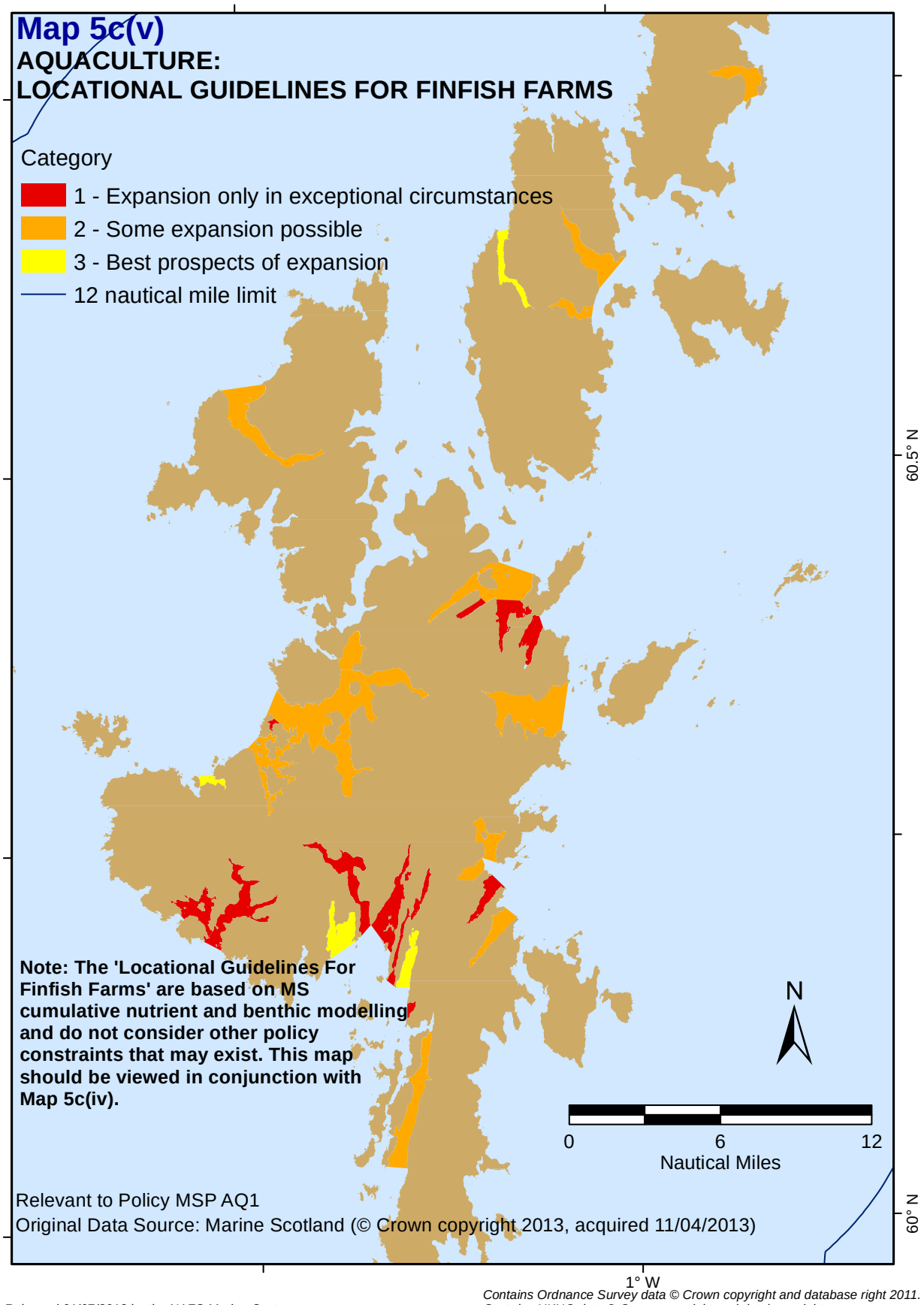

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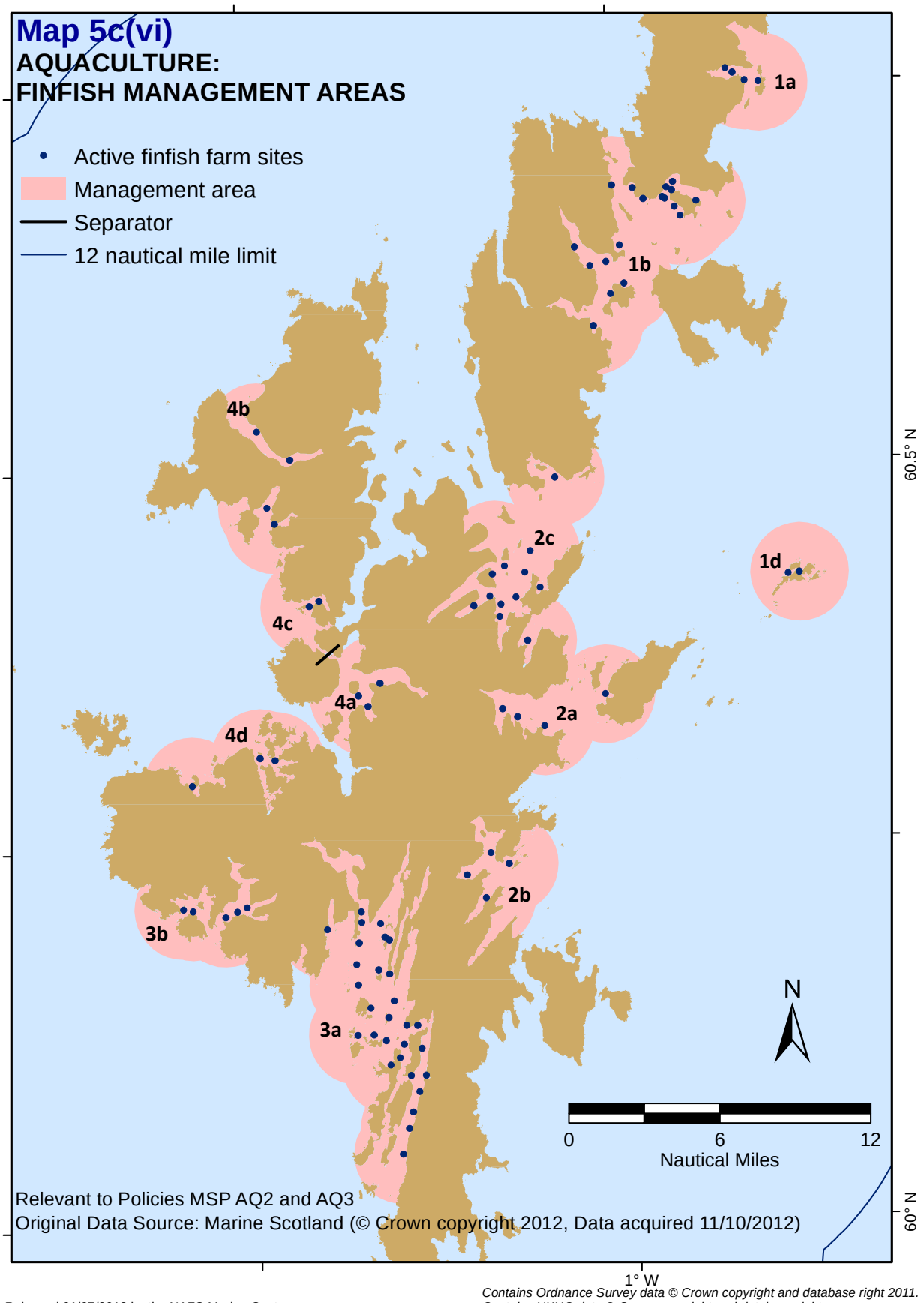
Map 5c(vi)

AQUACULTURE: FINFISH MANAGEMENT AREAS



Relevant to Policies MSP AQ2 and AQ3

Original Data Source: Marine Scotland (© Crown copyright 2012, Data acquired 11/10/2012)

Released 01/07/2013 by the NAFC Marine Centre.

Oil and Gas Exploration and Extraction

The licensing, exploration, regulation and decommissioning of the oil and gas industry is the responsibility of the UK Government, through the Department for Energy and Climate Change (DECC). Under Section 113 of the Marine and Coastal Access Act 2009, the Secretary of State is the licensing authority in Scottish offshore waters for oil and gas-related activities. The Secretary of State is the licensing authority for a similar range of reserved matters (e.g. defence) in Scottish inshore waters, except that the Scottish Ministers have responsibility for oil and gas-related activities (i.e. pipelines) within 3 nautical miles of the coastline. Similarly, Scottish Ministers have responsibility within 3 nautical miles of the coastline for issuing licences for deposits associated with oil and gas-related activities. A works licence from Shetland Islands Council will be required for oil and gas exploration activity and associated developments within 12 nautical miles of the coast.

Shetland is strategically located to service and support the offshore industries decommissioning activity in the northern and central North Sea, as well as to the west of Shetland. Lerwick harbour has become Shetland's main decommissioning area location and the Lerwick Port Authority is seeking to expand these facilities.

Policy MSP OAG1:
Oil and Gas Proposals

Exploration and extraction for oil and gas within 12-nautical miles of the coast will only be permitted where it has:

a) complied with all policies included in Policy Framework Section 5(a) and 5(b) and Policy MSP DEV1;
b) included an acceptable emergency response plan in agreement with the appropriate consenting authority for any accidental release of oil or gas and related hazardous substances;
c) included all elements such as connections to shore base and infrastructure; and
d) included an appropriate monitoring programme and detailed restoration and maintenance proposals.

Further information may be required as part of the matrix of sensitivities detailed in **Appendix C** and/or contribution towards the EIA (Scotland) Regulations 2011.

Decommissioning and shore based activities are preferred in existing developed areas.

Justification

The oil industry has made a significant contribution to the economy of Shetland since the oil terminal at Sullom Voe was established; it is anticipated it will maintain its role as a major oil landing facility for at least the next 30 years. The precise timescale will depend on both the development of the Atlantic fields to a point where a pipeline landfall is initiated, but also on the

location and success of new exploration and development areas.

Conversely, there are a number of environmental risks and potential impacts associated with oil and gas extraction, the most notable being the risk of oil spill, noise from exploration (e.g. seismic survey) and production, historical oil based cuttings piles, and inputs of exploration and production chemicals. Dependent upon the location, manner of installation and size of the pipeline there are potential impacts from pipeline installation on habitats. However, these are generally spatially minor with short-term noise and disturbance impacts. Nevertheless, a developer will be required to include a detailed monitoring programme and an acceptable emergency response plan because accidental spillage is damaging to wildlife, and sites within 12 nautical miles have little or no time to contain spills before the oil reaches the shore.

Key legislative requirements and consultees

- Please refer to **Appendix A** for Checklist of Legislative Requirements and **Appendix B** for Key Consultees

Further Information

- **Shetland Islands Council's Local Development Plan**
- **Department of Energy and Climate Change - Oil and Gas**
- **Maritime and Coastguard Agency**
- **OSPAR Offshore Oil and Gas Industry Strategy**
- **IMO guidelines and standards for the removal of offshore installations and structures on the continental shelf and in the EEZ. (1989)**
- **SNH - Oil and Gas**
- **A Fishing Industry Guide to Offshore Operators**
- **Petroleum Act, 1998**
- **Shetland Decommissioning**

Offshore oil rig
Image courtesy of Stephan Hennig

Sullom Voe Terminal
Image courtesy of Stephan Hennig

Renewable Energy

Shetland's coastline and climate mean that the Islands have great potential for the generation of renewable energy. While the offshore technology required to withstand the elements in the open seas around Shetland is still in its infancy, renewable energy sources and technology are now being developed and tested with the intention of developing them on a commercial scale. The Scottish Government has identified potential opportunities for wave, wind and tidal devices in the 'Draft Sectoral Marine Plans for Offshore Wind, Wave and Tidal Energy in Scottish Waters'.

Policy MSP NRG1:
Exploratory, Appraisal or Prototype Renewable Energy Proposals

Exploratory, appraisal or prototype energy proposals will be considered favourably where they have:

a) complied with all policies included in Policy Framework Section 5(a) and 5(b) and Policy MSP DEV1;

b) detailed any associated infrastructure required to service the site including connections to the electricity grid if relevant; and

c) included an appropriate monitoring programme and detailed restoration proposals.

The planning authority will normally specify a time period when granting a works licence for exploratory, appraisal or prototype proposals, which will be without prejudice to any subsequent application to develop fully operational projects at that location. Depending on generation capacity a marine licence and s36 consent may also be required under the Marine and Electricity Acts.

Justification

It is acknowledged that a significant level of exploratory work (including the building of prototypes) may be required to establish the optimum locations and the long-term viability of energy projects. It would be beneficial to engage with SNH, the Shetland Renewable Energy Forum (SREF), local industries, such as fishing and aquaculture, and the local community council, at the early stages of the project design. Accordingly, temporary permissions or Licences will normally be granted for exploratory proposals so that a proper assessment can be made of a particular site in terms of viability, cost effectiveness and impact on marine biodiversity. Trials of renewable energy devices (tidal) have been licensed in Bluemull Sound, Shetland.

The assessment of efficiency, and appropriate monitoring to determine any impacts, must be transparent and be demonstrated to the satisfaction of the Local Authority and Marine Scotland. This will allow an informed decision to be made should the developer wish to apply for a more permanent site.

Policy MSP NRG2:
Renewable Energy Development Proposals

Renewable energy developments will be considered favourably where they have:

a) complied with all policies included in Policy Framework Section

5(a) and 5(b) and Policy MSP DEV1;

b) facilitated or considered in their design all elements, such as connection to shore base and National Grid connections;

c) demonstrated that the development will not cause significant harm to the safety or amenity of any sensitive receptors;

d) demonstrated to the satisfaction of the consenting authority an appropriate monitoring programme specific to the design, scale and type; and,

e) detailed restoration and maintenance proposals.

Further information may be required as part of the matrix of sensitivities detailed in **Appendix C** and/or contribution towards the Electricity Works (EIA) (Scotland) Regulations 2000 and EIA (Scotland) Regulations 2011, including visual impact and addressing cumulative impacts. The Scottish Government document 'Survey, deploy and monitor licensing policy guidance' provides information to regulators, and developers, with an efficient risk-based approach for taking forward wave and tidal energy proposals.

Policy MSP NRG3:
Wave and Tidal Development Proposals

Prior to submitting an application developers should consult the Regional Locational Guidance for Wave and Tidal Energy in the Shetland Islands (RLG) which identifies potential constraints to development.

Applications for the development of wave and tidal devices will be considered favourably where:

a) the development complies with all polices included in Policy Section 5(a) and 5(b) and Policy MSP DEV1 and MSP NRG 2;

b) due regard has been shown to development constraints by proposing devices and associated infrastructure in areas of low constraint as identified in the RLG; or

c) in areas of medium-very high constraint identified in the RLG, the development has incorporated adequate design and operational measures to the satisfaction of Marine Scotland and the local authority which avoid any potential adverse effects on Natura 2000 sites, any adverse effects on other important (natural and historic) sites, features and other sea users.

Potential wave and tidal resources around Shetland are shown in Maps 5c(vii) - (viii). Constraints for wave and tidal development at the coast for cable landing points are shown in Maps 5c(ix) and constraints for the placement of devices at sea are shown in Map 5c(x). It should also be noted that siting development in areas of low constraint areas does not guarantee development success.

The RLG has been developed with the support of local stakeholders including advisors, planners, regulators, communities and developers. The guidance integrates local environmental, social and economic considerations, as well as

incorporating local datasets into the site selection process for marine renewable energy. It is designed as a decision support tool for developers, councils and government to help to ensure a consistent, streamlined approach to wave and tidal applications. It is acknowledged that the RLG should not be used to rule out development in particular areas if it can be accommodated in a sustainable manner consistent with the approach set out within this policy and the SMSP.

Justification

The increased development of marine renewable resources is imperative to facilitating the delivery of international and national commitments on greenhouse gas emissions and renewable energy, as well as climate change mitigation. Furthermore, marine renewable energy development has the potential to create significant community benefits, as well as contributing to Shetland's wider sustainable economic development.

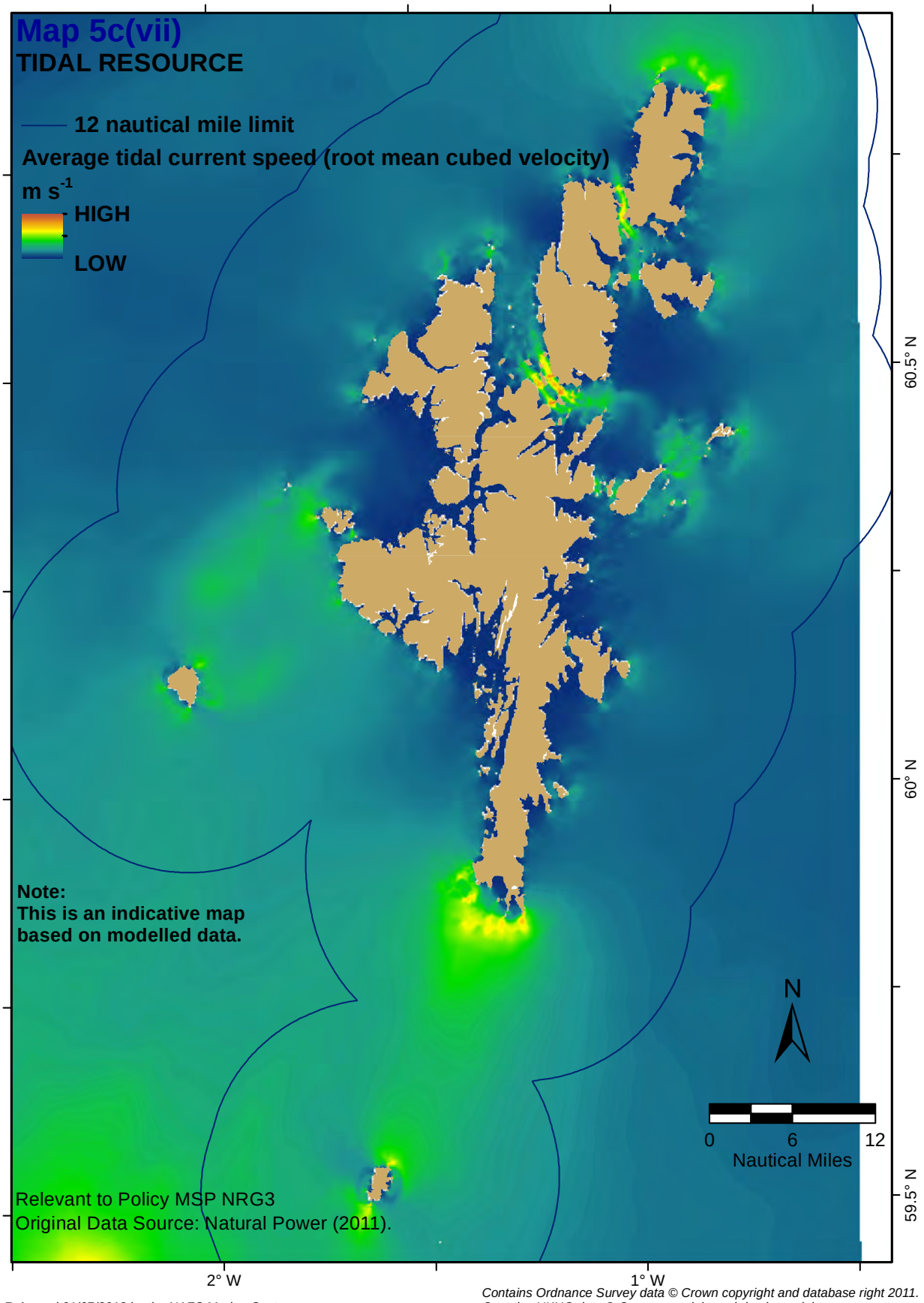
Despite all the obvious advantages of renewable energy, it is also important to ensure that the Shetland environment, existing industries and the quality of life of its residents are not compromised. It would therefore be beneficial, at the early stages of the project design, for the developer to engage with Scottish Natural Heritage, local industry (in particular the fishing, aquaculture and marine renewables working group), and the local community.

Key legislative requirements and consultees

- Please refer to **Appendix A** for Checklist of Legislative Requirements and **Appendix B** for Key Consultees

Further Information

- **Regional Locational Guidance for Wave and Tidal Energy in the Shetland Islands, 2012**
- **Shetland Islands Council's Local Development Plan**
- **Draft Sectoral Marine Plans for Offshore Renewable Energy in Scottish Waters: Consultation Paper**
- **Low Carbon Scotland-meeting the emissions reduction targets 2013-2027**
- **Department of Energy and Climate Change. UK Renewable Energy Roadmap**
- **Marine Scotland - Marine Energy**
- **SNH - marine renewables**
- **UK Marine Policy Statement**
- **Scottish Planning Policy** (land-based infrastructure)
- **Marine Scotland Licensing and Consents Manual Covering Marine Renewables and Offshore Wind Energy Development**
- **Maritime and Coastguard Agency**
- **European Marine Energy Centre**
- **Shetland Renewable Energy Forum**
- **Wave and tidal Consenting Position Paper- Marine Mammal Impacts**
- **Wave and tidal Consenting Position Paper- Ornithological Impacts**



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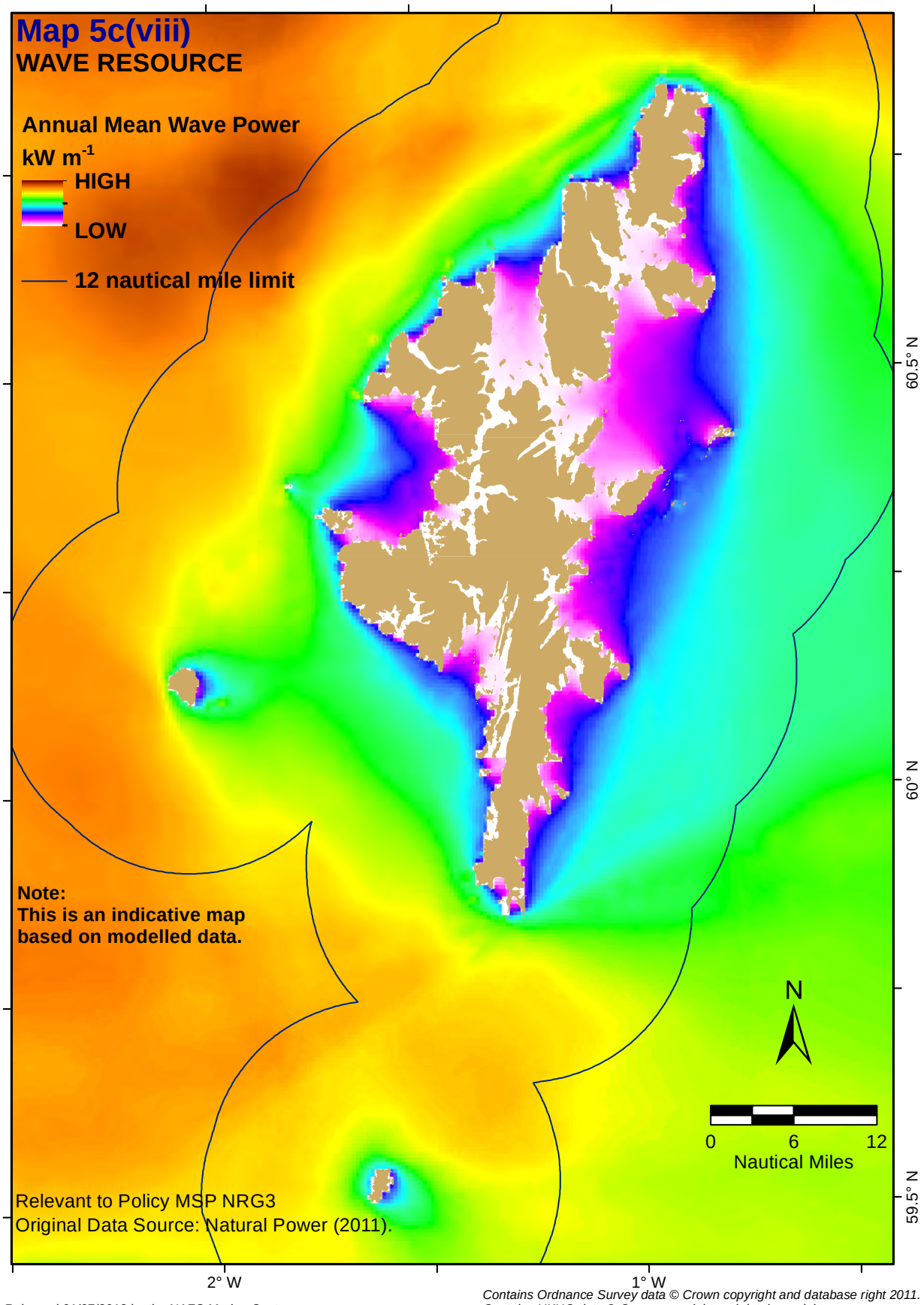

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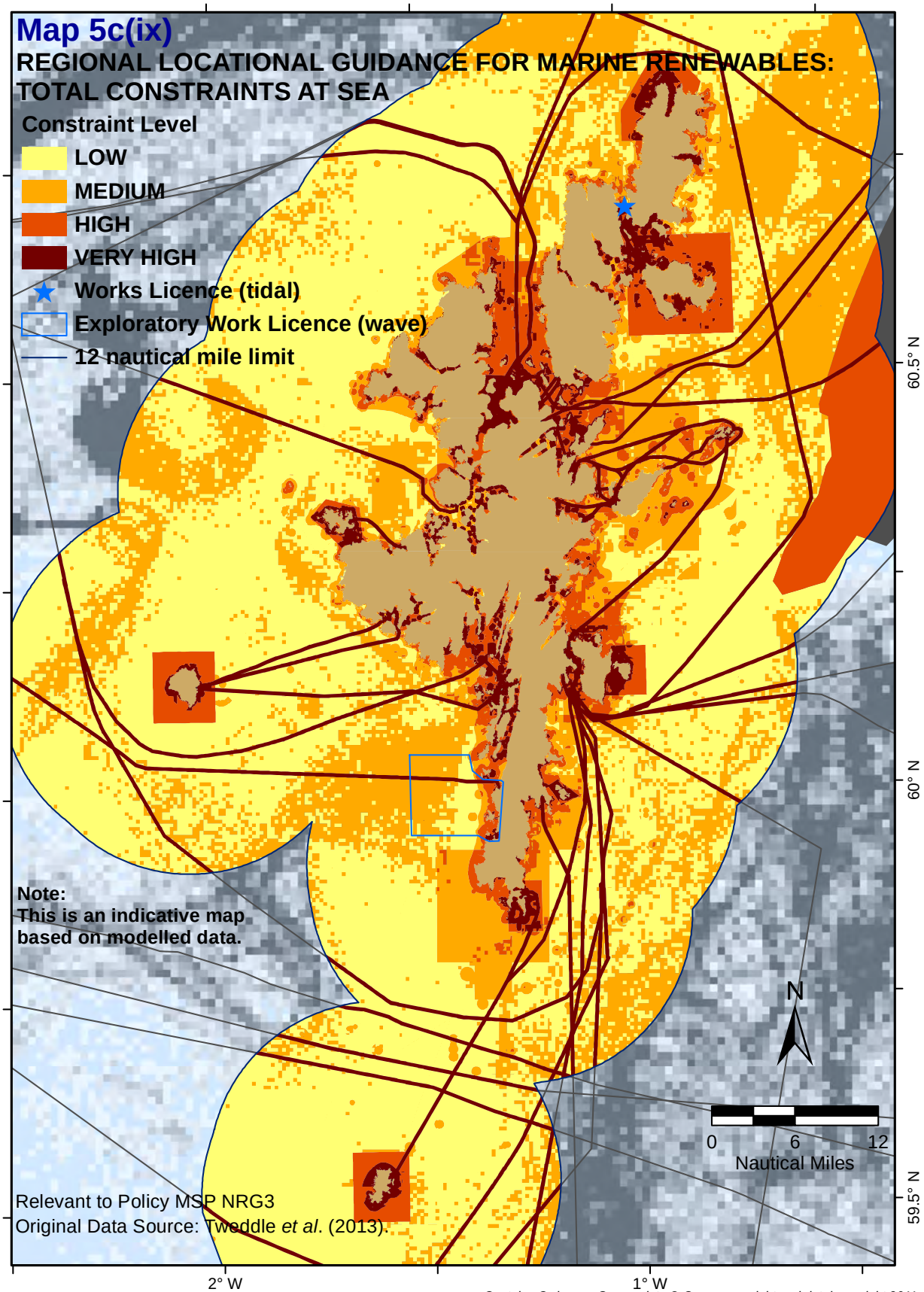
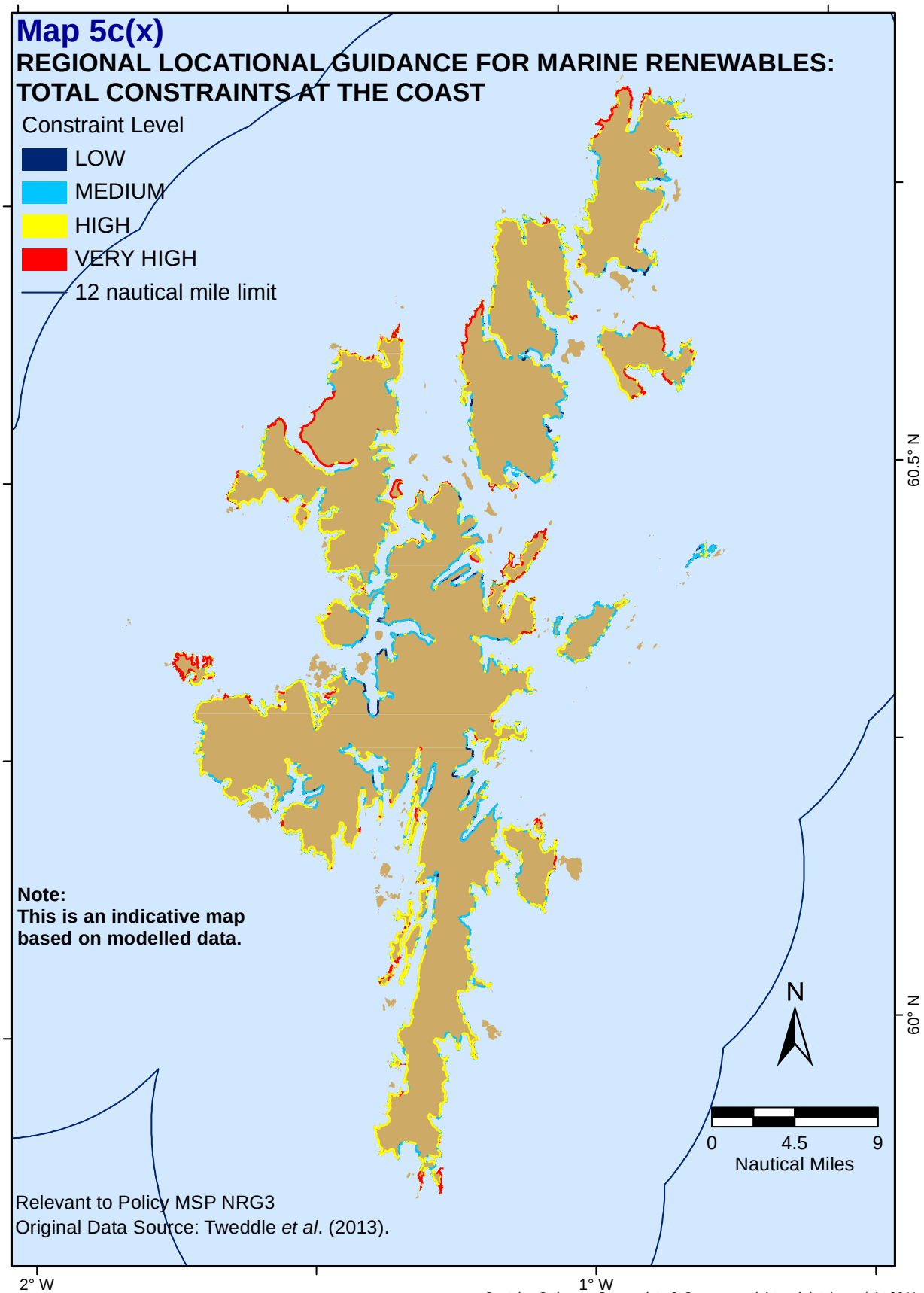


Mapped 01/07/2013 by the NAFC Marine Centre.

Map 5c(x)

REGIONAL LOCATIONAL GUIDANCE FOR MARINE RENEWABLES: TOTAL CONSTRAINTS AT THE COAST



Relevant to Policy MSP NRG3

Original Data Source: Tweddle *et al*. (2013).

Released 01/07/2013 by the NAFC Marine Centre.

Marine Aggregate Extraction

Marine aggregate extraction is the process of taking sand, gravel and shingle from the seabed for use as construction aggregate (principally for concrete production), or for providing sand and gravel for land reclamation. Traditionally the industry has been very small in Shetland, and Scotland in general, due to an adequate land supply and lack of suitable and easily accessible resources on the seabed.

The Crown Estate Commissioners own the mineral rights to the seabed extending to the edge of the UK continental shelf, and issue agreements for non-exclusive sampling and commercial aggregate extraction. The planning, licensing and consenting process is the responsibility of Scottish Government, who, through a consultation process, determines whether an area can be used for aggregate extraction on the grounds of its potential environmental impact.

Shetland Islands Council also licence extraction of sand, gravel and shingle and coastal quarrying under the ZCC Act and license dredging below MHWS in all areas except the Lerwick Harbour area (under the jurisdiction of the Lerwick Port Authority).

Policy MSP EX1:
Extraction of Sand, Gravel and Shingle

Proposals for the extraction of sand, gravel or shingle from beaches and dunes and below the Mean High Water Spring (MHWS), including coastal quarrying, will be considered favourably, where the application has:

- ***a) complied with all policies included in Policy Framework Section 5(a) and 5(b) and Policy MSP DEV1;***
- ***b) provided a description of the alternatives that have been considered. This should include:***
  - ***i. alternative sources (both within and outwith Shetland - bearing in mind the most sustainable option may actually be sourced material from outwith Shetland);***
  - ***ii. alternative materials such as recyclate or secondary aggregate;***
  - ***iii. using dredged material; and***
  - ***iv. doing nothing;***
- ***c) detailed how sand/gravel extraction is an essential part of the proposed project;***
- ***d) provided details of the works (ancillary equipment, storage, access, use of vehicles etc); and***
- ***e) where an EIA is required for the proposed dredging operation it should include an assessment of the physical effects of the operation and its implications for coastal erosion.***

Justification

The aim of this policy is to protect the seabed and coastline from damaging extraction. The extraction of marine aggregate primarily impacts the seabed,

on bottom substrata and associated benthic communities that burrow below the surface of the deposits, sometimes to depths of more than 10 cm. Physical disturbances caused by dredging activities generally involves either the generation of noise, which can interrupt nesting/breeding activities, or damage to critical habitat.

Sand, gravel or shingle extraction can have impacts well away from the extraction site if it interferes with the movement of sediment along the coastline - very small changes to beach composition can lead to knock on effects and flooding risk.

The quarrying of active beach material reduces the sedimentary store of the donor beach, which in turn reduces its capacity to respond to storm events. Research into sediment supply on open beaches suggests that a very minor fall in lateral sediment supply e.g. 0.1% fall in sediment from adjacent sections of beach would result in rates of beach erosion comparable to a 0.5m increase in mean sea level.

Given the sea level changes experienced since the last ice age, Shetland has experienced rising sea levels for the last 13,000 years. This has a profound effect on the coastline and the location of sediment stores. Unlike much of mainland Scotland, which has glacially derived sediments (known as fluvi-glacial sediments) held in river terraces and other features, Shetland's fluvi-glacial sediments are below sea level. This combined with the thousands of years of submergence mean that Shetland's coastline has rolled back on itself, leaving very little of the 'old' coastal zone, where these sediments would remain. This means that the sediment stores at the coast of Shetland, which currently provide a 'natural coastal defence' role, are limited, and unlikely to be replaced.

Key legislative requirements and consultees

- Please refer to **Appendix A** for Checklist of Legislative Requirements and **Appendix B** for Key Consultees

Further Information

- **Zetland County Council Act 1974**
- **UK Marine Policy Statement**
- **Ware, S.J. & Kenny, A.J. 2011. Guidelines for the Conduct of Benthic Studies at Marine Aggregate Extraction Sites (2nd Edition). Marine Aggregate Levy Sustainability Fund, 80 pp.**

West Sandwick beach, Yell — Image courtesy of Promote Shetland

Tourism

The special qualities the Shetland Islands provide as a tourist destination are primarily its large areas of unspoilt wilderness, its potential for marine recreation, and its cultural and environmental assets. The mixture of formal and informal activities organised by individuals, clubs or commercial ventures takes advantage of some of the most attractive coastal scenery and most demanding marine conditions in Europe. As an island community, Shetland has always relied heavily on the sea; as a result it has been well looked after and the facilities available for recreational users and visiting boats are excellent. Clean, healthy seas are fundamental to a successful marine tourism and recreation industry in Shetland.

Tourist activities and leisure facilities around the coast of the Shetland Islands provide the opportunity for a wide range of commercial ventures. The diversity of tourism assets and opportunities are included on Map 5c(xi).

Marine recreation is also a tourism asset and includes: SCUBA diving, sea-kayaking, sailing, yacht events, fishing / sea angling, and coasteering, as shown in Map 5b(xxiii).

Marinas and piers often form the heart of Shetland's districts: there are visitor berths at most of the 24 marinas, and the community enjoys 325 points of access to the shore in the form of jetties, piers and slipways. Yachting also takes prominence: there are 17 regattas held every year, in addition to the Round Foula Race, the Lerwick to Skerries Race and the international Bergen-Shetland Races. All these activities and tourism attractions can generate income for the local economy. Shore access points are shown in Map 5c(xii). Tourism is worth approximately £18-20m[31] to the Shetland economy each year, employing 845 FTE. It is considered that there is significant scope for growth. The Shetland Tourism Association and Promote Shetland effectively

Cruise liner visiting Lerwick
Image courtesy of Ian Napier

Fair Isle knitters bartering traditional Fair Isle keps with crew of Tall Ship 'Sorlandet' July, 2011.
Image courtesy of Elena Mera Long

[31] Source: Shetland Employment Survey, 2011. Economic Development Unit, Shetland Islands Council. Note: industries include accommodation, catering, transportation, business services and retail. Tourism value is based on the total visitor spend.

manage existing and new opportunities. They also play an important role in promoting investment that encourages the creation of tourist facilities around appropriate attractions and activities, both on and offshore. Local cultural facilities, such as the Shetland Museum and Archives, have also been developed to attract visitors all year round, which is important given that some marine activities will of necessity be restricted by the weather and times of the year.

Developments associated with water sport uses, such as slipways and marinas, require a works licence from Shetland Islands Council, or from Lerwick Port Authority for projects within Lerwick Harbour, and a marine licence from Marine Scotland. It is the general intention of Shetland Islands Council to conserve the character of the coast and to protect it, and its surroundings, from development which may be detrimental to this character.

Policy MSP TR1:
Tourism and Leisure Developments

Proposals for marine-related tourism and leisure development that promote employment opportunities, community benefits and rural diversification in a sustainable manner will be considered favourably where they comply with all policies included in Policy Framework Section 5(a) and 5(b) and Policy MSP DEV1.

The tourism assets are shown in Map 5c(xi). Marine recreation areas are shown in Map 5b(xxiii) and shore access points are shown in Map 5c(xii).

It is strongly advised that developers and consenting authorities engage with local tourism stakeholders, tourism destination management organisations, water based sports organisations, heritage and environmental management bodies and other marine and coastal users before decisions are taken.

Justification

Shetland's economy is becoming increasingly reliant on its service sector, and tourism has the greatest potential for growth in this sector. The purpose of this

Guided tours at Noss
Image courtesy of Shetland Amenity Trust

Yachts in Lerwick Harbour
Image courtesy of Promote Shetland

policy is to increase the present level of tourism in Shetland, without damaging the resource on which it is based. Clean, safe and healthy seas are fundamental to a successful marine tourism and leisure industry in Shetland.

Key legislative requirements and consultees

- Please refer to **Appendix A** for Checklist of Legislative Requirements and **Appendix B** for Key Consultees

Further Information

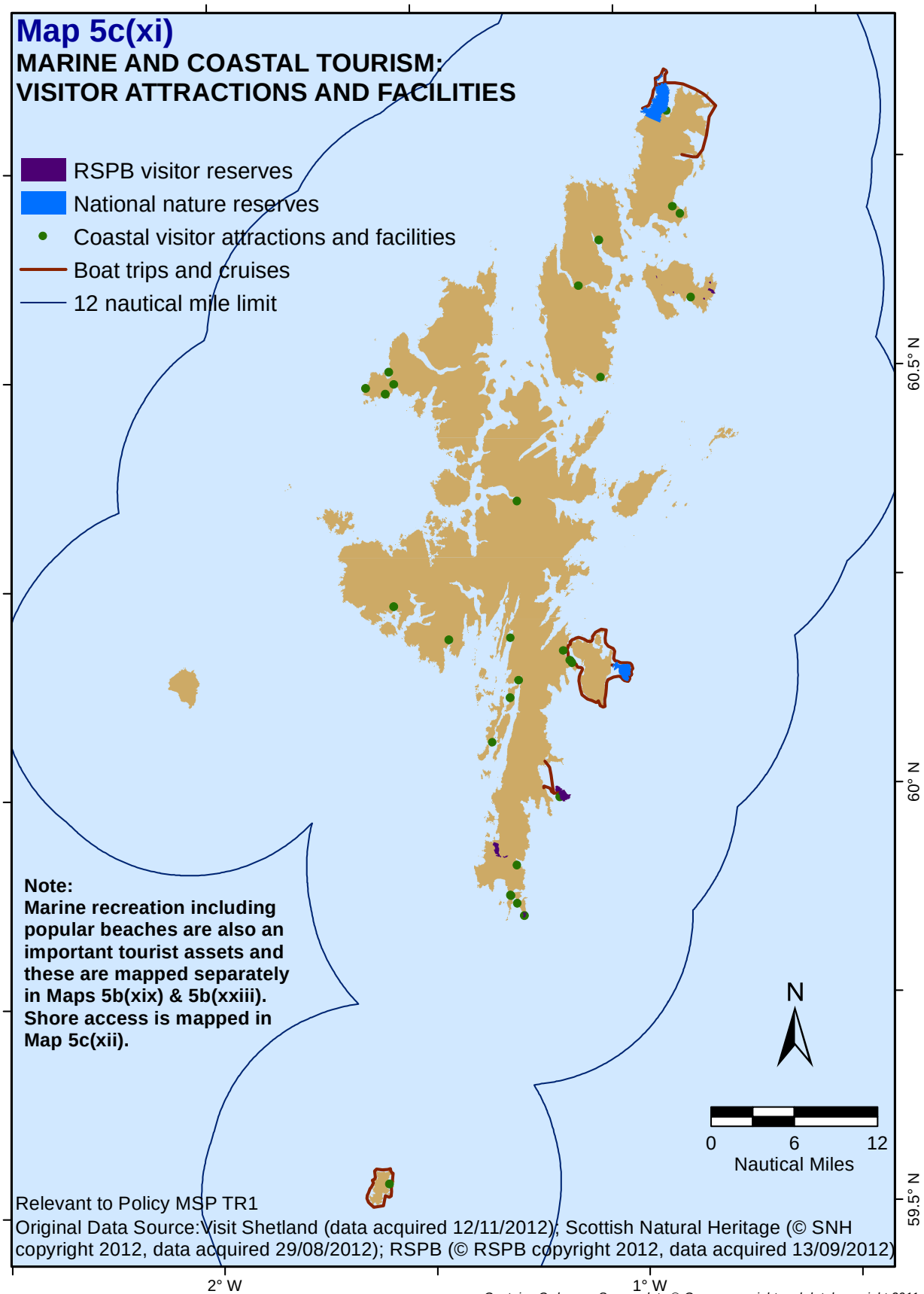
- **UK Marine Policy Statement**
- **Scottish Planning Policy**
- **Shetland Islands Council's Local Development Plan**
- **Promote Shetland - Tourism Information**
- **Shetland Museum and Archives**
- **Scottish Marine Wildlife Watching Code**
- **Guidance Notes for Divers and Archaeologists on the Protection of Wrecks Act, 1973**

Seabirds and Seals tour
Image courtesy of Ian Napier

Cliffs of Hillswick
Image courtesy of Promote Shetland

Map 5c(xi)

MARINE AND COASTAL TOURISM: VISITOR ATTRACTIONS AND FACILITIES



Note:
Marine recreation including popular beaches are also an important tourist assets and these are mapped separately in Maps 5b(xix) & 5b(xxiii). Shore access is mapped in Map 5c(xii).

Relevant to Policy MSP TR1

Original Data Source: Visit Shetland (data acquired 12/11/2012); Scottish Natural Heritage (© SNH copyright 2012, data acquired 29/08/2012); RSPB (© RSPB copyright 2012, data acquired 13/09/2012)

Released 01/07/2013 by the NAFC Marine Centre.

Infrastructure & Services

The Scottish Government is committed to enhancing existing opportunities and developing new ones for waterborne activities around the coast, including maintenance or development of infrastructure, such as slipways, piers, moorings, marinas and anchorages, especially in peripheral coastal areas. Ensuring coastal access through the provision of slipways and coastal footpaths could also encourage economic growth, and highlights the importance of considering the links between marine and terrestrial plans.

Infrastructure: Shore Access and Moorings

Shore access development is defined here as piers, jetties, slipways, marinas, and their access tracks identified on Map 5c(xii).

There are very few single mooring agreements in Shetland, most boats are kept in small community marinas for which the Crown Estate charge £2 per berth per year.

Policy MSP SA1:
Shore Access and Moorings

Shore access developments and proposals for moorings will be considered favourably where they have:

a) complied with all policies included in Policy Framework Section 5(a) and 5(b) and Policy MSP DEV1;
b) detailed the level of impact of construction and increased access and traffic both on land and at sea and mitigation measures required to ensure the development is acceptable;
c) demonstrated the need for their facility of moorings;
d) clearly demonstrated the implications for existing users and planned future use; and
e) adequately show that there will not be an increase in the likelihood of erosion or tidal inundation.

Shore development proposals are encouraged where activity already exists. The mooring of individual boats is encouraged at designated marinas and ports.

Shore access is shown in Map 5c(xii).

Pier at West Burrafirth
Image courtesy of Promote Shetland

Marina at Out Skerries
Image courtesy of Promote Shetland

Justification

The purpose of this policy is to protect the character of the coastal zone from inappropriate development, and to direct development requiring a coastal location to areas with existing development, or sites where the character of the coastal zone could accommodate such development. Developers should be aware of the need for compliance with the Shetland Local Development Plan policies.

Sporadically placed moorings can hinder a number of other users in the performance of their functions. In addition the cumulative impact of numerous mooring chains which can do substantial damage over a wide area to marine habitats. For this reason the mooring of boats is encouraged at designated ports and marinas, which are designed and sited to integrate with the landscape, and complement the character and scale of the surrounding area.

Proposals should consider the potential impacts of climate change. Globally, it is likely that sea levels will rise significantly over the next hundred years, and that storms will become more severe. Around Shetland a sea level rise of 0.4 to 0.6 metres is predicted. This will have consequences for all existing and proposed jetties, piers and marinas.

Key legislative requirements and consultees

- Please refer to **Appendix A** for Checklist of Legislative Requirements and **Appendix B** for Key Consultees

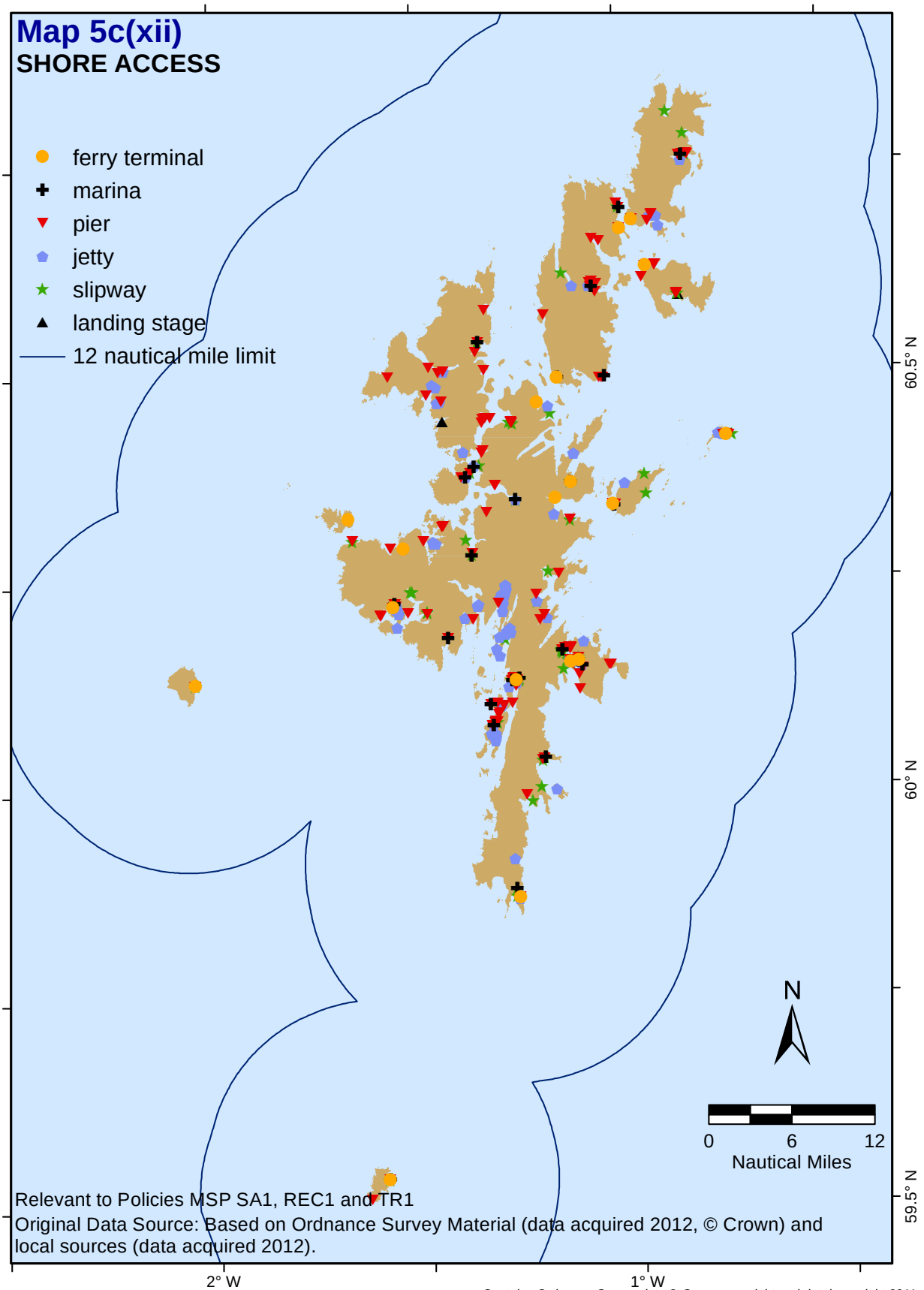
Further Information

- **UK Marine Policy Statement**
- **Scottish Planning Policy**
- **Shetland Islands Council's Local Development Plan**
- **Zetland County Council Act 1974**

Gutcher Pier, Yell
Image courtesy of Promote Shetland

Hamnavoe Marina
Image courtesy of Christina Kelly

Map 5c(xii)
SHORE ACCESS



Relevant to Policies MSP SA1, REC1 and TR1

Original Data Source: Based on Ordnance Survey Material (data acquired 2012, © Crown) and local sources (data acquired 2012).

Released 01/07/2013 by the NAFC Marine Centre.

Infrastructure: Cables and Pipelines

A number of oil and gas pipelines and telecommunication and power submarine cables exist within the plan area, which form a vital part of the Islands' socio-economic infrastructure. Power and telecommunication cables provide lifeline services to communities in most of the islands around Shetland. Similarly, oil and gas extraction has been a significant contribution to the Shetland economy, and this will continue for at least another 30 years.

The consenting of submarine cables and oil and gas pipelines between MHWS and 3 nautical miles is governed by Marine Scotland on behalf of the Scottish Government. A local works licence is also required from Shetland Islands Council from the MHWS out to the 12 nautical mile limit.

Policy MSP CBP1:
Placement of Telecommunication, Electricity, Submarine Cables and Oil and Gas Pipelines

The laying of communication and power cables and oil and gas pipelines will be considered favourably where they have:

a) complied with all policies included in Policy Framework Section 5(a) and 5(b) and Policy MSP DEV1; and

b) taken account of the implications for landing points including any seasonal sensitivities and impacts to existing land use.

Where possible, cables and pipelines should use existing routes and landing points. New cables and pipelines should have landing points in existing developed areas and have regard to Policy MSP ACBP1: Avoidance of Cables and Pipelines (section 5a), shown in Map 5a(v).

Justification

The purpose of this policy is to ensure developers explore the range of options open to them in laying cables and pipelines. There are a variety of methods and innovative ways for a developer to engineer the route for the placement of cables and pipelines. In all cases the best environmental option, notwithstanding safety considerations, will be favoured.

Key legislative requirements and consultees

- Please refer to **Appendix A** for Checklist of Legislative Requirements and **Appendix B** for Key Consultees

Further Information

- **Shetland Islands Council's Local Development Plan**
- **Shetland Islands Council's Supplementary Guidance Works Licence Policy**
- **Zetland County Council Act 1974**
- **UK Marine Policy Statement 2011**
- **Scottish Planning Policy**
- Submarine Cables Act, 1885

- **UNCLOS (United Nations Convention on the Law of the Sea), 1982**
- **Telecommunications Act, 1984**
- **Electricity Act, 1989**
- **Communications Act, 2003**
- **Subsea Cables UK Guidelines**

Policy MSP CBP2:
Placement of New Domestic and Trade Wastewater Pipelines

There will be a general presumption against the laying of new wastewater pipelines from the land entering the sea. These will only be permitted where:

a) it has complied with all policies included in Policy Framework Section 5(a) and 5(b) and Policy MSP DEV1;

b) a public wastewater system is not already present; and

c) a suitable soakaway is unachievable.

In situations where a new pipeline is acceptable, the proposal will then be considered favourably where they have demonstrated that:

d) the seaward end of the pipe is sited well below the MLWS to the satisfaction of the consenting authority and does not impact on any other marine structure or development.

Solitaire, pipe laying vessel
Image courtesy of Sheila Keith

Waste pipe, Scalloway
Image courtesy of Christina Kelly

Solitaire, pipe laying vessel
Image courtesy of Simon Allan

Justification
Current SIC policy on the placement of wastewater pipes stipulates that they extend to below the tide level at Mean Low Water Spring (MLWS) and comply with dilution requirements. As part of the authorisation process, SEPA assesses the dilution requirement for effective effluent dispersal. Although there are no specific buffer zones placed around aquaculture sites, discharges directly to or impinging on Identified Waters may require further mitigation.

The aim of this policy is to ensure that wastewater arrangements, where permitted, are properly sited and have no public health or pollution impacts on the surrounding area, and in areas served by wastewater schemes, new developments are connected to the existing system. This policy will also ensure that infrastructure is in place and maintained for necessary disposal activity to be carried out in compliance with EU legislative requirements[32].

Key legislative requirements and consultees
- Please refer to **Appendix A** for Checklist of Legislative Requirements and **Appendix B** for Key Consultees

Further Information
- **UK Marine Policy Statement 2011**
- **Scottish Planning Policy**
- **Shetland Islands Council's Supplementary Guidance Works Licence Policy**
- **Shetland Islands Council's Local Development Plan**
- **Water Environment (Controlled Activities) (Scotland) Regulations 2011 (CAR)**
- **SEPA - water regulations**

Infrastructure: Commercial Moorings for Weather and Radar Masts

Commercial moorings are structures attached to the seabed which can hold: individual boats, weather and radar masts, and buoys. Lerwick Port Authority (LPA) or Shetland Islands Council (SIC) receives works licence applications for commercial boats, weather and radar masts, and buoys. It is strongly advised that any applicant for these activities consult with Marine Scotland as the consenting authority for marine licences, and the Crown Estate for seabed leases.

Policy MSP MO1:
Moorings
Proposals for commercial mooring structures will only be permitted where:
a) they comply with all policies included in Policy Framework Section 5(a) and 5(b) and Policy MSP DEV1;
b) the need has been demonstrated;

[32]Water Framework Directive, Marine Strategy Framework Directive, Urban Wastewater Treatment Directive, Shellfish Waters Directive

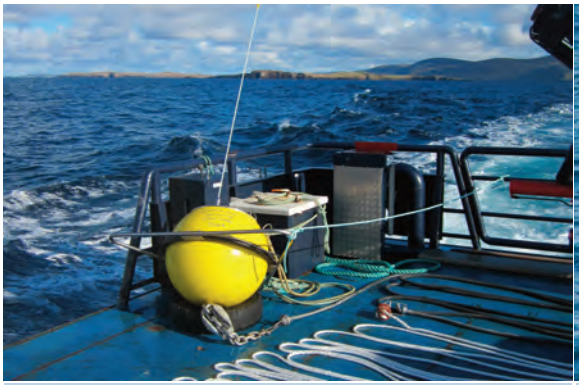
c) no other practical alternatives exist;
d) other users have been taken into account; and
e) the appropriate regulatory body has been consulted i.e. mooring within a Natura 2000 site requires contact with SNH.

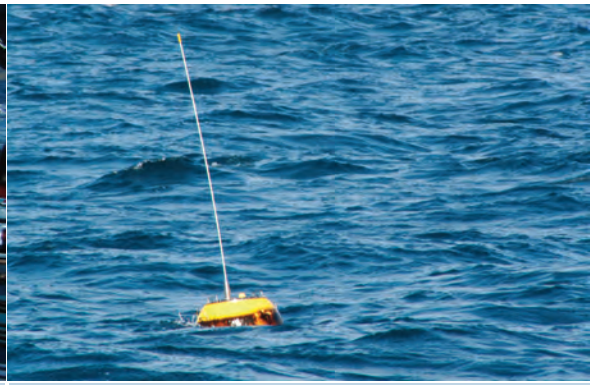
Justification
Sporadically placed moorings hinder a number of other users in the performance of their functions. This, combined with the cumulative impact of numerous mooring chains, can do substantial damage over a wide area.

Key legislative requirements and consultees
- Please refer to **Appendix A** for Checklist of Legislative Requirements and **Appendix B** for Key Consultees

Further Information
- **UK Marine Policy Statement 2011**
- **Shetland Islands Council's Supplementary Guidance Works Licence Policy**
- **Shetland Islands Council's Supplementary Guidance Aquaculture Policy**
- **Shetland Islands Council's Local Development Plan**

Marine Transport
Marine ports and shipping play an important role in the activities taking place within the marine environment. Transport by ship includes the transport of both freight and passengers, whether for commercial or recreational purposes. Marine transport is supported by a diverse range of ancillary activities including shipbuilding and repair, the construction of ports and marinas, and activities associated with navigation including dredging. Marine transport is a significant contributor to the national and regional economies, acting as a major intermediary for Scottish and Shetland imports and exports. Ports and harbours also provide key transport infrastructure between land and sea.


Waverider buoy measuring wave height and frequency
Image courtesy of Alan Bourhill


Waverider at sea, Colsay
Image courtesy of Richard Shelmerdine

In Shetland the sea transport industry[33] alone is worth £18.4 million and creates 112 jobs (FTE) while the Shetland Islands ports and harbours industry[34] is worth £23.4 million and employs 149 people (FTE). Marine transport in Shetland is therefore very important in both social and economic terms. The importance of international trade through Shetland's ports is also important for sustaining modern island living, in terms of distribution of raw materials such as coal, timber and oil, as well as other goods not available naturally or locally on the Islands.

Ports and harbours also play a significant role in domestic freight and passenger travel, by providing infrastructure and facilities to support lifeline ferry services to island communities. Their role is crucial not only in supporting the projected future growth of freight traffic, but also supporting more fragile and remote communities.

Ports and harbours in Shetland support the oil and gas industry, but are also essential in supporting emerging industries such as renewable energy development, and in mitigating the effects of climate change by facilitating the increased movement of freight by sea rather than road.

The positive impacts from port development, including job creation and benefits to local fishermen in addition to wider local, regional or national economic benefits, are acknowledged in the SIMSP. Potential adverse effects from the development of new ports are similar to those from any coastal development and will primarily result from the construction phase, although associated impacts, such as increases in shipping traffic and maintenance dredging, can cause impacts during the operational phase. These impacts will also be taken into consideration to ensure that the social and economic benefits and environmental impacts are taken into account for any port or harbour development, and are considered in line with sustainable development principles.

Future Ferry/ Harbour Developments

The Scottish Government's National Marine Plan seeks to maintain efficient and economically viable vessel movements within and around Scotland's marine area. The National Marine Plan also supports essential maritime transport links to island and remote mainland communities. The SIMSP will facilitate these objectives by providing up-to-date information on ferry links and include polices supporting the sustainable development of ferry links and associated infrastructure. The main shipping and ferry routes are included on Map 5a(iii).

[33] Includes boat tour operators and charter companies
[34] SIC Ports and Harbours and Lerwick Port Authority

Policy MSP TRANS1:
Port and Harbour-related Development

Proposals for port and harbour-related development will be considered favourably where it can be demonstrated that:

a) the development complies with all policies included in Policy Framework Section 5(a) and 5(b) and Policy MSP DEV1; and

b) the potential individual and cumulative effects of the proposed development have been addressed.

In making a decision on a proposal for a large port development, the consenting authority should have regard to the extant National Planning Framework which identifies known large-scale port developments. Individual decisions should also take account of cumulative environmental, social and economic effects, and be in compliance with international maritime law.

Policy MSP TRANS2:
Future Fixed Links / Ferry Terminals

The construction of fixed link developments and new ferry terminals will be considered favourably where they have:

a) complied with all policies included in Policy Framework Section (a) and 5(b) and Policy MSP DEV1; and

b) the potential individual and cumulative effects of the proposed development have been addressed.

Justification

Positive impacts from port and harbour-related development include job creation and benefits to local fishermen, as well to national, regional or local economic benefits. Negative impacts will vary depending on the local conditions, ecosystems and other factors. Impacts might include: impacts to the local hydrodynamic and sedimentary regime; loss of intertidal habitats; disturbance of historical contamination during capital works; impacts on migratory and juvenile fish; impacts on important bird populations; and impacts on heritage assets. Port development may also result in an increase in shipping. When considering any potential increase in shipping activity decision-makers should ensure that the social and economic benefits and environmental impacts are taken into account, and that impacts are considered in line with sustainable development principles.

Whilst consideration is currently being given to the replacement of one or more of the ferry services with fixed links, the inter-island ferry service will continue to be the main lifeline link to the isles. Ferry routes have been included on Map 5a(iii); however, it is most likely that any future fixed links will be located close to the shortest crossing points. The aim of policy MSP TRANS2 is to make developers and users of the marine and coast aware of the possibility of fixed link developments.

Key legislative requirements and consultees

- Please refer to **Appendix A** for Checklist of Legislative Requirements and **Appendix B** for Key Consultees

Further Information

- **Shetland Islands Council's Local Development Plan**
- **UK Marine Policy Statement 2011**
- **Shetland Islands Council's Supplementary Guidance Works Licence Policy**
- **Scottish Planning Policy**
- **Shetland's Transport Strategy**
- **Transport Scotland - Ports and Harbours**
- **SEPA - water regulations**
- **Lerwick Port Authority**
- **National Planning Framework for Scotland**
- **Harbours Act, 1964**
- **Lerwick Harbour Act, 1994**
- **Pilotage Act 1987**

Scalloway Harbour Image courtesy of Promote Shetland

Dredging and Disposal

Dredging and the marine disposal of dredged material are activities necessary for the viability of the marine shipping industry of the Shetland Islands. Without adequate depths within harbours, shipping and trade would be severely restricted. Both dredging activity and the disposal of dredged material in the sea have the potential to cause long-term environmental impacts, affecting marine life, the fishing industry and other legitimate users of the sea. Sustainable management of the activity is needed to minimise potential harm.

The removal and disposal of marine dredged material at sea now requires a marine licence under the Marine (Scotland) Act, 2010. Shetland Islands Council can permit dredging under the ZCC Act through issuing a dredging licence in all areas except the Lerwick Harbour area (under the jurisdiction of the Lerwick Port Authority).

Some sea disposal operations are licensed annually as major ports require an annual maintenance dredge. Other ports undertake dredging operations when required, either to maintain channels or berths or in connection with construction works to upgrade or replace existing port facilities.

Policy MSP DD1:
Dredging and Disposal of Dredged Material

Proposals for dredging and the disposal of the dredged material will be considered favourably where they have:

a) complied with all polices included in Policy Framework Section 5(a) and 5(b) and Policy MSP DEV1;
b) used, where possible, recognised marine disposal sites;
c) demonstrated that any development proposal at the existing Ulsta or Samphrey disposal sites will have no adverse effects on the integrity of the Yell Sound Coast SAC;
d) detailed the level of impact from suspension of materials and disturbance to the seabed; and
e) demonstrated where a beneficial use for the disposal has been identified, such as beach nourishment.

Dredging and disposal areas area shown in Map 5c(xiii).

Justification

Most of the voes in Shetland used by large vessels are deep, and therefore have never required dredging. However, dredging has occurred in Lerwick and Scalloway harbours, as indicated on Map 5c(xiii).

The licensing authority works with applicants, Shetland Islands Council, SEPA, SNH and others to identify potential uses for the dredged material. The UK Marine Policy Statement 2011 requires the re-use, recycle or treatment of dredged waste over disposal, where there are no undue risks to either human health or the environment, or disproportionate costs. It should be noted that the disposal of dredging to land for beneficial use is also an option. Such

proposals need to be registered with SEPA under a waste management exemption. The Best Practicable Environmental Option Assessment* approach should be used to determine whether there are practicable alternatives to sediment disposal.

Key legislative requirements and consultees

- Please refer to **Appendix A** for Checklist of Legislative Requirements and **Appendix B** for Key Consultees

Further Information

- **Shetland Islands Council's Local Development Plan**
- **Zetland County Council Act 1974**
- **UK Marine Policy Statement**
- **Revised OSPAR Guidelines for the Management of Dredged Material**
- PIANC (2009) Dredged material as a resource: Options and constraints. PIANC Report No. 104, 54pp.
- **CEFAS** - Provide monitoring and advice on fisheries impacts of extraction activities with real time monitoring and modelling sediment plume density and dispersion for impact assessment before, during and after extraction.

***Best Practicable Environmental Option (BPEO)** assessment is a method for identifying the option that provides the "most environmental benefit" or "least environmental damage". It assesses the "performance" of different options in a range of criteria such as environmental impact, safety risk, technical feasibility and cost. It uses a combination of qualitative and quantitative assessments of the performance in each criterion, and a weighting of the relative influence or importance of the criteria, to derive an overall score or ranking of the options.
Source: Institute of Environment Management and Assessment

Capital and Maintenance Dredging

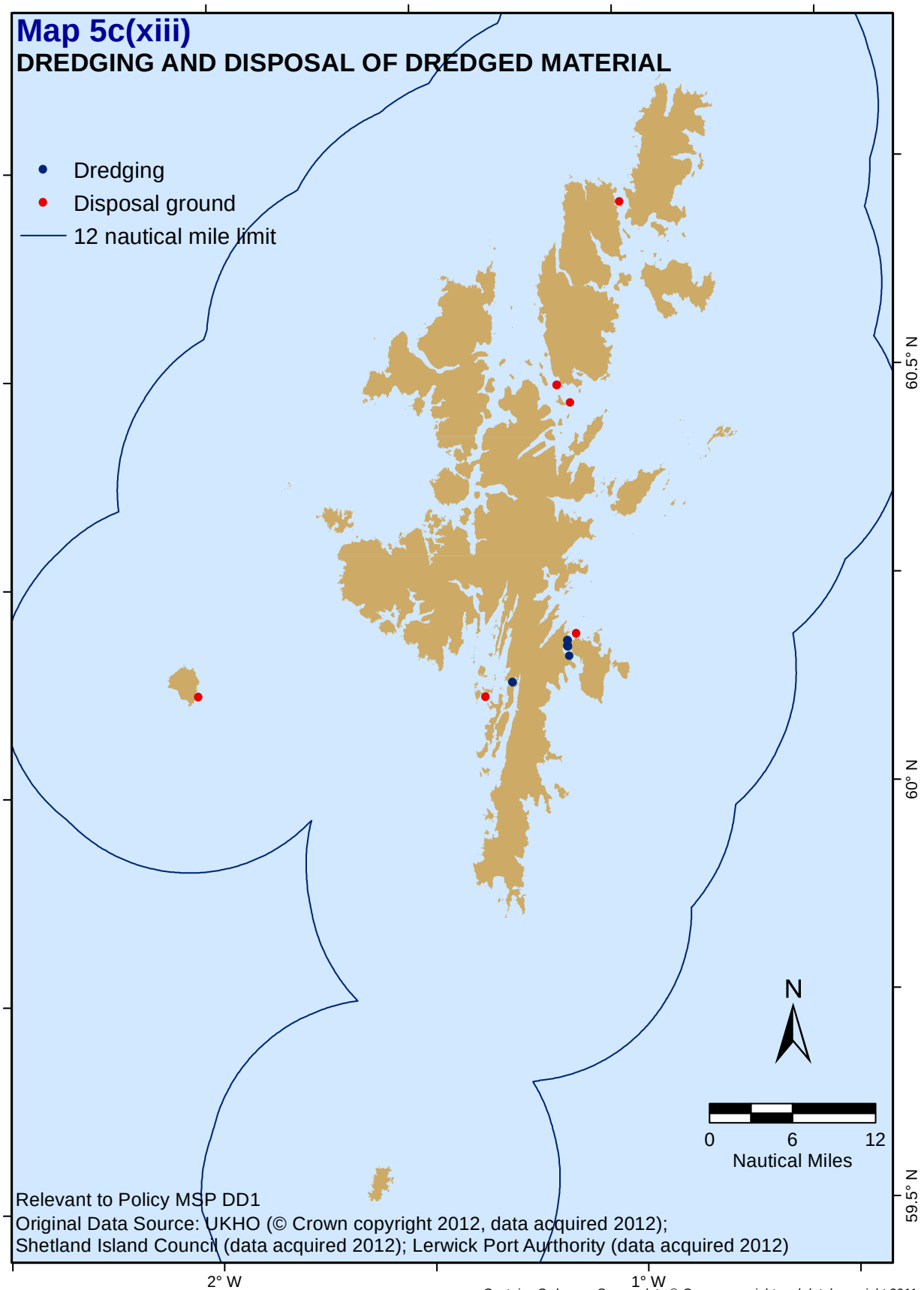
A distinction is made between capital and maintenance dredging. The initial dredging of a channel is usually referred to as 'capital dredging'. This should be in an area or down to a level (relative to Ordnance Datum) not previously dredged during the preceding 10 years. It is often permitted under the terms of the harbour legislation (the ZCC Act).

Subsequent dredging to keep the channel at its desired depth is usually termed 'maintenance dredging'. Maintenance dredged material is derived from an area where the level of the seabed to be achieved by the proposed dredging is not lower (relative to Ordnance Datum), than it has been at any time during the preceding 10 years, or from an area for which there is evidence that dredging has previously been undertaken to that level (or lower) during that period. Provision is normally included in the harbour legislation or in a Revision Order if one is sought.

In most circumstances, maintenance dredging in connection with a harbour will be exempt from requiring a Marine Licence. However, this exemption is subject to certain conditions and only applies to the dredging activity, not to the deposit of the dredged material which will require a Marine licence for at-sea disposal. However, an application should always be submitted to MS-LOT for assessment of the need for licensing.

Map 5c(xiii)

DREDGING AND DISPOSAL OF DREDGED MATERIAL



Relevant to Policy MSP DD1

Original Data Source: UKHO (© Crown copyright 2012, data acquired 2012);
Shetland Island Council (data acquired 2012); Lerwick Port Authority (data acquired 2012)

Released 01/07/2013 by the NAFC Marine Centre.

6 MONITORING AND REVIEW

Monitoring

The Strategic Environmental Assessment (SEA) has identified the need to introduce a number of monitoring regimes which will ensure the policies are delivered, and these are detailed in **Appendix G**. Approaches range from monitoring the number of applications refused consent or required to include mitigation measures to minimise adverse impacts , to the number of water bodies achieving 'good ecological status' (GES) as part of the Scotland River Basin Management Plan.

It should be noted however that overall there is an absence of specific targets at present due to the lack of previous monitoring undertaken and, linked to this, the limited availability of baseline data. As more data and information is collected as part of the on-going development of the SIMSP a benchmark can be created against which future change to both the condition and uses of the marine area, and the design and functioning of the governance system can be assessed. Performance measures including administrative indicators such as consenting times and number of objections to marine applications will also be monitored to determine if the SIMSP is helping to streamline the consenting process as well as helping to improve stakeholder engagement and reduce conflicts. This monitoring will ensure that the SIMSP continues to be relevant and responsive to changing circumstances, and assists in identifying what amendments to the SIMSP may be necessary.

Review

This is the fourth edition of the Shetland Islands' Marine Spatial Plan and it is intended to further grow, change, develop and gain status as it becomes increasingly relevant to the management of the marine environment around Shetland. This SIMSP will be updated to reflect changes that occur and ensures that it is kept up to date and remains relevant. Under S. 16 of the Marine Scotland Act, 2010, it is a requirement that Scottish Ministers must from time to time prepare and publish a report on the progress of a national or regional marine plan. The first report must be published within 5 years of when the marine plan was first adopted, with successive reports to be published at intervals of no more than 5 years following the date of publication of the previous report. This report will help to inform Scottish Ministers on whether or not to amend or replace the concerned marine plan. Legislation for Regional Marine Plans is pending and is expected to provide similar guidance for conducting regular reviews and reporting on progress.

Communication

The SIMSP is for everyone in Shetland. It is important that it is widely available and relevant. As the SIMSP and its supporting maps will be continually updated, most recent versions will be made available on the NAFC Marine Centre **website** and Shetland Islands Council's **website.** Paper copies can be requested from the NAFC Marine Centre in Shetland.

7 GLOSSARY

Activity: a current or future use that is covered by a public right of use (e.g. navigation) and/or does not require a statutory consent to utilise a defined area from a competent authority to proceed (e.g. a Works Licence, Planning Permission, CAR Authorisation).

Amenity: the physical and social features of settlements and countryside that contribute to creating a comfortable and desirable living environment.

Amnesic Shellfish Poisoning (ASP): Amnesic shellfish poisoning (ASP) is a human illness induced by consuming fish, bivalve molluscs, crustacea or gastropods that contain the algal toxin, Domoic Acid.

Appropriate Assessment (AA): The purpose of Appropriate Assessment is to ensure that protection of the integrity of European sites is a part of the planning process at a regional and local level. The requirement for Appropriate Assessment of plans or projects is outlined in Article 6(3) and (4) of the European Communities (1992) Council Directive 92/43/EEC on the conservation of natural habitats and of wild fauna and flora ("Habitats Directive").

Bathymetric (noun: Bathymetry): the depth of the seabed, analogous to topography (on land). A bathymetric reading or survey is therefore a measurement of the depth of the seabed. Such a survey is usually conducted acoustically.

Benthic (noun: benthos): the plants and animals which live on the seabed.

Biodiversity: the variety (within and between species) of living things from all sources (terrestrial, marine, aquatic).

Biological Records Centre: the core element of the Shetland Biological Records Centre (SBRC) is a comprehensive database containing up-to-date information about Shetland's wildlife. The information is available to everyone.

Biotope: a discrete physical habitat with its associated community of animals and plants.

Birds Directive: EC Directive 79/409/EEC on the Conservation of Wild Birds. This legislation was a response to increasing concern about the declines in Europe's wild bird populations resulting from pollution, loss of habitats as well as unsustainable use. The Directive recognises that habitat loss and degradation are the most serious threats to the conservation of wild birds. It therefore places great emphasis on the protection of habitats for endangered as well as migratory species (listed in Annex I), especially through the establishment of a coherent network of Special Protection Areas (SPAs)

comprising all the most suitable territories for these species.

BOCC (Birds Of Conservation Concern): bird species suffering decline in the European and global context. The Royal Society for the Protection of Birds (RSPB) have identified and classified these species by the rate of decline into a red list and an amber list.

Breeding area: a site used by one or more species mainly for the purpose of reproduction and birthing.

CAR (Controlled Activities Regulations): CAR (Controlled Activities Regulations) is an abbreviation for The Water (Controlled Activities) (Scotland) Regulations 2011. SEPA regulates the discharges to and abstraction from coastal waters under CAR.

Character: A combination of features which distinguish an area. These each include architectural styles, main uses, landscape type, etc. A proposal would be 'out of character' if it introduced features not in keeping with those which make up an area's existing character.

Coast Protection Act (CPA), 1949: protection of the coast against erosion and encroachment by the sea and management of foreshore.

Competent Authority: Under the Habitats Regulations a 'competent authority' is defined as anybody that has the power to undertake or give any consent, permission or other authorisation for a plan or project. Competent authorities include the Shetland Islands Council, Lerwick Port Authority, SEPA, Marine Scotland and the Northern Lighthouse Board.

Conservation: action(s) resulting in the preservation of the natural environment.

Cumulative: created by successive additions (for example of impacts).

The Dangerous Substances Directive (76/464/EEC): defines principles for the control of lists of substances ranging from those which are toxic, persistent and which bioaccumulate, to those which have "deleterious effect upon the aquatic environment". Some chemicals used within marine fish farming fall within the latter description.

Designated Sites: these are sites that are designated for their value for nature conservation or their landscape value.

Development: a use that requires a statutory consent to utilise a defined area from a competent authority to proceed. This can include new developments or alterations, extensions or changes in material use to existing developments that require a statutory consent.

Diarrhetic Shellfish Poisoning (DSP): Diarrhetic Shellfish Poisoning (DSP) is a gastrointestinal illness without neurologic manifestations caused by the consumption of contaminated shellfish.

Ecological balance: A stable balance in the numbers of each species in an ecosystem.

Ecosystem: structure, process, functions and interaction among organisms, including humans, and their non-living environment.
Ecosystem Approach: the integrated management of multiple human activities based on knowledge of ecosystem dynamics to achieve sustainable use of ecosystem resources and maintenance of ecosystem integrity. Managed within the ecological constraints on which the environment depends.

Ecosystem function / ecological processes: dynamic biological and physical processes, for example natural cycles, currents, sediment movements, nutrient cycling, community and trophic structures and migratory species movements.

Electricity Act, 1989: electricity generation including offshore wind, wave and tidal farms.

Environmental Impact Assessment (EIA): a study based on expert professional opinion which gives a detailed assessment of a particular development and its impact upon the social and physical environment of the surrounding area.

Fish Aggregating Device: A fish aggregating (or aggregation) device (FAD) is a man-made object used to attract ocean going pelagic fish. They usually consist of buoys or floats tethered to the ocean floor with concrete blocks.

Fishing Effort: Fishing effort limits restrict the size of the fleet that sets to sea, and the amount of time it can spend fishing. Fishing effort is calculated by multiplying the fishing capacity deployed by the period of time for which it is active. The EU uses two ways of measuring fishing capacity, one based on the size of the boat in gross tonnes, the other on the power of its engines in kilowatts. Effort limits are then set either as GT/days or KW/days. Fishing effort limits are important in preventing overfishing, and are therefore included in all multiannual plans that aim to recover depleted stocks.

Fully-functioning ecosystem: The protection and maintenance of the physical structures which support, and the biological communities or ecosystem composition which manage ecological functions. Even if we do not understand exactly how a marine or coastal ecosystem works, it is still important to keep all the parts in the system and to retain the energy, nutrient, and biotic flows within and between the various parts of the ecosystem.

Geographical Information Systems (GIS): a system for creating, storing, analysing and managing spatial data and associated attributes. Their main outputs are maps, called layers, but graphs and summary statistics can also be

produced (for example in calculating what % area is designated for conservation).
Geomorphology: the study of landforms (in this case the coastline), including their origin and evolution, and the processes that shape them.

Habitat: the environment in which a species lives at any stage in its life cycle.

Habitats Directive: in May 1992, the member states of the European Union adopted the 'Council Directive 92/43/EEC on the conservation of natural habitats and of wild fauna and flora'. The main aim of the Directive is to promote the maintenance of biodiversity and, in particular, it requires member states to work together to maintain or restore to favourable conservation status certain rare, threatened, or typical natural habitats and species. These are listed in Annex I and II respectively. One of the ways in which member states are expected to achieve this aim is through the designation and protection of a series of sites, known as Special Areas of Conservation (SACs).

Harbours Act (and Lerwick Harbour Act, 1994), 1964: the primary legislation under which harbour works are authorised.

Historic Scotland: the body responsible for safeguarding Scotland's built heritage.

Impact: a human disturbance which causes a change in a population's composition, abundance, or distribution. Examples of impacts include: effect of waste discharge on eelgrass and scouring of vegetation from boating activities in shallow water.

Imposex: Imposex is the development of male sexual characteristics (the formation of a vas deferens and growth of a penis) in female dog whelks. The common dog whelk, Nucella lapillus, is a marine snail. It is abundant on many rocky shores, where it feeds on barnacles. Imposex is caused by exposure to Tri-Butyl Tin (TBT).

Infrastructure: pipelines, cables, wrecks, archaeological remains, shore access, barges, pontoons, shellfish growing equipment, offshore renewable energy structures, weather and radar masts, buoys and anchorage.

Intertidal: the area of coast between the mean high water level and mean low water level.

Local Agenda 21: at the earth summit in Rio in 1992, the UK agreed to promote a programme of measures aimed at sustainable development. This programme is called Agenda 21. Shetland Islands Council is responsible for taking forward these programmes in Shetland with the involvement of the local community.

Local Biodiversity Action Plan (LBAP): a document for use by all kinds of organisations to help sustain biodiversity.

Local Development Plan: a detailed land-use planning document prepared by the Shetland Islands Council setting out specific policies and proposals for sustainable development.

Managed Realignment: one of several 'soft' engineering options available. In most cases it involves breaching an existing coastal defence, such as a sea wall or an embankment, and allowing the land behind to be flooded by the incoming tide. This land is then left to be colonised by saltmarsh vegetation. When established, the vegetation disperses wave energy during storm events, reduces erosion rates and provides an important habitat for coastal flora and fauna. If the newly breached area is backed by low-lying land, a new embankment is usually constructed beforehand on the landward side of the site to reduce the risk of flooding. Although a relatively new idea, it is widely recognised that managed realignment can reduce the costs of coastal defence whilst offering numerous environmental benefits.

Marine Protected Areas (MPAs): include Special Areas of Conservation (SACs), Special Protection Areas (SPAs), Sites of Special Scientific Interest (SSSIs) and Ramsar sites as well as new designated areas under the Marine (Scotland) Act 2010. Under the 2010 Act, Scottish Ministers may designate any area as a Nature Conservation MPA, a Demonstration and Research MPA or a Historic MPA.

Marine Scotland Act, 2010: The Marine (Scotland) Act 2010 applies to the inshore area in Scotland, and to some functions in the Scottish offshore area. The Marine (Scotland) Act received Royal Assent on 10 March 2010. It provides a framework for safeguarding the future of Scotland's seas. The 2010 Act will legislate for marine planning, licensing and conservation. The 2010 Act repealed Part II of the Coastal Protection Act 1949 only, Part I (coast protection) remains. The 2010 Act also subsumed Part II of the Food and Environment Protection Act 1985 i.e. that part relating to works and deposits.

Marine Stewardship Council (MSC): The Marine Stewardship Council's (MSC) fishery certification programme and seafood ecolabel recognise and reward sustainable fishing and seafood traceability. They ensure that MSC-labelled seafood comes from, and can be traced back to, a sustainable fishery.

MHWS (Mean High Water Spring): predicted high water heights of Spring Tide over a period of approximately 19 years.

National Scenic Areas (NSAs): areas that are nationally important for their landscape quality. There are stricter planning controls within NSAs and planning authorities have to take care that new development does not detract from the scenic quality of the area.

Nursery area: habitats providing shelter and food to marine fauna during the vulnerable, juvenile stages of life (for example eelgrass habitats are nurseries for many species of fish).

OSPAR: Convention for the Protection of the Marine Environment of the North-East Atlantic (Oslo and Paris Commissions)

Paralytic Shellfish Poisoning (PSP): Paralytic Shellfish Poisoning (PSP) is a serious illness caused by eating shellfish contaminated with algae that contains a toxin harmful to humans.

Planning Advice Notes (PANs): produced by the Scottish Government providing advice on good practice and other relevant information.

Precautionary Principle: A principle adopted by the UN Conference on the Environment and Development (1992) that in order to protect the environment, a precautionary approach should be widely applied, meaning that where there are threats of serious or irreversible damage to the environment, lack of full scientific certainty should not be used as a reason for postponing cost-effective measures to prevent environmental degradation. The precautionary principle permits a lower level of proof of harm to be used in policy-making whenever the consequences of waiting for higher levels of proof may be very costly and/or irreversible.

Priority Marine Feature (PMF): comprises habitats and species which are considered to be marine nature conservation priorities in Scottish waters.

Productivity: the rate at which radiant energy is used by producers to form organic substances as food for consumers.

Protect: to shield from harm.

Ramsar Sites: wetland areas of high ecological value. Designated under the Convention on Wetlands of International Importance.

Reef: subtidal and intertidal rocky outcrops supporting diverse assemblages of marine flora and fauna.

Saltmarsh: coastal wetland plant community dominated by herbs and low shrubs and located in the upper intertidal areas of the coast (often on the landward side). Saltmarsh areas are usually waterlogged and frequently flooded with saltwater by the tide. Saltmarsh assemblages may extend inland for several hundred kilometres and can contain other terrestrial salt tolerant plants.

Scottish Environment Protection Agency (SEPA): the public body responsible for environmental protection in Scotland. Its main aim is to provide an efficient and integrated environmental protection system for Scotland that

will both improve the environment and contribute to the Scottish Ministers' goal of sustainable development. Full details are available from www.sepa.org.uk

Scottish Natural Heritage (SNH): an independent body responsible to the First Minister whose task it is to secure the conservation and enhancement of Scotland's natural heritage. SNH aims to help people to enjoy Scotland's natural heritage, understand it more fully and use it wisely so that it can be sustained for future generations.

Scottish Planning Policy (SPP): is the statement of the Scottish Government policy on nationally important land use and other planning matters, supported where appropriate by a locational framework.

Seabird: aerial birds (such as Gannets) and swimming birds (such as Puffins) usually seen at, and deriving most or all of their food from, the sea.

Sites of Special Scientific Interest (SSSIs): areas of special interest by reason of their flora, fauna, geological or physiographical features. Notified under the Wildlife and Countryside Act, 1981.

Spawning area: habitats critical to the spawning stage of the reproductive cycle. Spawning areas are often geographically distinct from nursery areas; for example, Monkfish spawn in deeper waters but their larvae drift into sheltered coastal areas around Shetland.

Special Areas of Conservation (SACs): areas identified as supporting rare, endangered and vulnerable habitats or species. Designated under European Directive 92/43/EEC on the Conservation of Natural Habitats and of Wild Flora and Fauna (the 'Habitats Directive'). Together with SPAs they form the Natura 2000 network of protected sites across the European Community.

Special Protection Areas (SPAs): important habitats for rare, threatened or migratory birds. Classified under European Directive 79/409/EEC on the Conservation of Wild Birds, (the 'Birds Directive').

Strategic Environmental Assessment (SEA): the process of assessing policies, plans and programmes (rather than individual projects) for their environmental impacts.

Subtidal: benthic area from the low tide line to the seaward edge of the continental slope.

Sustainable Development: this means enabling development that meets today's needs without compromising the ability of future generations to meet their own needs. In other words, it means promoting better quality of life and better quality environments for ourselves and for our children and grandchildren. Sustainable development is a key aim of Shetland Islands Council and the UK Government.

Sustainable use: the use of components of biological diversity in a way and at a rate that does not lead to the long-term decline of biological diversity, thereby maintaining its potential to meet the needs and aspirations of present and future generations.

Telecommunications Act, 1984: affects the placement of subsea cables (including placing any buoy or seamark) and anything conflicting with its use.

Transport & Works Act, 1992: large works on land and at sea.

Tributyltin (TBT): is the active ingredient of many products that act as biocides against a broad range of organisms. It is primarily used as an antifoulant paint additive on ship and boat hulls, docks, fishnets, and buoys to discourage the growth of marine organisms such as barnacles, bacteria, mussels and algae. An EU ban on the presence of TBT-based antifoulings on ships hulls in EU ports came into effect on 1st January 2008.

Use: economic, recreational, social or cultural activities in the marine and coastal environment that may not be directly associated with development, and as such, may not be subject to regulation, for example, commercial and recreational fishing.

Wastewater: usually refers to the discharge of sewage, or effluent from a process.

Water Framework Directive (WFD): EC Directive 2000/60/EC. Requires member states to achieve good ecological status of all types of water body including coastal waters, transitional and lagoonal waters. Sets framework for integrated catchment management (which includes coastal waters out to 3 nautical miles offshore) requiring River Basin Management Plans.

The Water Environment and Water Services Act, 2003 (WEWS Act): transposes the Water Framework Directive into Scots law. The aim of WEWS is to protect the water environment whilst also supporting the social and economic interests of those who depend on it.

Wet Renewables: usually refers to the marine renewable energy industry and the devices they would employ to harness energy from tides and waves.

A APPENDIX - Checklist of Legislative Requirements

Principle Legislative Requirements	
Works Licence	**Examples of Marine Development**
Shetland Islands Council	All marine works within 12nm of Shetland Coast (excluding marine fish farming)
Lerwick Port Authority	All marine works within jurisdiction of Lerwick Port Authority (excluding marine fish farming)
Planning Permission	**Examples of Marine Development**
Shetland Islands Council	Aquaculture development (excluding seaweed cultivation and harvesting)
	Marine developments with a land-based element e.g. offshore renewable energy
Marine Licence	**Examples of Marine Development**
Marine Scotland	All marine developments within 12nm of Shetland Coast (excluding fish farming*)
	* Licence required: Mussel lines and Fish farm cages - potential hazards to navigation only
	*Licence required: Finfish farms - Discharge of sea lice treatments from wellboats
Seabed Lease Agreement	**Examples of Marine Development**
Crown Estate	Majority of marine developments e.g. aggregates, aquaculture, renewables, cables and pipelines etc.
CAR authorisation	**Examples of Marine Development**
SEPA	Discharging in water
	Abstracting water from water bodies
Pre-application consultation	**Examples of Marine Development**
Marine Scotland	Bridge, causeway or walkway construction over 50 metres in length
	Construction/refurbishment projects over 1000 sq. metres in extent below MHWS
	Cables crossing the intertidal boundary and are over 1 nautical mile (nm) in length
	Renewable energy projects where the footprint is over 1 hectare in extent and projects that increase the footprint of a renewable energy project over 1 hectare in extent
	Marinas where the enclosed water surface area exceeds 1000 sq metres and extensions to existing marinas that take the enclosed water surface area over that threshold
	Reclamation projects over 1 hectare in extent
Section 36 Consent	**Examples of Marine Development**
Marine Scotland	Offshore renewable energy development with a capacity greater than 1 megawatt

Disclaimer

This Appendix is intended for guidance purposes only and is not a legal interpretation of the Zetland County Council Act 1974; the Town and Country Planning (Scotland) Act 1997; or Marine Scotland Act, 2010. The onus remains with the applicant to ensure that any application for marine works/ development is in full accordance with the Shetland Islands Council's Local Development Plan and all other relevant legislative provisions. Please also refer to the Shetland Islands Council's **works licence application guidance notes** and **planning permission guidance notes** for the submission of a marine-related development application and Marine Scotland's marine licence **general guidance for applicants notes**. Please note it is strongly advised that developers consult with the appropriate consenting authorities as early as possible in the process to identify key stakeholders (including other marine users) and their relevant responsibilities.

Supplementary Legislative Requirements	
EIA	**Examples of Marine Development**
Shetland Islands Council	Oil and gas pipelines, harbour and port construction, marinas, intensive fish farming, offshore renewables (Annex I &II EIA Directive)
Marine Scotland	
DECC (reserved matters)	
HRA/ AA	**Examples of Marine Development**
Shetland Islands Council	Marine development likely to have a significant effect on a Natura 2000 site.
Marine Scotland	
DECC (reserved matters)	
SEPA (CAR)	
EPS licence	**Examples of Marine Development**
Marine Scotland (cetaceans)	Marine activities which may deliberately or recklessly capture, injure, kill, harass or disturb a European protected species (EPS) e.g. otters, whales, dolphins or porpoises
Scottish Natural Heritage (otters)	
Nationally protected species licence	**Examples of Marine Development**
Scottish Natural Heritage (Birds, basking sharks)	National legislation provides for the protection of animals, plants, and certain habitats in Scotland and details a large number of offences in relation to the killing, injuring and taking of wild birds, other animals and plants. For example, any activity with potential to kill, injure or take wild birds; take, damage, destroy or interfere with a bird's nest or egg; recklessly kill, injure, take or disturb a basking shark is an offence and will require a licence.
Seal licence	**Examples of Marine Development**
Marine Scotland	Any activity with potential to kill, injure or take a live seal (intentionally or recklessly)
SMSP Policy requirements	
Marine developments <u>may</u> also have to provide details on any potential impacts on habitats, species and ecology through the following:	
INNS contingency plan	Development or activities involving the movement of equipment, boats or live stock from one water body to another or introducing structures suitable for the settlement of INNS
Water/ litter minimisation strategy or plan**	Development or activities with the potential to produce waste.
Noise impact assessment or supporting information**	Development or activities with the potential to produce noise.
Navigational risk assessment **	Development or activities with the potential to have navigational effects.
Flood risk assessment**	Development below the 5m OD contour or within an area at risk of flooding or coastal erosion
Visual impact assessment or design statement**	Developments with the potential to be seen and the potential impacts on the character of the surrounding landscape/ seascape.
Archaeological assessment **	Developments or activities with the potential to have an impact on any heritage asset.
Social/ cultural assessment **	Developments or activities with the potential to have an impact on the local community or any cultural asset.
Economic assessment**	Developments or activities with the potential to have an impact on the local economy.
Emergency response plan	Developments or activities involving hazardous substances.

***** For developments subject to EIA, these requirements may be included in the Environmental Statement (ES)***

B APPENDIX - Consultees

Key Consultees for Planning and Works Licence Applications

Shetland Islands Council in relation to planning permission and works licence within their area of jurisdiction. Internal consultees include Environmental Health, Flood and Coastal Protection and Ports and Harbours Operations.
Shetland Islands Council, Development Services, Grantfield, Lerwick, Shetland, ZE1 0NT. (01595 744800) / Ports and Harbours Operations; Port Administration Building, Sella Ness, Sullom Voe, Shetland, ZE2 9QR (01806 244200)

Marine Scotland consenting authority for marine licences. Also responsible for EPS licences and seal licences; site registration and navigational consent and discharge of sea lice treatments from well boats; authority for both marine licence and energy consent under Electricity Act, 1989; administer marine licence on behalf of Scottish Government for capital dredging and disposal of dredged material; and acts as monitoring/ enforcement agency for the monitoring of tonnage removal/ deposit and compliance with licence conditions.
Licensing Operations Team, PO Box 101, 375 Victoria Road, Aberdeen, AB11 9DB (01224 295579)

Scottish Environment Protection Agency (SEPA) Scotland's environmental regulator and provides advice on flood risk
Esplanade, Lerwick, Shetland, ZE1 0LL (01595 696926)

Scottish Natural Heritage (SNH) statutory adviser on natural heritage and responsible authority for wildlife licensing
Stewart Building, Alexandra Wharf, Lerwick, Shetland, ZE1 0LL (01595 693345)

Crown Estate for seabed lease agreements
6 Bell's Brae, Edinburgh, EH4 3BJ (01312 606070)

Historic Scotland statutory consultee for historic environment
Longmore House, Salisbury Place, Edinburgh, EH9 1SH (01316 688600)

Northern Lighthouse Board navigational safety
84 George Street, Edinburgh, EH2 3DA (01314 733100)

Community Council within which the application lies represents community interests.
The Association of Community Councils, Lerwick, Shetland ZE1 0JP (01595 743906)

Shetland Fishermen's Association (SFA) represents fishermen in Shetland
Stewart Building, Lerwick, Shetland, ZE1 0LL (01595 693197)

Shetland Shellfish Management Organisation (SSMO) manages Shetland's shellfish fisheries
Stewart Building, Lerwick, ZE1 0LL (01595 693644)

Shetland Inshore Fishermen's Association (SIFA) represents inshore shell-fishermen
30 Mulla, Voe, ZE2 9XQ

Royal Society for the Protection of Birds (RSPB) protection of wild birds
Sumburgh Head Nature Reserve, East House, Sumburgh Head Lighthouse, Shetland, ZE3 9JN (01950 460800)

Shetland Amenity Trust maintains heritage assets records (SMR) and biological records from around Shetland
Regional Archaeologist/ Shetland Biological Records Centre, Garthspool, Lerwick, Shetland, ZE1 0NY (01595 694688)

Additional Consultees and Contacts

Department of Energy and Climate Change (DECC) authority responsible for licensing of reserved matters on behalf of the Secretary of State i.e. oil and gas exploration and decommissioning
Atholl House, 86-88 Guild Street, Aberdeen, AB11 6AR (0300 0604000)

Department for Transport (DfT) responsible for reserved matters on merchant shipping legislation within the UK

Fair Isle Marine Environment and Tourism Initiative sub-committee of the Fair Isle Community Association caring for and safeguarding Fair Isle's heritage
Fair Isle, Shetland, ZE2 9JU (01595 760250)

International Maritime Organisation (IMO) deal with administrative and legal matters relating to shipping engaged in international trade; standards for maritime safety; efficiency of navigation and prevention and control of marine pollution from ships

Lerwick Port Authority for a works licence within the Lerwick harbour limits
Albert Building, Lerwick, Shetland, ZE1 0LL (01595 692991)

Maritime and Coastguard Agency (MCA) maritime safety and emergency response. Also have powers to prosecute for a pollution incident from shipping (out to 200 miles)

Marine Scotland manage sea fisheries including quotas, licensing and regulation, stock assessments, compliance and research

Ministry of Defence (MOD) enforces the Protection of Military Remains Act, 1986

NAFC Marine Centre manages the Shetland Islands' Marine Spatial Plan and undertakes marine research, commercial services, education and training.

Port Arthur, Scalloway, Shetland, ZE1 OUN (01595 772000)

The Royal Commission on the Ancient and Historical Monuments of Scotland (RCAHMS) the national recording body for the historic environment
John Sinclair House, 16 Bernard Terrace, Edinburgh, EH8 9NX (01316 621456)

Scottish Fishermen's Federation (SFF) national organisation promoting the collective interests of Scotland's fishermen's associations
24 Rubislaw Terrace, Aberdeen, AB10 1X (01224 646944)

Seafood Shetland incorporating Shetland Fish Processors and Shellfish Growers
Stewart Building, Lerwick, ZE1 0LL (01595 693644)

Shetland Aquaculture represents Shetland's finfish aquaculture industry
Stewart Building, Lerwick, ZE1 0LL (01595 695579)

Shetland Islands Council, Economic Development supports sustainable local business development
Development Services Department, Shetland Islands Council, Solarhus, 3 North Ness Business Park, Lerwick, Shetland, ZE1 0LZ (01595 744 940)

Shetland Renewable Energy Forum supports renewable energy development in Shetland
Kirk Business Centre, Scalloway, Shetland, ZE1 0TF

Shetland Tourism Association trade association for the tourism industry in Shetland.

C APPENDIX- Matrix of Sensitivities

Activity	Potential Impacts	Benthic Habitats + Ecosystems	Coastal Habitats + Ecosystems	Elders * and sea ducks	Ground Nesting Birds ** and wintering waders	Cliff Nesting Birds (includes seabirds)	Fish	Otters	Seals***	Cetaceans
Finfish Aquaculture	Smothering of seabed	high	low	-	-	-	low	-	-	-
	Physical damage to seabed habitat	low	-	-	-	-	-	-	-	-
	Removal of food supply	low	-	low	-	-	-	-	-	-
	Water quality changes	medium	-	-	-	-	low	-	-	-
	Escapees and predator control	-	-	-	-	-	high	-	medium	-
	Entanglement	-	-	low	-	low	low	low	low	low
	Disturbance to wildlife (boat movements, acoustic deterrents)	-	-	low	-	-	-	medium	medium	high
	Marine Litter– including loss of gear	high	high	high	low	-	high	high	high	high
	Pollution from leaks and spills from vessels	low	low	low	low	low	low	low	low	low
	Displacement	-	-	medium	-	-	-	low	medium	medium
Shellfish Aquaculture	Smothering of seabed	medium	-	-	-	-	-	-	-	-
	Physical damage to seabed habitat	medium	low	-	-	-	-	-	-	-
	Removal of plankton	medium	medium	low	-	-	unknown	-	-	-
	Use of non-native species	medium	-	-	-	-	-	-	-	-
	Entanglement	-	-	medium	-	low	-	low	low	low
	Disturbance to wildlife (boat movements, acoustic deterrents)	-	-	high	low	low	-	medium	medium	high
	Marine Litter– including loss of gear	high	high	high	low	-	high	high	high	high
	Pollution from leaks and spills from vessels	low	low	low	low	low	low	low	low	low
	Displacement	-	-	-	-	-	-	medium	medium	medium
Oil Developments	Exploratory & Construction Stage- Physical damage to seabed habitat	high	-	-	-	-	-	-	-	-
	Exploratory & Construction Stage- Sediment disturbance	high	-	-	-	-	high	high	high	high
	Exploratory &Construction Stage including seismic surveys - Disturbance to wildlife	high	-	low	low	low	high	high	high	high
	Exploratory & Construction Stage- Collision Risk	-	-	low	-	low	medium	medium	medium	medium
	Construction & Operation Stage- Pollution Risk (including ballast water)	low	medium	medium	medium	medium	low	high	medium	low
	Operation Stage- Water quality changes/ routine discharges	medium	low	-	-	-	low	-	-	-

Activity	Potential Impacts	Benthic Habitats + Ecosystems	Coastal Habitats + Ecosystems	Eiders * and sea ducks	Ground Nesting Birds ** and wintering waders	Cliff Nesting Birds (includes seabirds)	Fish	Otters	Seals***	Cetaceans
	Operation Stage- Disturbance to wildlife	-	-	low	-	low	low	medium	medium	medium
	Operation Stage- Fish Aggregating Device	-	-	-	-	-	medium	-	-	low
	Operation Stage- Displacement	-	-	-	-	-	low	-	-	medium
Renewable Energy	Exploratory & Construction Stage- Physical damage to seabed habitat	high	-	-	-	-	-	-	-	-
	Exploratory & Construction Stage- Sediment disturbance	high	-	-	-	-	high	high	high	high
	Construction & Operation Stage- Disturbance to wildlife	-	-	medium	medium	medium	medium	medium	medium	medium
	Construction & Operation Stage- Pollution from leaks and spills from vessels	low	low	low	low	low	low	low	low	low
	Construction & Operation Stage- Displacement	-	-	medium	-	medium	-	medium	medium	medium
	Operation Stage- Changes to sediment transport/ hydrography/ dynamics	medium	low	medium	-	-	-	-	unknown	unknown
	Operation Stage- Collision risk tidal	-	-	unknown	-	unknown	unknown	low	low	low
	Operation Stage- Collision risk wave	-	-	unknown	-	unknown	unknown	low	low	low
	Operation Stage- Collision risk- wind	-	-	medium	medium	medium	-	-	-	-
	Operation Stage- Localised electro-magnetic changes	-	-	-	-	-	unknown	unknown	unknown	unknown
	Operation Stage- Fish Aggregating Device	-	-	-	-	-	medium	low	low	low
Commercial Fishing	Smothering- dredging/ trawling	high	-	-	-	-	-	-	-	-
	Physical damage to seabed habitat	high	-	-	-	-	-	-	-	-
	Removal of target/ non-target species	medium		low	high	high	high	high	high	high
	Impact on or removal of target species	high	-	-	-	-	high	-	-	-
	Pollution from leaks and spills from vessels	low	low	low	low	low	low	low	low	low

Activity	Potential Impacts	Benthic Habitats + Ecosystems	Coastal Habitats + Ecosystems	Eiders * and sea ducks	Ground Nesting Birds ** and wintering waders	Cliff Nesting Birds (includes seabirds)	Fish	Otters	Seals***	Cetaceans
	Entanglement/ by-catch	high	-	-	-	low	high	unknown	low	high
Mineral Extraction and dredging and disposal	Smothering of seabed	high	high	low	-	-	low	-	-	-
	Physical damage or removal of habitat	high	high	medium	high	high	unknown	high	high	-
	Removal of food supply	high	high	high	high	high	high	high	high	high
	Changes to sediment transport	high	high	unknown	unknown	unknown	unknown	unknown	unknown	unknown
	Pollution from leaks and spills from vessels	low	low	low	low	low	low	low	low	low
	Disturbance to wildlife	-	-	high	high	high	unknown	high	high	high
Tourism & recreation	Impact on or removal of target and/or non-target species	low	-	-	-	-	low	-	-	-
	Physical damage/ erosion	low	medium	-	-	-	-	-	-	-
	Disturbance to wildlife	low	-	high	high	medium	-	high	high	high
	Collision risk from watercraft	-	-	medium	-	low	-	high	high	high
Construction: Shore Access, Coastal defence / flood protection, Cables & pipelines, Moorings, Fixed links	Construction Stage- Disturbance to wildlife (construction)	-	-	medium	medium	medium	-	high	high	high
	Construction Stage- Habitat damage	high	-	-	-	-	low	-	-	-
	Construction Stage- Smothering of seabed	high	high	-	-	-	-	-	-	-
	Construction & Operation Stage- Pollution from leaks and spills from vessels	low	low	low	low	low	low	low	low	low
	Operation Stage- Removal of food supply	low	medium	-	medium	-	-	-	-	-
	Operation Stage - Permanent sealing/ Obstruction	high	high	-	-	-	-	-	-	-
	Operation Stage - Changes to sediment transport	high	high	-	-	-	low	-	-	-
	Operation Stage- Localised hydrography changes	medium	medium	-	-	-	-	-	-	-

Activity	Potential Impacts	Benthic Habitats + Ecosystems	Coastal Habitats + Ecosystems	Eiders * and sea ducks	Ground Nesting Birds ** and wintering waders	Cliff Nesting Birds (includes seabirds)	Fish	Otters	Seals***	Cetaceans
	Operation Stage- Displacement and/or collision risk (e.g. from bridges)	-	-	medium	medium	medium	-	medium	medium	low
Transport	Water quality changes including anti-fouling	medium	medium	-	-	-	low	-	-	-
	Disturbance to wildlife	-	-	low	-	low	-	low	low	medium
	Pollution from leaks and spills from vessels	low	low	low	low	low	low	low	low	low
	Collision risk	-	-	low	low	low	-	low	low	medium
Intertidal Collection (bait digging, winkles, seaweed)	Physical damage	-	medium	-	-	-	-	-	-	-
	Removal of target/ non-target species	-	high	-	-	-	-	-	-	-
	Removal of food supply	-	low	-	low	-	-	-	-	-
	Disturbance to wildlife	-	-	medium	high	-	-	high	high	-

* Eider ducks have traditional moulting sites, where for part of the year they are flightless and particularly vulnerable to disturbance. Development should be avoided at these traditional moult sites and moulting eiders should not be disturbed during July to September inclusive.

** Ground nesting birds- terns, oystercatchers and ringed plovers often nest near beaches and sometimes on breakwaters. Sea cliffs are often used by several species of nesting seabirds. Where these species are present, in order to avoid destruction or chilling of eggs and young, no works should be carried out and breeding birds should not be disturbed during April to August inclusive.

*** Common seals have traditional haul-out sites around the coast and on small islands. They breed during June and July and moult during August and September. Where common seals are present, in order to avoid disturbance, no works should be carried out and seals should not be disturbed during June to September inclusive

Definitions

Smothering of seabed: through organic or inorganic material
Displacement: movement/ relocation of species or users caused by an activity
Physical damage to seabed habitat: removal of habitat or substrate
Collision risk: collision with water craft or moving structures
Water quality changes: changes to water chemistry
Entanglement: in nets/ ropes e.g. anti-predator nets, fishing nets, creel lines
Escapees: the potential impacts on native stocks
Impact on or removal of target / non-target species: damage and removal
Use of non-native species: alterations to benthic habitats and ecosystems due to the introduction of non-native species
Disturbance to wildlife: the impacts of noise from human presence, boat movements and acoustic deterrents
Removal of food supply: includes loss of sandeels and damage to shellfish beds
Removal of plankton: excessive removal of plankton has the potential to cause ecosystem change

Potential impacts are rated high/medium/low. Where no rating is given the impact is considered to be very low or not applicable.

It is intended that this matrix is indicative only. All impacts considered are potential direct impacts, indirect and cumulative effects may also occur. The scale of actual impacts will be dependent on the time of year, scale and design of development. Some potential impacts may be mitigated against e.g. potential impacts on cetaceans can be reduced by the avoidance of acoustic deterrents.

It should be noted that a proposed development may need to consider impacts in more than one activity area, for example aquaculture, renewable and oil development ratings are for the sea development only and shore/ intertidal components such as shore access, cables and pipelines have been considered under 'construction'. It is also noted that impacts caused during construction/ installation stages may be significantly different to those caused during operation stages e.g. temporary v. permanent.

Map	Data acquired	GIS available from:	Data source and copyright information
Section 5a Clean and Safe			
5a(i) Waste Water Discharges and Abstraction	01/11/2012	NAFC Marine Centre	Scottish Environment Protection Agency (© SEPA 2012)
5a(ii) Water classifications: Shellfish Harvesting Waters; Shellfish Growing Waters; and WFD Ecological Status	 23/11/2012 23/11/2012 15/08/2012	 NAFC Marine Centre NAFC Marine Centre NAFC Marine Centre	 Food Standards Agency (© Crown 2012) Scottish Government (© Crown 2012) SEPA (© SEPA 2012)
5a(iii) Navigation: Shipping Routes Navigation: Anchorages Navigation: MEHRAs	2007-2013 2012 2001	NAFC Marine Centre Unavailable NAFC Marine Centre	Shetland Islands Council, Maritime and Coastguard Agency, & AIS (© NAFC Marine Centre) UKHO (© Crown copyright and/or database rights) DEFRA (2001) (©NAFC Marine Centre)
5a(iv) Port and Harbour Areas	2010	NAFC Marine Centre	Shetland Islands Council, Lerwick Port Authority, and Tait and Peterson (Solicitors) (© NAFC Marine Centre)
5a(v) Pipelines and Cables	2012	NAFC Marine Centre	Shetland Islands Council (© SIC 2012), Kingfisher Information Service - Cable Awareness (© NAFC Marine Centre)
Section 5b Healthy and Diverse			
5b(i) Protected Areas: International Nature Conservation Sites	29/08/2012 13/11/2012	NAFC Marine Centre	Scottish Natural Heritage (© SNH 2012. Contains OS OpenData © Crown) JNCC (© Crown 2012)
5b(ii) Protected Areas: National Nature Conservation Sites	29/08/2012	NAFC Marine Centre	Scottish Natural Heritage (© SNH 2012. Contains OS OpenData © Crown)
5b(iii) Important Marine Species: Whales and Dolphins	12/11/2012	GIS data is available from NAFC Marine Centre upon request	Shetland Biological Records Centre (part of Shetland Amenity Trust) (© NAFC Marine Centre)
5b(iv) Important Marine Species: Otters	01/08/2011	GIS data is available from NAFC Marine Centre upon request	Shetland Biological Records Centre (part of Shetland Amenity Trust) (© NAFC Marine Centre)
5b(v) Important Marine Species: Breeding Seabirds	06/09/2011	NAFC Marine Centre	JNCC Seabird Monitoring Programme Database (©Unknown / NAFC Marine Centre)
5b(vi) Important Marine Species:	01/08/2011	GIS data is available from	Shetland Biological Records Centre (part of Shetland

Map	Data acquired	GIS available from:	Data source and copyright information
Wintering Seabirds		NAFC Marine Centre upon request	Amenity Trust) (© Unknown / NAFC Marine Centre)
5b(vii) Important Marine Species: Eider Duck	01/08/2011, and 2002	NAFC Marine Centre	Shetland Biological Records Centre (part of Shetland Amenity Trust), and Heubeck (2002) (© NAFC Marine Centre)
5b(viii) Important Marine Habitats and Species: Bivalve Shellfish	29/02/2012, 29/08/12 & 09/05/13, 1999, 2000, 21/12/2012 17/04/2013	NAFC Marine Centre	JNCC Marine Recorder (© Various), Scottish Natural Heritage (© SNH 2013), Howson (1999) (© NAFC Marine Centre), Mair et al (2000) (© NAFC Marine Centre), Seasearch (© Various / NAFC Marine Centre), and NAFC Marine Centre (© NAFC Marine Centre)
5b(ix) Important Marine Habitats: Maerl Beds	29/02/2012, 21/12/2012, 29/08/2012 & 09/05/13, 2006, 11/12/2012, 17/04/2013	NAFC Marine Centre	JNCC Marine Recorder (© Various), Seasearch (© Various / NAFC Marine Centre), Scottish Natural Heritage (© SNH 2013), Moore (2006) (© NAFC Marine Centre), Hjaltland Seafarms (© Hjaltland Seafarms Ltd. 2011), and NAFC Marine Centre (© NAFC Marine Centre)
5b(x) Important Marine Habitats and Species: Muddy habitats	29/08/2012 & 09/05/2013, 29/02/2012, 11/12/2012, 21/12/2012, 1998, and 2009	NAFC Marine Centre	Scottish Natural Heritage(© SNH 2013), JNCC Marine Recorder (© Various), Hjaltland Seafarms (© Hjaltland Seafarms Ltd. 2011), Seasearch (© Various / NAFC Marine Centre), Thorpe (1998) (© NAFC Marine Centre), and Scottish Sustainable Marine Environment Initiative (© SSMEI)
5b(xi) Important Marine Habitats and Species: Marine Algae and Plants	2012, 09/05/13 2007, and 2007	NAFC Marine Centre	Scottish Natural Heritage(© SNH / Various 2013), Shetland Biological Records Centre (part of Shetland Amenity Trust) (© NAFC Marine Centre), and Envision Mapping Ltd. (© NAFC Marine Centre)
5b(xii) Predictive Seabed Type	2007	NAFC Marine Centre	Envision Mapping Ltd. (© NAFC Marine Centre)
5b(xiii) Important Marine Species: Basking Sharks	12/11/2012	GIS data is available from NAFC Marine Centre upon request	Shetland Biological Records Centre (part of Shetland Amenity Trust) (© NAFC Marine Centre)

Map	Data acquired	GIS available from:	Data source and copyright information
5b(xiv) Important Marine Species: Seals	1974, 2007, 2007, and 2012	NAFC Marine Centre	Anderson (1974), Scottish Natural Heritage (© SNH 2012),
Important Marine Species: Haul-out Sites	19/11/2012	NAFC Marine Centre	Sea Mammal Research Unit (© SMRU), and Fair Isle Marine Environment & Tourism Initiative (© NAFC Marine Centre), Marine Scotland (© Crown 2012)
Important Marine Species: Density at sea	22/04/2013	NAFC Marine Centre	Scottish Government (© Crown 2013)
5b(xv) Protected Areas: Local Nature Conservation Sites	16/11/2012	Unavailable	Shetland Islands Council (© SIC. Contains OS data © Crown copyright and database right 2013. All rights reserved. Ordnance Survey licence number 100024344)
5b(xvi) Protected Areas: Nature Reserves	29/08/2012	NAFC Marine Centre	Scottish Natural Heritage (© SNH 2012. Contains OS OpenData © Crown)
Protected Areas: Bird Reserves	13/09/2012	http://www.rspb.org.uk/ourwork/c s/	RSPB (© RSPB 2012)
Protected Areas: European Diploma	08/05/2013	NAFC Marine Centre	Council of Europe/NAFC Marine Centre (© NAFC Marine Centre)
5b(xvii) Protected Areas: Landscapes- Local Landscape Areas	30/08/2012	Unavailable	Shetland Islands Council (© SIC. Contains OS data © Crown copyright and database right 2013. All rights reserved. Ordnance Survey licence number 100024344)
Protected Areas: Landscapes- National National Scenic Areas	31/10/2012	NAFC Marine Centre	Scottish Government (© Crown 2012)
5b(xviii) Landforms: Terrestrial	2010	NAFC Marine Centre	Scottish Natural Heritage(© SNH 2012)
5b(xix) Landforms: Coastal	2007, 2012, 2012, 1985, 1996, 1991 and 1998	NAFC Marine Centre	Scottish Natural Heritage(contains LCS88/OS data © SNH / Crown 2012), OS OpenData (© Crown), Scottish Environment Protection Agency (© SEPA 2012) Dalby, D.H. (1985), Entec. (1996), Scott, R., & P.J.C. Tibbetts (1991), and Thorpe, K. (1998).
5b(xx) Landforms: Wildness	2012	NAFC Marine Centre	Scottish Natural Heritage(© SNH 2012)
5b(xxi)Coastal Archaeology:	2011	NAFC Marine Centre	Shetland Amenity Trust (© SAT 2011)

Map	Data acquired	GIS available from:	Data source and copyright information
Archaeological Sites Coastal Archaeology: Scheduled Monuments, Listed Buildings, Conservation Areas, and Gardens and Designated Landscapes	 27/05/2013	 NAFC Marine Centre. Note that this data is available to view or download on Historic Scotland website: http://data.historic-scotland.gov.uk/.	 Historic Scotland (© Crown)
5b(xxii) Wrecks RCAHMS records	2011, 2003, and 01/01/2013 12/12/2012	NAFC Marine Centre Unavailable	Shetland Amenity Trust (© SAT 2011), Baird (2003) (© NAFC Marine Centre), and Historic Scotland (© NAFC Marine Centre) RCAHMS (© Crown 2012)
5b(xxiii) Community Council Areas	21/01/2010	NAFC Marine Centre	Shetland Islands Council (© SIC 2010)
5b(xxiv) Marine and coastal recreational areas Walking	2012, 2012, 2012, and 1998 2012	NAFC Marine Centre Unavailable	Scottish Environment Protection Agency (© SEPA 2012), Scottish Natural Heritage(© SNH 2012), local sources (© NAFC Marine Centre), and Ridley (1998) Shetland Islands Council (© SIC. Contains OS data © Crown copyright and database right 2013. All rights reserved. Ordnance Survey licence number 100024344)
Section 5c Productive			
5c(i) Commercial Fishing: indicative demersal fishing effort	19/09/2012	Requests for GIS data will be considered on an individual basis.	Marine Scotland, with permission of Shetland Fishermen's Association (© NAFC Marine Centre)
5c(ii) Commercial fishing: important shellfish dredging grounds Commercial fishing: SSMO closed areas	2006 – 2012 01/03/2013	NAFC Marine Centre Requests for GIS data will be considered on an individual basis.	Interviews with local fishermen (© NAFC Marine Centre 2012); Shetland Shellfish Management Organisation (© NAFC Marine Centre)
5c(iii) Commercial fishing: important	2006 – 2012,	NAFC Marine Centre	Interviews with local fishermen, and Envision

Map	Data acquired	GIS available from:	Data source and copyright information
shellfish creeling grounds	and 2007		Mapping (© NAFC Marine Centre 2012)
5c(iv) Aquaculture: Licenced farms Aquaculture: development restricted areas	07/11/12 2007	NAFC Marine Centre NAFC Marine Centre	Shetland Islands Council (© SIC 2012) Shetland Islands Council (2007) (© NAFC Marine Centre)
5c(v) Aquaculture: Locational Guidelines for finfish aquaculture	11/04/2013	NAFC Marine Centre	Marine Scotland (© Crown 2013)
5c(vi) Aquaculture : Finfish management areas	11/10/2012	NAFC Marine Centre	Marine Scotland (© Crown 2012)
5c(vii) Tidal resource	2011	NAFC Marine Centre	Natural Power (2011) (© Natural Power)
5c(viii) Wave resource	2011	NAFC Marine Centre	Natural Power (2011) (© Natural Power)
5c(ix) Regional Locational Guidance for Marine Renewables: Total constraints at sea	2013	NAFC Marine Centre	Tweddle et al. (2013) (© NAFC Marine Centre)
5c(x) Regional Locational Guidance for Marine Renewables: Total constraints at the coast Regional Locational Guidance for Marine Renewables: Renewables Works Licences	2013 2013	NAFC Marine Centre NAFC Marine Centre	Tweddle et al. (2013) (© NAFC Marine Centre) Shetland Islands Council (© SIC 2012)
5c(xii) Marine and coastal tourism: visitor attractions Marine and coastal tourism: National Nature Reserves Marine and coastal tourism: RSPB Visitor reserves	12/11/2012 29/08/2012 13/09/2012	NAFC Marine Centre NAFC Marine Centre Request from RSPB	Visit Shetland (© NAFC Marine Centre) Scottish Natural Heritage (© SNH 2012) RSPB (© RSPB 2012)
5c(xiii) Shore access	2012	NAFC Marine Centre	Ordnance Survey (©Crown copyright and database rights), and local sources (© NAFC Marine Centre)
5c(xi) Dredging Disposal of dredged material	2012 2012	NAFC Marine Centre Unavailable	Shetland Islands Council, and Lerwick Port Authority (© NAFC Marine Centre) UKHO (©Crown copyright and/or database rights)

GIS data available from the NAFC Marine Centre can be downloaded from: http://www.nafc.ac.uk/SMSP.aspx

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E APPENDIX- Shetland Marine Spatial Plan Participation

Shetland Islands' Marine Spatial Plan Advisory Group

Membership comprises stakeholders from the following organisations:

- Association of Shetland Community Councils
- BP
- Fair Isle Marine Environment and Tourism Initiative
- Lerwick Port Authority
- Marine Scotland
- NAFC Marine Centre
- Scottish Environment Protection Agency
- Scottish Natural Heritage
- Seafood Shetland
- Shetland Amenity Trust (Biological Records Centre)
- Shetland Amenity Trust (Archaeology)
- Shetland Aquaculture
- Shetland Fishermen's Association
- Shetland Islands Council (Coastal Zone Management)
- Shetland Islands Council, Planning (Heritage)
- Shetland Islands Council (Councillor)
- Shetland Islands Council, Planning (Development)
- Shetland Islands Council, Ports and Harbours
- Shetland Renewable Energy Forum
- Shetland Shellfish Management Organisation
- Royal Society for the Protection of Birds

Policy Development Sub Group:

Invited Environment Sub-Group Participation:

- NAFC Marine Centre
- Scottish Environment Protection Agency
- Scottish Natural Heritage
- Shetland Amenity Trust (Biological Records Centre)
- Shetland Amenity Trust (Archaeology)
- Shetland Islands Council (Coastal Zone Management)
- Shetland Islands Council, Planning (Heritage)
- Shetland Islands Council, Planning (Development)
- Royal Society for the Protection of Birds

Invited Industry Sub-Group Participation

- BP
- Lerwick Port Authority
- NAFC Marine Centre
- Seafood Shetland
- Shetland Aquaculture
- Shetland Fishermen's Association
- Shetland Islands Council (Coastal Zone Management)
- Shetland Islands Council, Planning (Development)
- Shetland Shellfish Management Organisation

Invited Community Sub-Group Participation

- Association of Shetland Community Councils
- Fair Isle Marine Environment and Tourism Initiative
- NAFC Marine Centre
- Shetland Islands Council (Coastal Zone Management)
- Shetland Islands Council (Coastal and Flood Protection)
- Shetland Islands Council (Community Planning and Development)
- Shetland Islands Council (Councillor)
- Shetland Islands Council, Planning (Development)
- Shetland Islands Council, Ports and Harbours

Spatial Analysis Working Group

Invited stakeholders included the following:

- NAFC Marine Centre
- Scottish Environment Protection Agency
- Scottish Natural Heritage
- Seafood Shetland
- Shetland Aquaculture
- Shetland Fishermen's Association
- Shetland Islands Council (Coastal Zone Management)
- Shetland Islands Council, Planning (Heritage)
- Shetland Renewable Energy Forum
- Royal Society for the Protection of Birds

F APPENDIX- Marine Economic Statistics

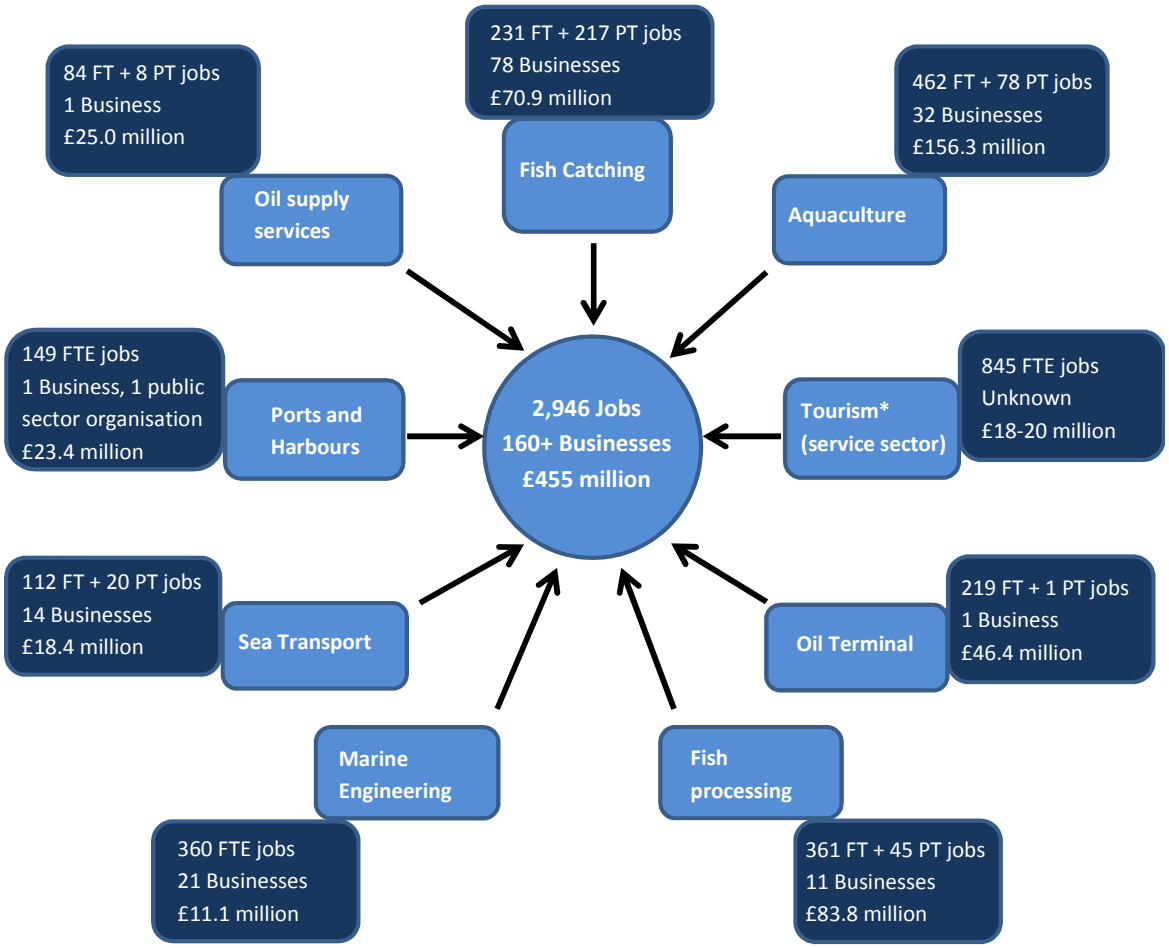

Figure 1: The jobs, businesses and Gross Value Added supported by the marine environment around the Shetland Islands in 2011

- Source: Economic Development, Shetland Islands Council
- No. of jobs and no. of businesses – Shetland Employment Survey 2011.
- Industry Values – Shetland Regional Accounts 2011 figures.

NB. Job figures are full-time (FT) and part-time (PT) FTE= Full time equivalent jobs

* Tourism – estimate based on range of industries including accommodation, catering, transportation, business services and retail. Value is based on tourism spend.

G APPENDIX -SEA Objectives and Indicators

SEA Topics	SEA Objectives	SEA Indicators
Biodiversity, Flora and Fauna	- To protect and where appropriate enhance marine and coastal ecosystems and their interactions. - To avoid the introduction of marine invasive non-native species (INNS). - To promote people's enjoyment, understanding and appreciation of the natural heritage and need for its protection and enhancement.	- Number of developments permitted with an impact on designated sites/species (Source: SIC and SNH) - Reported condition of Natura 2000 sites, SSSIs, locally important sites (Source: SNH/ SIC) - Conservation status of seabirds, otters and marine mammals (Source: SIC, SRBC[1], RSPB, Marine Scotland, SNH/JNCC) - Current condition of habitats – pelagic, sediment, rock and biogenic reef (Source: SNH/ JNCC, Marine Scotland, NAFC Marine Centre, SSMO) - Conservation status of proposed MPAs and PMFs (Source: Marine Scotland, SNH/ JNCC and Shetland Shellfish Management Organisation (SSMO)) - Tourism figures for wildlife visitor attractions i.e. wildlife watching tours, outdoor recreation etc. (Source: Visit Shetland and SIC Economic Development Unit (EDU)) - Marine waters achieving GES[2] under the MSFD - current status on biological diversity i.e. healthy fish stocks, abundant foodwebs (Source: Marine Scotland) - Reported sightings of INNS around Shetland (Source: Marine Scotland, SEPA, SNH, NAFC Marine Centre)
Population and Human Health	- To promote prosperity and quality of life benefits for the people and communities of Shetland through appropriate levels of development within the plan area. - To protect and where appropriate enhance access to marine leisure and recreational assets. - To avoid adverse effects on human health from water pollution and nuisance effects e.g. noise.	- 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: SIC Economic Development and Visit Shetland). - 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

[1] SRBC: Shetland Biological Records Centre
[2] 'Good environmental status' under the Marine Strategy Framework Directive

SEA Topics	SEA Objectives	SEA Indicators
		disturbance reported (Source: SIC, Marine Scotland and SNH)
Soils, Geology and Coastal Processes	- To protect, and where appropriate, enhance the physical quality and integrity of the seabed and coastal zone. - To avoid exacerbating coastal erosion. - To maintain integrity of sediment and coastal processes.	- Condition of coastal geological and geomorphological SSSIs, geological Local Nature Conservation Sites and geosites identified by Geopark Shetland [Source: SNH, SIC and Shetland Amenity Trust (SAT)]. - Extent of areas vulnerable to coastal erosion (Source: SIC Coastal Protection)
Water	- To protect and enhance the quality of the water environment of Shetland. - Ensure there is no deterioration in the status of any water body. - To avoid pollution of the coastal and marine water environment.	- Number of water bodies achieving 'Good Ecological Status' (GES) as required by WFD and RBMP (Source: SEPA, SIC) - Marine waters achieving GES[3] under the MSFD - current status on eutrophication, contamination, marine litter (Source: Marine Scotland) - Number of bags of coastal litter collected annually as part of the Da Voar Redd up (Source: SAT)
Climatic Factors	- To encourage climate change mitigation through minimisation of resources, energy and emissions in marine developments. - To reduce the vulnerability of Shetland and its marine environment to the effects of climate change (e.g. sea level rise, coastal erosion and flooding) by ensuring that adaptation to such impacts is built into plans for future development where appropriate.	- Number of applications permitted for marine renewable energy developments and overall renewable energy generation for Shetland (Source: SIC and Marine Scotland). - % of electricity generated in Shetland 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).
Cultural Heritage	- To protect and, where appropriate, enhance the historic environment. - To protect against damage to known and undiscovered coastal and marine archaeology.	- Number of applications where there are potential impacts on a site designated for historical environment (Source: SIC and SAT) - 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 (Source: SIC and SAT)
Landscape and Seascape	- To protect and, where appropriate, enhance the	- Condition of National Scenic Areas and Local Landscape Areas (Source:

[3] 'Good environmental status' under the Marine Strategy Framework Directive

SEA Topics	SEA Objectives	SEA Indicators
	seascape / landscape and visual amenity of the SMSP plan area and Shetland.	SNH/ SIC) - Number of applications for development with potential impacts on seascape/landscape designations (Source: SIC and SNH) - Proximity of proposed developments i.e. any trends for clustering of developments (Source: SIC)
Material Assets	- To protect the marine environment from the adverse effects of new infrastructural developments. - To protect existing and future marine users from incompatible development. - To protect mariners and marine environment from navigational risks. - To promote the sustainable management of waste within the coastal and marine environment.	- Number of reported navigational accidents as a result of a marine development (construction or operation) (Source: Maritime Coastguard Agency (MCA), Lerwick Port Authority (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 where a waste/litter management plan/ strategy has been undertaken and waste management measures included. - Number of reported incidences of waste disposal/ dumping at sea (SIC, LPA, SEPA, MCA)