2018

Shetland Islands Marine Region Environment Action Plan

The Scottish Government

marinescotland

NAFC Marine Centre
University of the Highlands and Islands

Shetland Islands Council

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This action plan has been developed by NAFC Marine Centre, on behalf of the Shetland Islands Marine Planning Partnership, with guidance from the Shetland Islands Marine Planning Partnership Advisory Group.

NAFC Marine Centre UHI
Port Arthur
Scalloway
Shetland
ZE1 0UN
01595 772000
www.nafc.ac.uk
email: marineplan@uhi.ac.uk

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INTRODUCTION

In June 2017 the NAFC Marine Centre published a 'Shetland Islands Marine Region State of the Environment Assessment' on behalf of the Shetland Islands Marine Planning Partnership. The State of the Environment assessment (SofEA) provides a baseline assessment of the Shetland marine and coastal environment out to the 12nm, using the most up-to date data available as of December 2016. The SofEA formed the first stage in delivering a regional marine plan for the Shetland Islands in line with the requirements of the Marine (Scotland) Act 2010, as directed by Marine Scotland.

The SofEA highlights a number of areas which are data deficient, from either limited spatial or temporal information, herein referred to as 'data gaps'. This document provides a summary of these data gaps and sets out a plan to address these gaps where feasible from 2017-2020.

The action plan also identifies where there are declines in environmental condition within the Shetland region and identifies where this is due to failure of national or regional planning policy, or wider challenges (e.g. climate change).

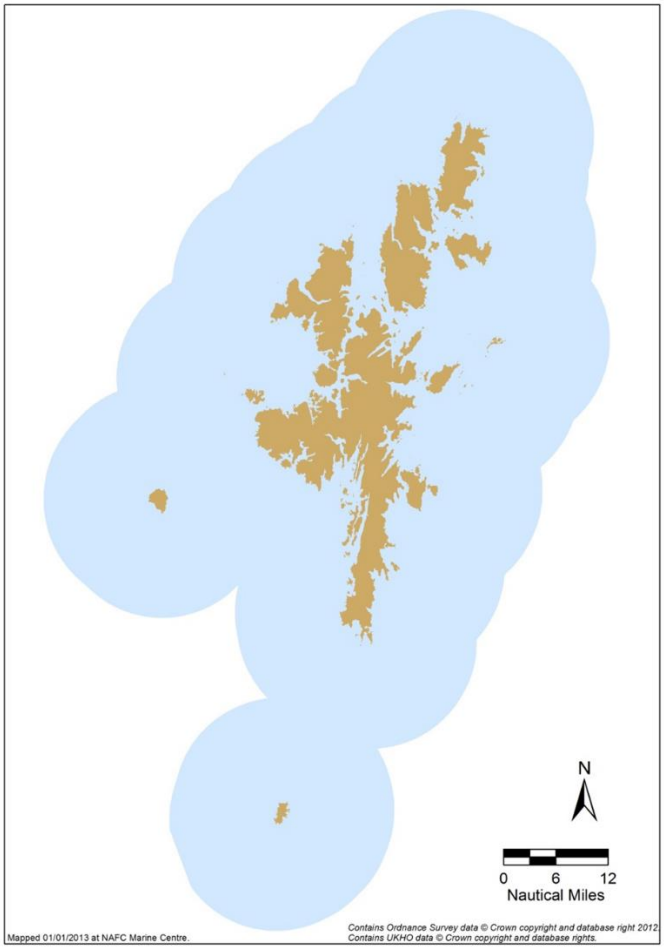

Figure 1: Shetland Islands Regional Marine Plan (SIRMP) Area

CLEAN AND SAFE

Topic	Assessment	Trend	Confidence	Data Gap	Policy Gap	Comments
Oil and chemical spills	Some concerns	Improving	Moderate	No	No	Recorded spills relate to human error or illegal/ accidental activity that do not suggest a failure of policy. **Actions- none**
Biotoxins	Some concerns	Not Known	Moderate	**Yes**	No	Levels of biotoxins in the water are related to natural variation, potentially exacerbated by climate change. The NAFC Marine Centre has been a partner in a research project led by SAMs to create an early warning system for the shellfish industry to reduce commercial and health risks. **Actions- none**
Microbial contamination	Some concerns	Deterioration	High	No		Reasons for deterioration are unclear, however a number of factors, including increased monitoring and temporal changes are thought to be contributing factors. Reasons for changes are not thought to be linked due policy to failure, however monitoring of microbial contamination levels will continue. **Action 1- on going monitoring facilitated by liaison with SEPA and SIC EHO**
Marine Litter	Some concerns	Stable	Low	**Yes**	Yes- Local and National	Marine litter policies exist within the plan. Proposed additional policy on decommissioning could ensure the removal of redundant structures, however where companies enter administration there is currently no mechanism to fund the removal of redundant infrastructure. Changes in national policy to reduce the use of plastic (some of which are currently being implemented) could reduce sources of marine litter e.g. use of plastic bottles. **Action 2- monitor on-going litter levels and assess impacts of national and local policies via liaison with SAT**
Underwater Noise	Few concerns	Unknown	Low	**Yes**	No	An accurate assessment of underwater noise and its trends would require direct data gathering. Modelling work could be used to highlight potential noise hotspots. **Action 3- build on existing modelling work to identify potential noise hot spots**

HEALTHY AND DIVERSE

Topic	Assessment	Trend	Confidence	Data Gap	Policy Gap	Comments
Cetaceans	Some concerns	Stable/ variable	Low	**Yes**	No	Data on cetaceans (temporal and spatial) are limited within Shetland. A Shetland wide survey is prohibitively expensive at this time and would require regular up dating. Identification of cetacean hotspots could help to focus more detailed survey work. **Action 4- investigate the potential for identification of cetacean hotspots**
Harbour seals	Many concerns	Declining	Moderate	No	No	Management measures have been put in place nationally to reduce species pressures and identify national causes of decline. **Action- None**
Breeding birds	Many concerns	Decline in many species	High	No	Potential	Potential negative interactions between Eider ducks and shellfish aquaculture. **Action 5 – identify measures to minimise conflict between shellfish farming and Eider ducks**
Wintering seabirds	Some concerns	Stable	Moderate	No	Potential	Potential negative interactions between Eider ducks and shellfish aquaculture. **Action 5 – identify measures to minimise conflict between shellfish farming and Eider ducks**
Sharks, skates and rays	Many concerns	No evidence	low - moderate	**Yes**	No	Historical pressure has led to significant concerns for several species of sharks, skates and rays. Data on current population trends at a Shetland level is largely unknown. **Action 6- review approaches in other areas of the UK to increase data gathering including public reporting and tagging**
Wild salmonids	Some concerns	No evidence	Low	**Yes**	No	Low levels of recreational salmonid fishing activity makes meaningful data collection challenging. **Action- none**
Non-native species	Some concerns	Deterioration	High	**No**	No	NNS monitoring on-going to assess effect of existing policy **Action 7- continue NNS monitoring**

Topic	Assessment	Trend	Confidence	Data Gap	Policy Gap	Comments
Intertidal sediments and supported habitats	Some concerns	No evidence	Low	**Yes in trend**	No	See sub-sections
Intertidal sediments- mudflats, sandflats, sandy beaches	Some concerns	No evidence	Low	**Yes in trend**	Yes	Several beaches in Shetland have been impacted due to historic sand extraction. **Action 8- identify areas suitable for restoration and current extraction levels**
Eelgrass beds (*Zostera noltii*)	No evidence	No evidence	Low	**Yes**	N/A	Data gap relating to baseline bed extent and identify potential pressures **Action 9- survey *Zostera nolitii* beds to establish baseline and identify pressures within the area**
Blue mussel beds (*Mytilus edulis*)	No evidence	No evidence	Low	**Yes**	N/A	Data gap relating to baseline bed extent and identify potential pressures **Action 10- survey known beds to map extent and identify pressures within the area**
Native oyster beds (*Ostrea edulis*)	Many concerns	Deterioration	Moderate	**Yes**	N/A	Loss due to identified historical pressure. No known beds, active restoration would be required to aid recovery. Potential for small unrecorded beds. **Action 11- promote public reporting of beds**
Intertidal rock	No Concerns	stable	Low-moderate	**Yes**	No	See sub-sections
Sea loch egg wrack beds	No Concerns	No evidence	Low-moderate	**Yes**	N/A	Baseline extent needs to be established and historical records investigated. **Action 12- map spatial extent of habitats, promote public recording**
Tide swept algae communities	No Concerns	No evidence	Moderate	**Yes**	No	Baseline extent unknown. Surveying prohibitively expensive due to habitat extent. **Action 13- identify whether remote sensing could be used to map extent and assess trends**

Topic	Assessment	Trend	Confidence	Data Gap	Policy Gap	Comments
Subtidal Sediments and Supported Habitats and Species	Some concerns	No evidence	Moderate	**Yes**	N/A	See-subsections
Subtidal Sediments	Some concerns	No evidence	Moderate	**Yes**	No	Mapping subtidal sediment extent is prohibitively expensive at this time. Pressures on subtidal sediments are managed via industry specific plan policies. **Action- None**
Low or variable salinity habitats	No concerns	No evidence	Moderate	**Yes**	No	Local knowledge on lagoons and their pressures is limited, leaving them vulnerable to development pressure. **Action 14 – raise local awareness of lagoons to facilitate protection**
Seagrass beds	Many concerns	Deterioration	Moderate	**Yes**	No	Baseline extent unknown. Surveying prohibitively expensive due to habitat extent **Action 13 - identify whether extent can be mapped and monitored using remote technology**
Maerl beds	Some concerns	Stable	Low-moderate	**Yes**	No	Maerl beds extents have been mapped by the SSMO which provides a baseline which could facilitate the monitoring of future change. However survey costs are prohibitively expensive at this time. **Action 11 - promote public reporting**
Horse mussel beds	Some concerns	No evidence	Moderate	**Yes**	No	Horse mussel beds extents have been mapped by the SSMO which provides a baseline which could facilitate the monitoring of future change. However survey costs are prohibitively expensive at this time. **Action 11 - promote public reporting**
Shallow tide-swept coarse sands with burrowing bivalves	Some concerns	No evidence	Low	**Yes**	No	Baseline extent unknown. Surveying prohibitively expensive due to habitat extent. **Action- none**
Ocean Quahog	No evidence	No evidence	Low	**Yes**	No	Baseline extent unknown. Surveying prohibitively expensive due to habitat extent. **Action- none**
Fan mussel	No evidence	No evidence	Low	**Yes**	No	Records of fan mussels are of low spatial resolution and historic, and do not suitable as a baseline or to guide survey effort. **Action 11- promote public reporting**
Burrowing sea anemone	No evidence	No evidence	Low	**Yes**	No	Records of burrowing sea anemones are of low spatial resolution and historic, and do not suitable as a baseline or to guide survey effort.

						Action 11- promote public reporting
Northern Feather Star	No evidence	No evidence	Low	**Yes**	No	Records of northern sea fans are from unverified public records in locations uncharacteristic of the species. **Action 11- promote public reporting with accompanying photographs**

Topic	Assessment	Trend	Confidence	Data Gap	Policy Gap	Comments
Subtidal rock	No concerns	Stable	Low-moderate	**Yes**	No	See subsections
Kelp beds	Few concerns	No evidence	Low-moderate	**Yes**	No	Baseline extent unknown. Surveying prohibitively expensive due to habitat extent **Action 13 - identify whether extent can be mapped and monitored using remote technology**
Tide-swept algae communities	No concerns	No evidence	Moderate	**Yes**		Baseline extent unknown. Surveying prohibitively expensive due to habitat extent **Action 13 - identify whether extent can be mapped and monitored using remote technology**
White cluster anemone	No evidence	No evidence	Low	**Yes**	No	Limited records from Shetland, although two records exist from the same location at Papa Stour which are over 20 years apart, suggesting colonies may persist over long periods. **Action 11- promote public reporting with accompanying photographs**
European Spiny Lobster	No evidence	No evidence	Low	**Yes**	No	Baseline abundance unknown. Surveying prohibitively expensive due to habitat extent. Public reporting may help to identify areas of importance to the species. **Action 11 - promote public reporting with accompanying photographs**

PRODUCTIVE

Topic	Economic contribution	Employment	Production	Data Gap	Policy Gap	Comments
Leisure and recreation	No evidence	No evidence	Increasing	**Yes**	No	Data gaps relating to participation levels **Action 15- Explore approaches to improve data gathering relating to leisure and recreation, and identify any barriers to participation.**
Historic environment and cultural heritage	No evidence	No evidence	N/A	**Yes**	No	Data gaps relating to participation levels and current condition **Action 16- Explore approaches to improve data gathering relating to historic environment and cultural heritage**
Renewable energy	No evidence	No evidence	N/A	**No**	No	Data gap exists due to infancy of industry. Data will become available as industry grows. **Action- none**
Oil and Gas	Decreasing	Decreasing	Decreasing	**No**	No	Oil and gas production has decreased due to a number of reasons including decreasing reserves and global prices. **Action- none**

SUMMARY ACTION PLAN

Action	Topic	Planned Date	Comments
1	Microbial contamination	2018-2020	On-going monitoring facilitated by liaison with SEPA and SIC EHO
2	Marine litter	2018-2020	monitor on-going litter levels and assess impacts of national and local policies via liaison with SAT
3	Underwater noise	2019	identify potential noise hot spots
4	Cetaceans	2019	investigate the potential for identification of cetacean hotspots
5	Birds- Eider ducks	2019	Identify measures to minimise conflict between shellfish farming and Eider ducks
6	Sharks, skates and rays	2018-2019	Review approaches in other areas of the UK to increase data gathering including public reporting and tagging
7	Non-native species	2017-2020	Continue NNS monitoring
8	Intertidal sediments- mudflats, sandflats, sandy beaches	2019-2020	Identify areas suitable for restoration and current extraction levels
9	Eelgrass beds (*Zostera noltii*)	Summer 2018	Survey *Zostera nolitii* beds to map extent and identify pressures within the area
10	Blue mussel beds (*Mytilus edulis*)	Summer 2018	survey known beds to map extent and identify pressures within the area
11	PMFs: white cluster anemone, European spiny lobster, Northern feather star, fan mussel, maerl beds, horse mussel beds, native oysters, seagrass, sea loch egg wrack	Summer 2018	Promote public recording and monitoring. Create a leaflet for local divers to promote recording of PMF species
12	Sea loch egg wrack beds	Summer 2017	Survey historic records, map spatial extent and identify pressures
13	Tide swept algae communities, kelp beds, seagrass beds	2019	identify whether extent can be mapped and monitored using remote technology
14	Low or variable salinity habitats	Summer 2017	raise local awareness of lagoons to facilitate protection
15	Leisure and recreation	2019-2020	Explore approaches to improve data gathering relating to leisure and recreation, and identify any barriers to participation.
16	Historic environment and cultural heritage	2019-2020	Explore approaches to improve data gathering relating to historic environment and cultural heritage