**Shetland Islands Council Climate Change Strategy**

**Strategic Environmental Assessment**

**Environmental Report**

**[](http://www.shetland.gov.uk/)**

**SIC Climate Change Strategy SEA ENVIRONMENTAL REPORT**

**COVER NOTE**

Shetland Islands Council Climate Change Strategy

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An SEA Environmental Report is attached for the plan entitled: SIC Climate Change Strategy

The Responsible Authority is: Shetlands Islands Council

The above Shetland Islands Council Climate Change Strategy falls under the scope of Section 5(4) of the Environmental Assessment (Scotland) Act 2005 (“the 2005 Act”) Act and requires an SEA.

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# ​ ​​i. Non-technical summary

1. **​** Introduction

### **1.2. Background:**

* + 1. The Shetland Islands Council (SIC) Climate Change Strategy (CCS) was created to guide the Council’s climate change activity, with the long-term aim of bringing the Council’s emissions to net zero and preparing its estate and operations for the effects of climate change. The Strategy was developed based on the Shetland Islands Council Net Zero Route Map (NZRM) which produced a series of recommendations and measures to reduce Council emissions and was adopted by full Council in November 2022. It is also based on the best practice and latest guidance from Scottish Government, the United Nations, and other local authorities to create an aligned an effective response to the climate emergency, which the Council formally recognised in 2020. Shetland Islands Council is required by Scottish Government to reach net zero emissions by 2045.
    2. This document is a non-technical summary of the Environmental Report which accompanies and supports the SIC Climate Change Strategy. The Strategy has been developed in a multi-stage approach involving stakeholder engagement across the Council, with the final stage before adoption being consultation with the public. The development and content Strategy and Environmental Report will be summarised here.
    3. The public are invited to comment on the SIC Climate Change Strategy and Environmental Report online at <https://www.shetland.gov.uk/climate-change>. There, individuals and businesses can comment on each section of the Climate Change Strategy and on the Environmental Report. These comments will be collected, considered and, if they result in an alteration to the Strategy, reported upon in a public report.

## 2. Shetland Islands Council Climate Change Strategy

### **2.1. Development**

* + 1. The SIC Climate Change Strategy was developed with a multi-phase, co-design approach. To begin with, the Council’s Climate Change Strategy team conducted a desktop research exercise of relevant policies, plans and legislation relating to climate change and studied the completed NZRM. Aligning with the best practice guidance from Scottish Government, the structure and aims of the Strategy were drafted.
    2. Then, using the gathered data, the draft content of the Strategy was completed. Each Strategy section was workshopped with relevant stakeholders and experts across the Council. With feedback taken on board, the draft Strategy was then workshopped with elected Councillors, who reviewed and provided input into and approved of the direction of the Strategy.
    3. At this stage, the team completed a Strategic Environment Assessment in order to maximise the environmental benefits and mitigate potential negative effects of the Strategy. Having completed this process and drafted an Environmental Report to formalise the possible environmental effects, the Strategy is now in the process of final consultation with the public.

### **2.2. Structure**

* + 1. The Strategy document begins by summarising its purpose, base documents, and aims. It gives context on climate change, mitigation and adaptation, and explains the development process.
    2. The main content of the Strategy is divided into 2 parts: enablers and themes. Enablers are Strategic Objectives and information which is aimed at addressing challenges and barriers to action in the Council. Working towards the Enablers’ Strategic Objectives will make climate action more efficient, cost-effective, and possible. Themes are Strategic Objectives and aims which directly address the causes and effects of climate change in the Council’s estate and operations.
    3. The enablers are structured in 3 sections: Background; Drivers for change; and the Strategic Objectives. The Background presents a brief explanation of what is meant by the enabler and outlines what structures and activity is already in place in that area. Drivers for change set out why the enabler is needed and what its aims are. The Strategic Objectives are high-level goals which the Council will aim to achieve in the subsequent 5 years, so they are presented as ‘In the next 5 years, we will…’ Achieving these Strategic Objectives will set the Council on the right path to achieving net zero emissions by 2045 and adapting to climate change.
    4. The enablers are:

Leadership & Governance

Alignment

Money

Empowerment

Communications

* + 1. The Communications enabler is structured differently and contains headings: Who, What, Why, What We Want to Achieve, and Actions/Tasks. This is because it is a presentation of the Council’s Climate Change Communications Strategy, which is a critical part of the overall Climate Change Strategy and requires a more bespoke and in-depth approach.
    2. The themes are structured in 4 sections: The Challenge; Where We Are; What We Want to Achieve; and Co-benefits. The Challenge outlines why each theme will take effort and coordinated action to decarbonise at national and international levels, and why each is often particularly challenging in Shetland’s context. Where We Are describes what action is already underway in the Council to address the theme and how the theme is already impacting Shetland. What We Want to Achieve sets out our Strategic Objectives for the Themes. Co-benefits are what social, environmental, and economic benefits might arise from undertaking climate action which are incidental to the primary aims of mitigating and adapting to climate change.
    3. The themes are:

Energy

Buildings

Transport

Resources & Waste

Business & Industry

Nature-based Solutions

### 

### **2.3. Shetland Islands Council Climate Change Action Plan**

* + 1. A Climate Change Action Plan will be developed in order to deliver the strategic objectives, within the action plan responsibility, a timeline and key performance indicators will be allocated.

## 3. The Strategic Environmental Assessment Process

### **3.1. Strategic Environmental Assessment Screening and Scoping**

* + 1. As part of the Strategy’s development, the Climate Change Strategy team submitted a Screening Report to the Scottish Government’s SEA Gateway team to determine if the SIC Climate Change Strategy needed to undergo a Strategic Environmental Assessment (SEA). The Screening Report suggested which Strategic Objectives might have effects on the environment and proposed a framework for reporting on these effects. The outcome of this report’s submission was that the SEA Gateway recommended that the SIC Climate Change Strategy undergo an SEA.
    2. As part of the Strategy’s development, the Climate Change Strategy team submitted a Scoping Report to the Scottish Government’s SEA Gateway team to propose what should be included in the Strategy’s SEA. The Scoping Report also further refined the framework for assessing environmental impacts and proposed an outline for the Strategy’s Environmental Report. The outcome of this report’s submission was that the SEA Gateway agreed with the proposed scope of the SEA and format of the Environmental Report.

### **3.2. SEA Content**

* + 1. In order to conduct the SEA, a series of SEA Objectives were developed for each area of environmental impact. The objectives are:
* For biodiversity, flora and fauna: To protect, conserve and enhance the biodiversity of Shetland.
* For population and human health: Support thriving, healthy and resilient communities.
* For soil: Safeguard the soil quality and geodiversity in Shetland, particularly of peat and other carbon rich soils.
* For water: Enhance and sustainably interact with the water environment of Shetland.
* For air: To maintain air quality and reduce levels of nuisance throughout Shetland.
* For climatic factors: Reduce greenhouse gas emissions; and Promote and enable adaptation to climate change.
* For cultural heritage: Safeguard distinctive cultural heritage features and their settings.
* For landscape: Protect and manage the special characteristics of Shetland’s landscapes and seascapes.
* For material assets: Promote the sustainable use of natural resources and material assets.
  + 1. Each of the Strategic Objectives has been weighed against each of these facets of the environment and its related SEA Objective. Against each, the Strategic Objectives were given a score of:

Major positive effect (++)

Minor positive effect (+)

Neutral (\*)

Unknown (?)

Both Positive and Negative (+/-)

Minor negative effect (-), or

Major negative effect (--)

and a category of:

Local (Community level) (L)

Regional (Shetland level) (R)

National (Scotland level) (N)

International (trans-national boundary) (I)

Permanent (P)

Temporary (T)

* + 1. Each of the Strategic Objectives was examined to consider whether its positive environmental effects could be enhanced and/or its negative effects mitigated.

### **3.3. Assessment of Alternatives**

* + 1. Based on the possibility for enhancement of positive environmental effects or mitigation of negative effects, each of the Strategy’s Strategic objectives were re-assessed and alternatives were considered. Where changes have been made to the Strategy to enhance or mitigate effects, these have been noted and will be reported on.
    2. In many instances, Strategic Objectives and the overall goals to which they contribute are not suitable for change upon completion of the SEA because they are statutory requirements with which SIC as a public body or local authority must comply. Many Strategic Objectives also do not contain suitable alternatives because their outcome is to create a plan or undertake a project, which will perform a more complete options analysis at a project level. The environmental effects of these Strategic Objectives are therefore unknowable.
    3. Despite this, the iterative process of completing the SEA has caused the development of the Strategy to consider environmental consequences at each stage. Completing the screening report prompted consideration of the environmental effects of each Strategic Objective, and completion of the scoping report provided impetus to consider environmental objectives explicitly as part of the Strategy’s outcomes.
    4. Environmental outcomes were already considered as a crucial co-benefit. The Strategy’s accompanying Environmental Report, which details what the estimated environmental effects will be and how these might be mitigated and enhanced for negative and positive effects respectively, is a way of codifying this ambition.

## 4. The Environmental Report

### **4.1. Summary**

* + 1. This section will summarise the findings of the SEA and how they are reported on in the Environmental Report. It will assess each Enabler and Theme, as a summary of their composite Strategic Objectives, against our SEA Objectives and provide a score. Details can be found in the full Environmental Report.

### **4.2. Assessment**

4.2.1.

|  |  |  |
| --- | --- | --- |
| **Strategy Section** | **Environmental Impact** | **Score** |
| Leadership & Governance | Most of the Strategic Objectives should have a neutral to positive effect on the environment and should score well against the SEA Objectives. Climatic factors are likely to do particularly well against our SEA Objectives, as should population and human health as we improve our climate action regionally.  Strategic Objectives within this section are related to developing frameworks, networks and governance, allowing for further, more specific strategies and projects to be developed, and so will not have direct, quantifiable environmental effects. | +  R |
| Alignment | Most of the Strategic Objectives should have a neutral to positive effect on the environment and should score well against the SEA Objectives. Climatic factors are likely to do particularly well against our SEA Objectives by aligning with national climate change targets. Population and human health and biodiversity, flora and fauna should also do well against SEA objectives as the Council undertakes more joined-up action on peatland restoration, buildings, and transport.  Strategic Objectives within this section are related to aligning frameworks, networks and governance, allowing for further, more specific strategies and projects to be developed, and so will not have direct, quantifiable environmental effects. | +  R |
| Money | Most of the Strategic Objectives should have a neutral to positive effect on the environment and should score well against the SEA Objectives. Climatic factors are likely to do particularly well against our SEA Objectives by reducing the emissions from SIC’s investments and operations. Material assets should also do well against our SEA objective as the Council procures more sustainably and institutes circular economy principles.  Strategic Objectives within this section are related to developing frameworks and processes, allowing for further, more specific strategies and projects to be developed, and so will not have direct, quantifiable environmental effects. | +  R |
| Empowerment | Most of the Strategic Objectives should have a neutral to positive effect on the environment and should score well against the SEA Objectives. Climatic factors should score well against SEA Objectives as Council staff and the community are empowered.  Many Strategic Objectives involve considering community input, maximising community participation in climate action, the results of which are unknown, so the effects are unknown. | +  L |
| Energy | Most of the Strategic Objectives should have a neutral to positive effect on the environment and should score well against the SEA Objectives. Climatic factors in particular score well against the SEA Objectives as Shetland uses less and decarbonises energy. The Strategic Objectives also score well against population and human health SEA objectives because of the aim to secure affordable energy and improve energy efficiency.  Many Strategic Objectives focus on creating future projects, the effects of which are unquantifiable. | +  R |
| Buildings | Most of the Strategic Objectives should have a neutral to positive effect on the environment and should score well against the SEA Objectives. Climatic factors in particular score well against the SEA Objectives as Shetland uses less and decarbonises energy. The Strategic Objectives also score well against population and human health SEA objectives as living in Council becomes more affordable and comfortable.  Many Strategic Objectives focus on creating future projects and plans, the effects of which are unquantifiable. | +  R |
| Transport | Most of the Strategic Objectives should have a neutral to positive effect on the environment and should score well against the SEA Objectives. Climatic factors in particular score well against the SEA Objectives as the Council decarbonises its fleet and adapts to climate change. The Strategic Objectives also score well against population and human health SEA objectives from active travel and affordable transport measures.  Many Strategic Objectives focus on creating future projects and plans, the effects of which are unquantifiable. | +  R |
| Resources & Waste | Most of the Strategic Objectives should have a neutral to positive effect on the environment and should score well against the SEA Objectives. Climatic factors in particular score well against the SEA Objectives as the Council makes better use of resources and disposes of waste sustainable. The Strategic Objectives also score well against material assets objectives because the Council will re-use materials and have a sustainable waste system.  Many Strategic Objectives focus on creating future projects and plans, the effects of which are unquantifiable. | +  R |
| Business & Industry | Most of the Strategic Objectives should have a neutral to positive effect on the environment and should score well against the SEA Objectives. Climatic factors in particular score well as the Council supports businesses to decarbonise.  Many Strategic Objectives focus on creating future projects and plans, the effects of which are unquantifiable. | +  R |
| Nature-based Solutions | Most of the Strategic Objectives should have a neutral to positive effect on the environment and should score well against the SEA Objectives. Climatic factors in particular score well as the Council supports reducing emissions from land. Biodiversity, flora and fauna, soil, water, and landscape effects also score well against the SEA Objectives because the Council aims to improve these facets of the environment as priorities in the Strategic Objectives. | +  R |

## 5. Mitigation, Enhancement, and Monitoring

### **5.1. SEA Mitigation**

* + 1. Mitigation of negative environmental effects will be applied where appropriate. However, as many of the Strategic Objectives of this Strategy document are aimed at prompting the creation of further projects, policies, plans and strategies, mitigation of negative environmental effects will most often need to be completed at a project- or plan-level.
    2. Because the Climate Change Strategy places maximising environmental co-benefits at its core, and a key outcome is to align all other Council policies and operations with the aims of the Climate Change Strategy, it is the aim of the Strategy that all policies and operations will mitigate negative environmental effects at a project- or plan-level.
    3. Where alignment with the Climate Change Strategy’s aim of mitigating negative environmental effects cannot be assured, most projects must align with National Planning Framework 4 and most policies, plans and strategies must undergo an SEA process of their own. Robust frameworks are already in place to mitigate negative environmental effects of any projects and plans that result from this Strategy.

### **5.2. SEA Enhancement**

* + 1. Enhancement of positive environmental effects will be applied where appropriate. However, as many of the Strategic Objectives of this Strategy document are aimed at prompting the creation of further projects, policies, plans and strategies, enhancement of positive environmental effects will most often need to be completed at a project- or plan-level.
    2. Because the Climate Change Strategy places maximising environmental co-benefits at its core, and a key outcome is to align all other Council policies and operations with the aims of the Climate Change Strategy, it is the aim of the Strategy that all policies and operations will be enhance positive environmental effects at a project- or plan-level.
    3. Where alignment with the Climate Change Strategy’s aim of enhancing positive environmental effects cannot be assured, most projects must align with National Planning Framework 4 and most policies, plans and strategies must undergo an SEA process of their own. Robust frameworks are already in place to enhance positive environmental effects of any projects and plans that result from this Strategy.

### **5.3. SEA Monitoring**

* + 1. The 2005 Act requires SEA Environmental Reports to provide a “description of the measures envisaged concerning monitoring in accordance with section 19”. Section 19 requires the responsible authority to “monitor the significant environmental effects” in a manner which enables it to “identify any unforeseen adverse effects at an early stage” and to “undertake appropriate remedial action”.
    2. Following completion of the Consultation process, input and responses from the public and SEA Consultation Authorities will influence the creation of the final SIC CCS Action Plan and KPIs. These will build on from the work done through this SEA process and be tailored to our own organisational action monitoring systems.
    3. Predominantly, this monitoring will take the form of Quarterly Reports and, given the high-level nature of many of our strategic objectives (SOs), as creation of Feasibility Studies and Action Plans.

## 6. Next Steps

### **6.1. Consultation**

* + 1. This SEA Environmental Report and its Non-Technical Summary have been published for consultation alongside the Draft SIC CCS which has been prepared the SIC Climate Change Strategy team.
    2. The SIC CCS and accompanying SEA documents, including this Environmental Report have been published for public consultation for a period lasting 6 weeks. All documentation will be hosted on the Climate Change webpages of the Council’s own website. Hard copies are available, upon request, from the Infrastructure Offices in Lerwick.
    3. Information explaining how to respond to the Consultation documents during this period will be available on the website. Further in accordance with statutory requirements, an advertisement will be placed in local newspapers inviting members of the public to access the webpage and engage in the consultation process.
    4. The SEA Environmental Report and a copy of the Draft SIC CCS will also be provided to the SEA Gateway for distribution to the SEA Consultation Authorities, for formal consultation on the Strategy and the SEA as per the requirements of the Environmental Assessment (Scotland) Act 2005.

### **6.2. Next Stages**

* + 1. This SEA Environmental Report will be consulted on for a period of 6 weeks alongside the SIC CCS. Both consultations will close on Friday 27th October 2023.
    2. The proposed SIC CCS will then be updated should any minor changes be needed before the document is sent to the SIC Environment and Transport Committee.
    3. The final SIC CCS will then be formally adopted by SIC Environment and Transport Committee. Once approved a Post-Adoption statement will be published in a local newspaper.

# Introduction

## **Background to the Shetland Islands Council Climate Change Strategy**

* + 1. Climate change poses significant threats to Shetland’s way of life, our economy and the natural environment.
    2. Climate change is the long-term shift in global climate patterns, including extreme weather events and rising sea levels, linked directly with the warming of the Earth’s atmosphere.
    3. We have now seen 1.2 degrees Celsius of global warming in the last century because of certain human activities, predominantly the extraction and burning of hydrocarbons, and global farming practices, which release greenhouse gas emissions into the atmosphere that trap heat and warm the earth’s surface.
    4. CO2 (carbon dioxide) is the most common greenhouse gas emission and where the term carbon emissions come from. Other greenhouse gas emissions include methane, nitrous oxide and f-gases.
    5. Climate change in Shetland takes the form of several risks, such as:
  + Increased frequency in extreme weather events
  + Increased rates of flooding, both coastal and surface flooding
  + Ocean acidification and warming
  + Extreme temperatures
  + Increased pests, pathogens and invasive species
  + Disrupted supply chains
    1. In 2020 the SIC acknowledged a climate emergency. This prompted the creation of the SIC’s Climate Change Program in 2021 which brought the existing Energy Efficiency team together with new Climate Change Strategy and Future Energy teams.
    2. As a local authority, under the Climate Change (Scotland) Act 2009, the SIC has a statutory duty to reduce greenhouse gas emissions in line with Scotland's national target of 2045, and to demonstrate we are working towards this. This document forms one such demonstration.
    3. In November 2022, the SIC and Shetland-wide Net Zero Route Maps were presented to elected members and accepted. This gave the mandate for the creation of the SIC CCS, to which this report pertains, and the Shetland-wide strategy for which work is ongoing.
    4. The SEA process has fed into the creation of the SIC’s CCS.

## **The SEA Process**

* + 1. The Environmental Assessment (Scotland) Act 2005 (the 2005 Act) is the statutory mechanism requiring the assessment of the effects of certain plans and programmes on the environment is delivered in Scotland.
    2. The purpose of the 2005 Act is to provide a high level of protection of the environment while ensuring that environmental considerations are taken into account during the preparation and in the adoption of plans.
    3. References to ‘SEA,’ ‘strategic environmental assessment’ or an ‘environmental assessment’ are understood here to refer only to those which comply with the 2005 Act.
    4. The SEA process provides a means to determine and judge the impact of a public plan on the environment, and seek ways to minimise any significant negative effects. In its most practical sense, it sets out how any environmental effects identified are to be responded to. This process also provides the opportunity to maximise potential positive outcomes and impacts that a plan may have on the environment or environmental issues. The consultation element of the process affords both experts within Consultation bodies and the public the chance to understand what is being assessed and to provide feedback which inputs into the resultant plan.
    5. The SEA process is formed of six parts:

1. Screening – determining if an SEA is required;
2. Scoping – setting the context and objectives, establishing the baseline and deciding on the scope;
3. Appraisal – developing and refining alternatives and assessing effects;
4. Reporting – preparing the Environmental Report
5. Consultation – consulting on the draft Environmental Report and the first public consultation on the draft SIC Climate Change Strategy; and,
6. Adoption – relevant bodies choose to either adopt or reject plan**.**
   * 1. By the nature of the SIC Climate Change Strategy, and indeed of climate change itself, the plan covers a wide range of SIC service areas and departments and so falls under Section 1 and 5 (4) of the 2005 Act. For this, Screening, Scoping and Environmental Report documents have been submitted.
     2. This report has been undertaken in accordance with the requirements of the 2005 Act.

## **The Environmental Report**

* + 1. SEA Guidance states that “*the purpose of environmental assessment is to identify the likely effects of a plan, and to avoid any adverse environmental effects occurring. Assessment findings are used to populate an Environmental Report, which is then used as a key tool for public engagement in the main consultation*”.
    2. Both Screening and Scoping Reports were submitted for consultation via the SEA Gateway at the Scottish Government in July 2023. The outcomes of the Scoping report are summarised in Appendix I. For both reports, all consultation bodies agreed that there may be significant environmental impacts and so all SEA objectives needed to be taken forward and assessed in greater detail as part of an environmental report.
    3. This is the Environmental Report for the SIC CCS. The document assesses the likely significant environmental effects, positive and negative, of each of the SIC CCS’s Strategic Objectives, and identifies any potential alternatives that may be present to mitigate potential negative impacts, or maximise potential positive impacts.
    4. The report has been prepared by the SIC’s Climate Change Strategy team and all assumptions made within it are based off of the best available data at the time of writing.
    5. To ensure effectiveness of the SEA process, it is important that the SIC CCS and SEA are fully integrated and enable the SEA process to influence creation of the SIC CCS.
    6. Full integration (as stipulated in the 2005 Act), aids decision making, raises awareness of potential environmental issues and ensures that environmental considerations are thoroughly taken into account in the development of this plan.

## **Relationship with other relevant plans, programmes and strategies (PPS)**

* + 1. In accordance with SEA statutory requirements, a review of the relationship between the Draft SIC CCS and other relevant plans and programmes (including current legislation, policies and strategies of both national and regional levels) has been included. This review identified key requirements, objectives and priorities of relevant plans and their implications for both the emerging SIC CCS and for the SEA.
    2. A review of these plans and programmes is set out in Appendix **II** of this report.
    3. The key findings of the review are:
* The need for alignment with relevant existing and emerging targets, policies and proposals within relevant national, regional and local plans and strategies that are related, directly or in part, to climate change and sustainability.
* Ensuring that environmental effects, including possibilities to maximise potential positive impacts, are fully detailed during the preparation of future policies, plans, action plans and projects that may result from this strategy.
* The importance of building resilience to the impacts of climate change into the development of infrastructure and SIC operations.

# Environmental Assessment

## **Assessment Methodology**

* + 1. The methodology used to assess the likely environmental effects of SIC’s CCS in Shetland is set out in this section.
    2. This SEA Environmental Report includes; brief appraisal of the environmental baseline; discussion of the SEA environmental topic areas; an evaluation of the environment in the absence of the SIC CCS; assessment of the likely environmental effects of each SIC CCS Strategic Objective; and, the mitigation and monitoring intended or use upon the conclusion of the SEA and adoption of the plan.

## **Environmental Baseline**

* + 1. The Environmental Baseline was submitted in support of the Screening and Scoping reports in July 2023.
    2. The Environmental Assessment (Scotland) Act 2005 requires that information is provided on the current state of the environment and how this might evolve if SIC’s CCS was not implemented.
    3. Baseline data helps to identify issues on which SEA should focus and provides a benchmark against which performance can be assessed.
    4. An Environmental Baseline for Shetland has been produced to support this report (Appendix III). The baseline is presented using a topic-based approach, which reflects the issues set out within Schedule 3 of the Act:

1. Biodiversity, Flora and Fauna
2. Human Health
3. Soil
4. Water
5. Air
6. Material Assets
7. Climatic Factors
8. Cultural Heritage (including archaeological and architectural heritage)
9. Landscape and Seascape
   * 1. The report also highlights important interrelationships between the topics.

## **State of the Environment**

* + 1. The current state of the environment, which is explained in depth in the Environmental Baseline report included in Appendix III, is outlined in the sections below.

Biodiversity, Flora and Fauna

* + 1. The relatively isolated and exposed location of Shetland means that it is a wild and unique place in the British Isles. The nearest neighbouring local authority is Orkney, lying 80 kilometres to the south-west. Shetland is characterised by sea cliffs, large areas of moorland and low intensity farmland which is important for a range of ground nesting species as well as internationally important numbers of breeding seabirds. Approximately 10% of the total UK population of seabirds nest in Shetland.
    2. There are a variety of designated sites in Shetland, including those of local, national and international importance.
    3. A significant number of those international sites are deemed to be in *unfavourable* condition. This is for multiple reasons, including over-grazing for land-based sites, and natural events, climate change and, game and fisheries management for most SPAs intended for the protection of birds.
    4. Current biodiversity monitoring shows that overall half the indicators (Rare Plants, Songbirds and Sea Mammals) are scored as green while the other three (LNCS, Waders, Seabirds – inc. red-throated diver and eider) are scored as red. This shows a negative change from 2016 when more than half of the indicators were recorded as green.
    5. In the 2022 breeding season, avian flu spread rapidly through many of the bird populations in Shetland, particularly impacting the seabird colonies of Gannets and Arctic Skuas. The Skua populations are believed to have diminished considerably though full counts and assessments of current numbers and recovery capabilities are currently underway.

Population and Human Health

* + 1. The population of Shetland is 22,940[[1]](#footnote-1) (as of mid-2022). Shetland is the 11th largest of Scotland’s 32 local authorities by area but is the 2nd smallest in terms of population.
    2. The main town of Lerwick is home to approximately 40% of the population.
    3. Shetland’s population is facing various different issues. Rural depopulation and an aging population are placing considerable strain on employment, education and other essential services. Essential posts including teachers and medics are increasingly difficult to fill, meaning posts are oftentimes filled with volunteers or external agency staff.
    4. Despite the current challenges, Shetland boasts good life expectancies and wellbeing is consistently recorded as high.

Soil

* + 1. There is no area in Shetland designated as Prime Agricultural Land. Much of the land used for farming or crofting is Less Favoured Land, and over 70% of land is classified as rough grazing.
    2. Over half of all soils across Shetland are peat, mainly blanket bog, which perform important ecosystem services including the long-term sequestration of carbon.
    3. Erosion comprises the greatest threat to Shetland’s soil quality. Soil erosion from grazing and natural erosion have resulted in approximately 70-80% of blanket bog being degraded to varying extents.

Water

* + 1. Quality of both fresh and coastal waters is relatively high in Shetland.
    2. Potential threats from both surface ‘flash’ flooding and sea level rise are increasingly a concern in Shetland.
    3. Fishing and aquaculture is a key industry in Shetland, with local ports being some of the busiest in the UK.
    4. As outlined in previous sections, Shetland has several designations in place to protect its unique qualities.
    5. There are a high number of private sewerage treatment plants and small scale waste water treatment works which is due to the prevalence of dispersed settlements.

Air

* + 1. Air pollution levels in Shetland are low. There are currently no Air Quality Management Areas.
    2. It is recognised though, that while air quality is already high, this must be safeguarded and measures should always be considered to reduce possible air pollution from buildings, transport and industry.

Material Assets

* + 1. Shetland has relatively high rate of waste being diverted from land fill, mainly due to the presence of the Energy Recovery Plant and the Lerwick District Heating Scheme.
    2. Shetland has the lowest recycling rate in Shetland, due in part to its remote location. With new changes to legislation, recycling efforts will need to be expanded and more items shipped to the mainland.
    3. Shetland has a high dependency on the private car, air and sea transport. The Scottish Index of Multiple Deprivation (SIMD) gives an indication of the accessibility faced by the whole of Shetland and more specifically on its more remote islands, with over 50% of the Shetland data zones being within the Index’s most deprived 10% in terms of geographic access to services.
    4. Mobile voice and broadband capabilities are improving in Shetland though large areas remain unserved. Projects such as North Isles Fibre are improving the access of the northern islands inhabitants and business to fibre connections.

Climatic Factors

* + 1. Climate change is a global issue with a strong global consensus that greenhouse gases (GHG) must be reduced in order to avoid significant adverse effects.
    2. Climatic factors include precipitation, wind, solar radiation, ocean and sea currents, snow and ice, and so on.
    3. Precipitation levels in Shetland are already high. Over the past 30 years in Shetland there has been an average of 11 rainy days in the summer and 21 in the winter, even in a high emission scenario with a 4°C global temperature rise this would remain broadly the same. In the short and medium term though, it is predicted that annual precipitation in Shetland by up to 10% annually.
    4. Shetland, like other western and northern parts of Northern Scotland is one of the windiest places in the UK. Due is due to its being exposed to the Atlantic and proximity to the passage of areas of low pressure.
    5. Shetland is one of the stormiest places in Britain and can have up to five times as many storm days as mainland Scotland[[2]](#footnote-2).
    6. In September 2023, the monthly temperature record was broken with a local reading of 22.1 °C. This follows reports of sea temperatures increasing around Shetland by 3°C in the summer of 2023.
    7. Studies have shown that Shetland is both warmer and wetter than it was 50 years ago. Current predictions see this trend increasing.

Cultural Heritage

* + 1. Shetland contains a diverse range of cultural heritage assets which includes archaeological sites and monuments.
    2. Due to the wide range of different sites, their care and future protection from the impacts of climate change may be quite variable. Listed buildings will need different plans and projects to support them than would be appropriate for archaeological ‘dug’ sites.
    3. Historic Environment Scotland manage 8 separate sites across Shetland.
    4. There are 4 properties in Shetland that are on the Scotland-wide register of Gardens and Designed Landscape, which can be found in Unst, Fetlar, Bressay and Nesting.
  1. Evaluation of the Environment in the Absence of the SIC CCS
     1. It is a requirement of the SEA process to consider the likely evolution of the environment *without* the adoption and implementation of the SIC CCS.
     2. Under the Climate Change (Scotland) Act 2009, the SIC must also demonstrate efforts to reduce emissions. Without this strategy, such demonstration would be sparse and more difficult to monitor.
     3. The absence of the SIC CCS would result in all current policies, actions and plans that relate to climate change within the Council remaining and continuing to guide work in this area. While some of these policies, plans and actions have performed well, there is a need to update these in order for their direction and guidance to be reflexive and relevant.
     4. In the absence of the SIC CCS, these policies, plans and strategies would also remain separate and unaligned. Objectives within the Strategy focus on the desire to bring all climate related actions from separate services and their departments, into one cohesive strategy. This can help align action and help to avoid duplication where possible.
     5. The likely effects of not adopting the SIC CCS are outlined below:
* Failure to update previous policies, plans and strategies
* Failure to incorporate new guidance and legislation
* Policies, plans, strategies and their actions will remain separate and exist only within their department and service
* Potential for a lower quality of outcomes and their reporting
* Potential for climate change or climate consciousness not to be a key factor in decision making across the Council
* Outdated and/or ineffective guidance, management and reporting mechanisms could result in detrimental impacts to biodiversity, flora and fauna, landscape, organisational and/or public health and wellbeing, and material assets.
* Potentially negative impact on the environmental baseline and ongoing significant contributions of GHGs that may affect our ability to reach reductions targets.

## **SEA Objectives**

* + 1. This report has been prepared in order to assess each Strategic Objective (SO) in the SIC CCS against the SEA Objectives.
    2. This Environmental Report has been developed by assessing the objectives of the SIC CCS against the SEA Objectives designed as part of the Scoping Report which were formed from the SEA Topics.
    3. The SEA Topics used are those stipulated in the Environmental Assessment (Scotland) Act 2005. They are:
* Biodiversity, flora and fauna
* Population and Human Health
* Soil
* Water
* Air
* Climatic factors
* Cultural heritage
* Landscape
* Material assets
  + 1. Below is the table showing the relationships between the stipulated SEA Topics, and the resultant SEA Objectives, SEA Sub-Objectives, and their Inter-relationships.

|  |  |  |  |
| --- | --- | --- | --- |
| SEA Topic | SEA Objective | SEA Sub-Objective | Inter-relationships |
| Biodiversity, flora and fauna | To protect, conserve and enhance the biodiversity of Shetland. | * Protect and enhance the integrity of Shetland’s environment * Encourage innovative methods of producing biodiversity gain * Reduce the ecological footprint of activity in Shetland | * Efforts to achieve objective will also contribute to soil and water objectives. Linked to landscape. |
| Population and Human Health | Support thriving, healthy and resilient communities. | * Encourage ‘active’ travel means of transportation (where appropriate) * Encourage community and partner initiatives which are inclusive and empowering * Promote sustainable development that improves the prosperity of Shetland residents * Promote the inclusion of disadvantaged and minority groups in climate action * Improve the health of the population | * Supported by improvements in the natural environment, particularly water and air |
| Soil | Safeguard the soil quality and geodiversity in Shetland, particularly of peat and other carbon rich soils. | * Protect Shetland’s soil resources * Encourage the use of Shetland’s soil resources in a sustainable manner * Protect and, where appropriate, restore peat and other carbon rich soils * Conserve diversity of geology, natural landforms and processes | * Supported by biodiversity objective, and contributes greatly to water and climatic factors objectives. Strong links to landscape objective. |
| Water | Enhance and sustainably interact with the water environment of Shetland. | * Encourage opportunities to enhance the state of the water environment. * Reduce demand for and minimise unnecessary use of water * Not increase the risk or likelihood of flooding of any property, planned or existing. * Help to protect other assets at risk from flooding | * Supported by work done in achieving soil objective, and achievement in this objective will contribute to biodiversity and human health objectives. Important to cultural heritage objective. |
| Air | To maintain air quality and reduce levels of nuisance throughout Shetland. | * Further improve Shetland’s air quality through reduction of emissions | * Strong links with climatic factors, and will improve human health objective |
| Climatic factors | Reduce greenhouse gas emissions | * Reduce emissions of greenhouse gases emissions from SIC’s operations and estate. * Encourage implementation of circular economy principles. * Support investment in appropriate renewable energy sources and cleaner technologies. * Encourage and support energy conservation and efficiency. | * Progress in this objective will help achieve air objective. Links with soil, water, and material assets objectives. |
| Promote and enable adaptation to climate change | * Ensure that Council activity gives due consideration to the effects of climate change. * Prepare existing assets and infrastructure for the effects of climate change with minimal disruption. | * Links to water, soil, landscape, and human health objective. |
| Cultural heritage | Safeguard distinctive cultural heritage features and their settings | * Conserve and protect local cultural heritage through climate action * Protect and enhance local character, customs and traditionsRaise public awareness and understanding of how the climate change influences cultural heritage | * Will need support from links to climatic factors and landscape objectives. Strong links to water- particularly the sea. |
| Landscape | Protect and manage the special characteristics of Shetland’s landscapes and seascapes. | * Protect and enhance the landscape character of Shetland * Minimise loss of wild land * Restore carbon-rich soils and other natural features * Encourage activity that is designed to be harmonious with natural environment | * Strong links to soil and biodiversity objectives. |
| Material assets | Promote the sustainable use of natural resources and material assets. | * Encourage the sustainable use of natural resources and minimise the consumption of finite natural resources as far as possible * Promote and enable greater reuse of existing assets and materials * Encourage greater recycling * Promote and implement circular economy & efficient use of resources | * Supports climatic factors objective, and will impact soil use. |

3.5.5. Within the following sections, any reference to the topics as stated above, refers too to the SEA Objective for that topic.

## **Environmental Assessment of Strategic Objectives**

* + 1. In this section, the SOs of the SIC CCS are assessed against the SEA Topic areas and related SEA Objectives.
    2. The table below refers to the colour codes used to present the scores accorded to each SO’s environmental impact.

|  |  |  |  |
| --- | --- | --- | --- |
| **Significance of effect** | | **Scale & Permanence of Effect** | |
| Major positive effect | ++ | Local (Community level) | **L** |
| Minor positive effect | + | Regional (Shetland level) | **R** |
| Neutral | \* | National (Scotland level) | **N** |
| Unknown | ? | International (trans-national boundary) | **I** |
| Both Positive and Negative | +/- | Permanent | **P** |
| Minor negative effect | - | Temporary | **T** |
| Major negative effect | -- |  |  |

* + 1. The SO’s below are grouped following the same sectoral and topical sections as found in the SIC CCS. These are *Enablers*, which include Leadership, Alignment, Money and Empowerment, as well as the *Themes* that are Energy, Buildings, Transport, Business and Industry, Resources and Waste, and Nature Based Solutions.

 Enablers

|  |  |  |  |
| --- | --- | --- | --- |
| **Leadership and Governance** | | | |
| Strategic Objective (SO): **Lead by example and make climate change and sustainability a core value and key outcome of Shetland Islands Council policies and operations.** | | | |
| SEA Topic | Score | Justification | Mitigation and enhancement |
| Biodiversity, flora and fauna | **+**  **R** | No wide-scale action is planned in this Strategic Objective but achieving this objective will have incidental effects. | Further enhancement or mitigation is outwith the scale of this Strategic Objective. |
| Population and human health | **+**  **R** | While we work closely with partners such as the NHS, no wide-scale action is planned in this Strategic Objective but achieving this objective will have incidental effects. | Further enhancement or mitigation is outwith the scale of this Strategic Objective. |
| Soil | **+**  **R** | No wide-scale action is planned in this Strategic Objective but achieving this objective will have incidental effects. | Further enhancement or mitigation is outwith the scale of this Strategic Objective. |
| Water | **\***  **R** | Water in Shetland is of excellent quality and nothing in this Strategic Objective will have a significant effect. | Further enhancement or mitigation is outwith the scale of this Strategic Objective. |
| Air | **\***  **R** | Air in Shetland is of excellent quality and nothing in this Strategic Objective will have a significant effect. | Further enhancement or mitigation is outwith the scale of this Strategic Objective. |
| Climatic factors | **+**  **R** | By considering climate action in the Council’s key outcomes, climatic factors should be improved. | This objective has already been designed to maximally improve climatic factors. |
| Cultural heritage | **?**  **R** | This Strategic Objective could lead to further action, the effects of which are unknown. | The environmental effects of this Strategic Objective cannot be enhanced or mitigated because its effects are unknown. |
| Landscape | **?**  **R** | This Strategic Objective could lead to further action, the effects of which are unknown. | The environmental effects of this Strategic Objective cannot be enhanced or mitigated because its effects are unknown. |
| Material assets | **+**  **R** | The SIC is responsible for the maintenance and quality of Shetland’s infrastructure, such as roads, which could be impacted by this SO. | Further enhancement or mitigation is outwith the scale of this Strategic Objective. |

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| **Leadership and Governance** | | | |
| Strategic Objective (SO): **Establish a strong governance structure with senior management responsibility allocated to the implementation, monitoring and reporting of the objectives and measures outlined in the Climate Change Strategy and the Climate Change Action Plan.** | | | |
| SEA Topic | Score | Justification | Mitigation and enhancement |
| Biodiversity, flora and fauna | **+**  **R** | No wide-scale action is planned in this Strategic Objective but achieving this objective will have incidental effects. | Further enhancement or mitigation is outwith the scale of this Strategic Objective. |
| Population and human health | **+**  **R** | While we work closely with partners such as the NHS, no wide-scale action is planned in this Strategic Objective but achieving this objective will have incidental effects. | Further enhancement or mitigation is outwith the scale of this Strategic Objective. |
| Soil | **?**  **R** | The effect of an effective governance structure on soil is unknown. | The environmental effects of this Strategic Objective cannot be enhanced or mitigated because its effects are unknown. |
| Water | **?**  **R** | The effect of an effective governance structure on water is unknown. | The environmental effects of this Strategic Objective cannot be enhanced or mitigated because its effects are unknown. |
| Air | **?**  **R** | The effect of an effective governance structure on air is unknown. | The environmental effects of this Strategic Objective cannot be enhanced or mitigated because its effects are unknown. |
| Climatic factors | **+**  **R** | By making climate action more robust and effective, climatic factors should be improved. | This objective has already been designed to maximally improve climatic factors. |
| Cultural heritage | **?**  **R** | This Strategic Objective could lead to further action, the effects of which are unknown. | The environmental effects of this Strategic Objective cannot be enhanced or mitigated because its effects are unknown. |
| Landscape | **?**  **R** | This Strategic Objective could lead to further action, the effects of which are unknown. | The environmental effects of this Strategic Objective cannot be enhanced or mitigated because its effects are unknown. |
| Material assets | **?**  **R** | The effect of an effective governance structure on material assets is unknown. | The environmental effects of this Strategic Objective cannot be enhanced or mitigated because its effects are unknown. |

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| **Leadership and Governance** | | | |
| Strategic Objective (SO): **Lead and inspire collaborative climate action across Shetland, providing social, economic and environmental benefits to local organisations, businesses and the community.** | | | |
| SEA Topic | Score | Justification | Mitigation and enhancement |
| Biodiversity, flora and fauna | **+**  **R** | No wide-scale action is planned in this Strategic Objective but achieving this objective will have incidental effects. | Further enhancement or mitigation is outwith the scale of this Strategic Objective. |
| Population and human health | **+**  **R** | We work closely with partners such as the NHS so achieving this objective will have incidental effects. | Further enhancement or mitigation is outwith the scale of this Strategic Objective. |
| Soil | **+**  **R** | No wide-scale action is planned in this Strategic Objective but achieving this objective will have incidental effects. | Further enhancement or mitigation is outwith the scale of this Strategic Objective. |
| Water | **\***  **R** | Water in Shetland is of excellent quality and nothing in this Strategic Objective is likely to have a significant effect. | Further enhancement or mitigation is outwith the scale of this Strategic Objective. |
| Air | **?**  **R** | The effect of collaborative action across Shetland will have an unknown effect on air. | The environmental effects of this Strategic Objective cannot be enhanced or mitigated because its effects are unknown. |
| Climatic factors | **+**  **R** | By working on climate action with the Council’s partners, climatic factors should be improved. | This objective has already been designed to maximally improve climatic factors. |
| Cultural heritage | **?**  **R** | This Strategic Objective could lead to wider action, the effects of which are unknown. | The environmental effects of this Strategic Objective cannot be enhanced or mitigated because its effects are unknown. |
| Landscape | **?**  **R** | This Strategic Objective could lead to wider action, the effects of which are unknown. | The environmental effects of this Strategic Objective cannot be enhanced or mitigated because its effects are unknown. |
| Material assets | **?**  **R** | The effect of collaborative action across Shetland will have an unknown effect on material assets. | The environmental effects of this Strategic Objective cannot be enhanced or mitigated because its effects are unknown. |

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| **Leadership & Governance** | | | |
| Strategic Objective (SO): **Promote at a national level the scale of the challenge for Shetland in reaching Net Zero emissions.** | | | |
| SEA Topic | Score | Justification | Mitigation and enhancement |
| Biodiversity, flora and fauna | **?**  **R** | Promoting Shetland’s unique challenges will have unknown impacts on local species and biodiversity. | The environmental effects of this Strategic Objective cannot be enhanced or mitigated because its effects are unknown. |
| Population and human health | **+**  **R** | No wide-scale action is planned in this Strategic Objective but recognition and support in achieving this objective could have incidental effects. | Further enhancement or mitigation is outwith the scale of this Strategic Objective. |
| Soil | **+**  **R** | No wide-scale action is planned in this Strategic Objective but recognition and support in achieving this objective could have incidental effects. | Further enhancement or mitigation is outwith the scale of this Strategic Objective. |
| Water | **?**  **R** | Promoting Shetland’s unique challenges will have unknown impacts on water. | The environmental effects of this Strategic Objective cannot be enhanced or mitigated because its effects are unknown. |
| Air | **?**  **R** | Promoting Shetland’s unique challenges will have unknown impacts on air. | The environmental effects of this Strategic Objective cannot be enhanced or mitigated because its effects are unknown. |
| Climatic factors | **+**  **R** | By receiving support on climate action, climatic factors should be improved. | This objective has already been designed to maximally improve climatic factors. |
| Cultural heritage | **?**  **R** | This Strategic Objective could lead to wider action, the effects of which are unknown. | The environmental effects of this Strategic Objective cannot be enhanced or mitigated because its effects are unknown. |
| Landscape | **?**  **R** | This Strategic Objective could lead to wider action on peatland, the effects of which are unknown. | The environmental effects of this Strategic Objective cannot be enhanced or mitigated because its effects are unknown. |
| Material assets | **?**  **R** | Promoting Shetland’s unique challenges will have unknown impacts on material assets. | The environmental effects of this Strategic Objective cannot be enhanced or mitigated because its effects are unknown. |

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| **Leadership and Governance** | | | |
| Strategic Objective (SO): **Work with Partners to develop a Shetland Climate Risk Assessment and Adaptation Plan involving community planning partners, businesses, organisations and the community.** | | | |
| SEA Topic | Score | Justification | Mitigation and enhancement |
| Biodiversity, flora and fauna | **?**  **R** | Developing an Adaptation Plan will have unknown impacts on local species and biodiversity. | The environmental effects of this Strategic Objective cannot be enhanced or mitigated because its effects are unknown. |
| Population and human health | **+**  **R** | We work closely with partners such as the NHS so achieving this objective may have incidental effects. | Further enhancement or mitigation is outwith the scale of this Strategic Objective. |
| Soil | **?**  **R** | No wide-scale action is planned in this Strategic Objective but achieving this objective may have incidental effects. Effects will have to be determined at a plan-level. | The environmental effects of this Strategic Objective cannot be enhanced or mitigated because its effects are unknown. |
| Water | **+**  **R** | By preparing Shetland for climate change adaptation, flood risk is reduced. | Further enhancement or mitigation is outwith the scale of this Strategic Objective and must be determined at a project level. |
| Air | **?**  **R** | Developing an Adaptation Plan will have unknown impacts on air. | The environmental effects of this Strategic Objective cannot be enhanced or mitigated because its effects are unknown. |
| Climatic factors | **+**  **R** | By preparing Shetland for climate change adaptation, climatic factors should be improved. | This objective has already been designed to maximally improve climatic factors. |
| Cultural heritage | **?**  **R** | This Strategic Objective could lead to wider adaptation action, the effects of which are unknown. | The environmental effects of this Strategic Objective cannot be enhanced or mitigated because its effects are unknown. |
| Landscape | **?**  **R** | This Strategic Objective could lead to wider adaptation action, the effects of which are unknown. | The environmental effects of this Strategic Objective cannot be enhanced or mitigated because its effects are unknown. |
| Material assets | **?**  **R** | Developing an Adaptation Plan will have unknown impacts on material assets. | The environmental effects of this Strategic Objective cannot be enhanced or mitigated because its effects are unknown. |

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| **Alignment** | | | |
| Strategic Objective (SO): **We will ensure alignment with national and regional climate change targets and best practice.** | | | |
| SEA Topic | Score | Justification | Mitigation and enhancement |
| Biodiversity, flora and fauna | **+**  **R** | No wide-scale action is planned in this Strategic Objective but achieving this objective will have incidental effects. | Further enhancement or mitigation is outwith the scale of this Strategic Objective. |
| Population and human health | **+**  **R** | We work closely with partners such as the NHS so achieving this objective may have incidental effects. | Further enhancement or mitigation is outwith the scale of this Strategic Objective. |
| Soil | **+**  **R** | No wide-scale action is planned in this Strategic Objective but achieving this objective could have incidental effects. | Further enhancement or mitigation is outwith the scale of this Strategic Objective. |
| Water | **?**  **R** | Aligning with national climate change targets will have unknown impacts on water. | The environmental effects of this Strategic Objective cannot be enhanced or mitigated because its effects are unknown. |
| Air | **?**  **R** | Aligning with national climate change targets will have unknown impacts on air. | The environmental effects of this Strategic Objective cannot be enhanced or mitigated because its effects are unknown. |
| Climatic factors | **+**  **R** | By aligning with best practice and the latest guidance, climatic factors should be improved. | This objective has already been designed to maximally improve climatic factors. |
| Cultural heritage | **?**  **R** | Aligning with national climate change targets will have unknown impacts on cultural heritage. | The environmental effects of this Strategic Objective cannot be enhanced or mitigated because its effects are unknown. |
| Landscape | **?**  **R** | This Strategic Objective could lead to further climate action, the effects of which are unknown. | The environmental effects of this Strategic Objective cannot be enhanced or mitigated because its effects are unknown. |
| Material assets | **?**  **R** | Aligning with national climate change targets will have unknown impacts on material assets. | The environmental effects of this Strategic Objective cannot be enhanced or mitigated because its effects are unknown. |

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| --- | --- | --- | --- |
| **Alignment** | | | |
| Strategic Objective (SO): **Work collaboratively across the Council and with partner organisations to maximise efficiency and the impact of climate action.** | | | |
| SEA Topic | Score | Justification | Mitigation and enhancement |
| Biodiversity, flora and fauna | **?**  **R** | Collaborative working will have unknown impacts on local species and biodiversity. | The environmental effects of this Strategic Objective cannot be enhanced or mitigated because its effects are unknown. |
| Population and human health | **+**  **R** | We work closely with regional partners so achieving this objective will have positive effects. | Further enhancement or mitigation is outwith the scale of this Strategic Objective. |
| Soil | **?**  **R** | The effect of collaborative working on soil is unknown. | The environmental effects of this Strategic Objective cannot be enhanced or mitigated because its effects are unknown. |
| Water | **?**  **R** | The effect of collaborative working on water is unknown. | The environmental effects of this Strategic Objective cannot be enhanced or mitigated because its effects are unknown. |
| Air | **?**  **R** | The effect of collaborative working on air is unknown. | The environmental effects of this Strategic Objective cannot be enhanced or mitigated because its effects are unknown. |
| Climatic factors | **+**  **R** | By maximising efficiency of climate action across Shetland, climatic factors should be improved. | This objective has already been designed to maximally improve climatic factors. |
| Cultural heritage | **?**  **R** | Achieving this objective may have an effect on cultural heritage by working with partners in the sector, but these effects are unknown. | The environmental effects of this Strategic Objective cannot be enhanced or mitigated because its effects are unknown. |
| Landscape | **?**  **R** | This Strategic Objective should lead to further climate action, however the effects of this are unknown. | The environmental effects of this Strategic Objective cannot be enhanced or mitigated because its effects are unknown. |
| Material assets | **?**  **R** | The effect of collaborative working on material assets is unknown. | The environmental effects of this Strategic Objective cannot be enhanced or mitigated because its effects are unknown. |

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| --- | --- | --- | --- |
| **Alignment** | | | |
| Strategic Objective (SO): **Ensure policy alignment across all service areas with the Climate Change Strategy and Action plan.** | | | |
| SEA Topic | Score | Justification | Mitigation and enhancement |
| Biodiversity, flora and fauna | **+**  **R** | This objective is likely to have positive effects because the Strategy and Action plan are aimed at improving the environment. | Further enhancement or mitigation is outwith the scale of this Strategic Objective. |
| Population and human health | **+**  **R** | This objective is likely to have positive effects because the Strategy and Action plan have health co-benefits. | Further enhancement or mitigation is outwith the scale of this Strategic Objective. |
| Soil | **+**  **R** | This objective is likely to have positive effects because the Strategy and Action plan encourage peatland restoration. | Further enhancement or mitigation is outwith the scale of this Strategic Objective. |
| Water | **?**  **R** | The effect of alignment with the CCS on water is unknown. | The environmental effects of this Strategic Objective cannot be enhanced or mitigated because its effects are unknown. |
| Air | **?**  **R** | The effect of alignment with the CCS on air is unknown. | The environmental effects of this Strategic Objective cannot be enhanced or mitigated because its effects are unknown. |
| Climatic factors | **+**  **R** | Climatic factors should be improved by aligning with the Strategy and Action plan, which are based on Net Zero Route maps. | This objective has already been designed to maximally improve climatic factors. |
| Cultural heritage | **?**  **R** | Achieving this objective may have an effect on cultural heritage, but these effects are unknown. | The environmental effects of this Strategic Objective cannot be improved or enhanced because its effects are unknown. |
| Landscape | **?**  **R** | This Strategic Objective should lead to further climate action, however the effects of this are unknown. | The environmental effects of this Strategic Objective cannot be enhanced or mitigated because its effects are unknown. |
| Material assets | **+**  **R** | The SIC is responsible for the maintenance and quality of Shetland’s infrastructure, such as roads, which could be impacted by this SO. | Further enhancement or mitigation is outwith the scale of this Strategic Objective and must be determined at a project level. |

|  |  |  |  |
| --- | --- | --- | --- |
| **Alignment** | | | |
| Strategic Objective (SO): **Embed climate change and sustainability into the mainstream of Council decisions, creating a culture where climate change is considered as a part of every-day decision making.** | | | |
| SEA Topic | Score | Justification | Mitigation and enhancement |
| Biodiversity, flora and fauna | **+**  **R** | This objective is likely to have positive effects because climate change thinking often includes nature-based solutions. | Further enhancement or mitigation is outwith the scale of this Strategic Objective. |
| Population and human health | **+**  **R** | This objective is likely to have positive effects because climate change solutions have health co-benefits. | Further enhancement or mitigation is outwith the scale of this Strategic Objective. |
| Soil | **?**  **R** | The effect of climate-conscious decision-making on soil is unknown. | The environmental effects of this Strategic Objective cannot be enhanced or mitigated because its effects are unknown. |
| Water | **?**  **R** | The effect of climate-conscious decision-making on water is unknown. | The environmental effects of this Strategic Objective cannot be enhanced or mitigated because its effects are unknown. |
| Air | **?**  **R** | The effect of climate-conscious decision-making on air is unknown. | The environmental effects of this Strategic Objective cannot be enhanced or mitigated because its effects are unknown. |
| Climatic factors | **+**  **R** | Climatic factors should be improved by encouraging climate-oriented thinking across all sectors. | This objective has already been designed to maximally improve climatic factors. |
| Cultural heritage | **?**  **R** | The effect of climate-conscious decision-making on cultural heritage is unknown. If the Objective is achieved, effects will have to be determined at a project level. | The environmental effects of this Strategic Objective cannot be enhanced or mitigated because its effects are unknown. |
| Landscape | **?**  **R** | This Strategic Objective should lead to further climate action, however the effects of this are unknown and must be determined at a project level. | The environmental effects of this Strategic Objective cannot be enhanced or mitigated because its effects are unknown. |
| Material assets | **+**  **R** | The SIC is responsible for the maintenance and quality of Shetland’s infrastructure, such as roads, which could be impacted by this SO. | Further enhancement or mitigation is outwith the scale of this Strategic Objective. |

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| --- | --- | --- | --- |
| **Alignment** | | | |
| Strategic Objective (SO): **Align SIC's resilience efforts internally and externally to facilitate efficient and effective climate adaptation.** | | | |
| SEA Topic | Score | Justification | Mitigation and enhancement |
| Biodiversity, flora and fauna | **?**  **R** | The Council’s resilience efforts will have unknown impacts on local species and biodiversity. | The environmental effects of this Strategic Objective cannot be enhanced or mitigated because its effects are unknown. |
| Population and human health | **+**  **R** | This objective is likely to have positive effects because efficient adaptation to climate change will improve health. | Further enhancement or mitigation is outwith the scale of this Strategic Objective. |
| Soil | **?**  **R** | The effect of aligned climate adaptation on soil is unknown. | The environmental effects of this Strategic Objective cannot be enhanced or mitigated because its effects are unknown. |
| Water | **+**  **R** | Achieving this objective should lead to improved water management and decreased flood risk. | Further enhancement or mitigation is outwith the scale of this Strategic Objective. |
| Air | **?**  **R** | The Council’s resilience efforts will have unknown impacts on air. | The environmental effects of this Strategic Objective cannot be enhanced or mitigated because its effects are unknown. |
| Climatic factors | **+**  **R** | Climatic factors should be improved by alignment of climate change adaptation efforts | This objective has already been designed to maximally improve climatic factors. |
| Cultural heritage | **?**  **R** | This Strategic Objective should lead to climate adaptation projects which may affect cultural heritage, however the effects of this are unknown and must be determined at a project level. | The environmental effects of this Strategic Objective cannot be enhanced or mitigated because its effects are unknown. |
| Landscape | **?**  **R** | This Strategic Objective should lead to climate adaptation projects which may alter the landscape, however the effects of this are unknown. | The environmental effects of this Strategic Objective cannot be enhanced or mitigated because its effects are unknown. |
| Material assets | **?**  **R** | This Strategic Objective should lead to climate adaptation projects which may affect material assets, however the effects of this are unknown. | The environmental effects of this Strategic Objective cannot be enhanced or mitigated because its effects are unknown. |

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| **Money** | | | |
| Strategic Objective (SO): **Integrate climate change into finance strategy, communications, financial planning and reporting. Ensure our budgets, spend and use of resources align with climate change ambitions and targets.** | | | |
| SEA Topic | Score | Justification | Mitigation and enhancement |
| Biodiversity, flora and fauna | **?**  **R** | Integrating climate change into finances will have unknown impacts on local species and biodiversity. | The environmental effects of this Strategic Objective cannot be enhanced or mitigated because its effects are unknown. |
| Population and human health | **?**  **R** | Integrating climate change into finances will have an unknown impact on population and human health. | The environmental effects of this Strategic Objective cannot be enhanced or mitigated because its effects are unknown. |
| Soil | **?**  **R** | Integrating climate change into finances will have an unknown impact on soil. | The environmental effects of this Strategic Objective cannot be enhanced or mitigated because its effects are unknown. |
| Water | **?**  **R** | Integrating climate change into finances will have an unknown impact on water. | The environmental effects of this Strategic Objective cannot be enhanced or mitigated because its effects are unknown. |
| Air | **?**  **R** | Integrating climate change into finances will have an unknown impact on air. | The environmental effects of this Strategic Objective cannot be enhanced or mitigated because its effects are unknown. |
| Climatic factors | **+**  **R** | Climatic factors should be improved by spending on climate projects and... | This objective has already been designed to maximally improve climatic factors. |
| Cultural heritage | **?**  **R** | Council estate may be affected by changes in budget or spending. | The environmental effects of this Strategic Objective cannot be enhanced or mitigated because its effects are unknown. |
| Landscape | **?**  **R** | Integrating climate change into finances will have an unknown impact on landscape. | The environmental effects of this Strategic Objective cannot be enhanced or mitigated because its effects are unknown. |
| Material assets | **+**  **R** | The SIC is responsible for the maintenance and quality of Shetland’s infrastructure, such as roads, which could be impacted by this SO. Precise effects will need to be determined at a plan- or project-level. | Further enhancement or mitigation is outwith the scale of this Strategic Objective. |

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| **Money** | | | |
| Strategic Objective (SO): **Ensure funding and investments are prioritised against climate outcomes and their contribution to the delivery of an inclusive net zero economy.** | | | |
| SEA Topic | Score | Justification | Mitigation and enhancement |
| Biodiversity, flora and fauna | **?**  **R** | Prioritising investments against climate outcomes will have unknown impacts on local species and biodiversity. | The environmental effects of this Strategic Objective cannot be enhanced or mitigated because its effects are unknown. |
| Population and human health | **?**  **R** | Prioritising investments against climate outcomes will have unknown impacts on population and human health. | The environmental effects of this Strategic Objective cannot be enhanced or mitigated because its effects are unknown. |
| Soil | **?**  **R** | Prioritising investments against climate outcomes will have unknown impacts on soil. | The environmental effects of this Strategic Objective cannot be enhanced or mitigated because its effects are unknown. |
| Water | **?**  **R** | Prioritising investments against climate outcomes will have unknown impacts on water. | The environmental effects of this Strategic Objective cannot be enhanced or mitigated because its effects are unknown. |
| Air | **?**  **R** | Prioritising investments against climate outcomes will have unknown impacts on air. | The environmental effects of this Strategic Objective cannot be enhanced or mitigated because its effects are unknown. |
| Climatic factors | **+**  **R** | Climatic factors should be improved by decarbonising investments. | This objective has already been designed to maximally improve climatic factors. |
| Cultural heritage | **?**  **R** | Council estate may be affected by changes in budget or spending. | The environmental effects of this Strategic Objective cannot be enhanced or mitigated because its effects are unknown. |
| Landscape | **?**  **R** | Prioritising investments against climate outcomes will have unknown impacts on the landscape. | The environmental effects of this Strategic Objective cannot be enhanced or mitigated because its effects are unknown. |
| Material assets | **+**  **R** | Prioritising investments against climate outcomes should improve material assets over current arrangements. These will need to be determined at a plan- or project-level. | Further enhancement or mitigation is outwith the scale of this Strategic Objective. |

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| **Money** | | | |
| Strategic Objective (SO): **Ensure a strategic approach to sustainable procurement duty aligning to circular economy principles.** | | | |
| SEA Topic | Score | Justification | Mitigation and enhancement |
| Biodiversity, flora and fauna | **?**  **R** | Adopting a strategic approach to sustainable procurement will have unknown impacts on local species and biodiversity. | The environmental effects of this Strategic Objective cannot be enhanced or mitigated because its effects are unknown. |
| Population and human health | **?**  **R** | Adopting a strategic approach to sustainable procurement will have unknown impacts on population and human health. | The environmental effects of this Strategic Objective cannot be enhanced or mitigated because its effects are unknown. |
| Soil | **?**  **R** | Adopting a strategic approach to sustainable procurement will have unknown impacts on soil. | The environmental effects of this Strategic Objective cannot be enhanced or mitigated because its effects are unknown. |
| Water | **?**  **R** | Adopting a strategic approach to sustainable procurement will have unknown impacts on water. | The environmental effects of this Strategic Objective cannot be enhanced or mitigated because its effects are unknown. |
| Air | **?**  **R** | Adopting a strategic approach to sustainable procurement will have unknown impacts on air. | The environmental effects of this Strategic Objective cannot be enhanced or mitigated because its effects are unknown. |
| Climatic factors | **+**  **R** | Climatic factors should be improved by procuring sustainably. | This objective has already been designed to maximally improve climatic factors. |
| Cultural heritage | **?**  **R** | Council estate may be affected by changes in budget or spending. | The environmental effects of this Strategic Objective cannot be enhanced or mitigated because its effects are unknown. |
| Landscape | **?**  **R** | Adopting a strategic approach to sustainable procurement will have unknown impacts on the landscape. | The environmental effects of this Strategic Objective cannot be enhanced or mitigated because its effects are unknown. |
| Material assets | **+**  **R** | Procuring sustainably should improve material assets over current arrangements. These will need to be determined at a plan- or project-level. | Further enhancement or mitigation is outwith the scale of this Strategic Objective. |

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| **Money** | | | |
| Strategic Objective (SO): **Raise awareness throughout Shetland Islands Council of the importance of sustainable procurement in addressing climate change, working towards creating a culture that supports a circular economy.** | | | |
| SEA Topic | Score | Justification | Mitigation and enhancement |
| Biodiversity, flora and fauna | **?**  **R** | Increased awareness of sustainable procurement will have unknown impacts on local species and biodiversity. Effects will vary at a purchase level. | The environmental effects of this Strategic Objective cannot be enhanced or mitigated because its effects are unknown. |
| Population and human health | **?**  **R** | This Strategic Objective could affect population and human health as the Council becomes more aware of sustainable procurement. The effects must be determined at a more granular level. | The environmental effects of this Strategic Objective cannot be enhanced or mitigated because its effects are unknown. |
| Soil | **?**  **R** | Increased awareness of sustainable procurement will have unknown impacts on soil. | The environmental effects of this Strategic Objective cannot be enhanced or mitigated because its effects are unknown. |
| Water | **?**  **R** | Increased awareness of sustainable procurement will have unknown impacts on water. Effects will vary at a purchase level. | The environmental effects of this Strategic Objective cannot be enhanced or mitigated because its effects are unknown. |
| Air | **?**  **R** | Increased awareness of sustainable procurement will have unknown impacts on air. | The environmental effects of this Strategic Objective cannot be enhanced or mitigated because its effects are unknown. |
| Climatic factors | **+**  **R** | Climatic factors should be improved by procuring sustainably. | This objective has already been designed to maximally improve climatic factors. |
| Cultural heritage | **?**  **R** | Council estate may be affected by changes in budget or spending. | The environmental effects of this Strategic Objective cannot be enhanced or mitigated because its effects are unknown. |
| Landscape | **?**  **R** | Increased awareness of sustainable procurement will have unknown impacts on the landscape. Effects will vary at a purchase level. | The environmental effects of this Strategic Objective cannot be enhanced or mitigated because its effects are unknown. |
| Material assets | **+**  **R** | Supporting a circular economy should improve material assets over current arrangements. These will need to be determined at a plan- or project-level. | Further enhancement or mitigation is outwith the scale of this Strategic Objective. |

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| **Empowerment** | | | |
| Strategic Objective (SO): **Empower staff by raising awareness and understanding of climate change to enable staff to undertake informed, climate-conscious decision-making and service delivery.** | | | |
| SEA Topic | Score | Justification | Mitigation and enhancement |
| Biodiversity, flora and fauna | **?**  **R** | Having a climate-conscious staff will have unknown impacts on local species and biodiversity. | The environmental effects of this Strategic Objective cannot be enhanced or mitigated because its effects are unknown. |
| Population and human health | **?**  **R** | This Strategic Objective could affect population and human health as services become more informed about climate change The effects are unknowable at this level, however. | The environmental effects of this Strategic Objective cannot be enhanced or mitigated because its effects are unknown. |
| Soil | **?**  **R** | Having a climate-conscious staff will have unknown impacts on soil. | The environmental effects of this Strategic Objective cannot be enhanced or mitigated because its effects are unknown. |
| Water | **?**  **R** | Having a climate-conscious staff will have unknown impacts on water. | The environmental effects of this Strategic Objective cannot be enhanced or mitigated because its effects are unknown. |
| Air | **?**  **R** | Having a climate-conscious staff will have unknown impacts on air. | The environmental effects of this Strategic Objective cannot be enhanced or mitigated because its effects are unknown. |
| Climatic factors | **+**  **R** | Climatic factors should be improved by having climate-conscious service delivery. | This objective has already been designed to maximally improve climatic factors. |
| Cultural heritage | **?**  **R** | Council estate may be affected by changes in service delivery. | The environmental effects of this Strategic Objective cannot be enhanced or mitigated because its effects are unknown. |
| Landscape | **?**  **R** | Having a climate-conscious staff will have unknown impacts on the landscape. | The environmental effects of this Strategic Objective cannot be enhanced or mitigated because its effects are unknown. |
| Material assets | **?**  **R** | Having a climate-conscious staff will have unknown impacts on the material assets. | The environmental effects of this Strategic Objective cannot be enhanced or mitigated because its effects are unknown. |

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| **Empowerment** | | | |
| Strategic Objective (SO): **Empower the community through raising awareness and understanding of climate change and facilitating and supporting community-led climate action, building capacity within the community.** | | | |
| SEA Topic | Score | Justification | Mitigation and enhancement |
| Biodiversity, flora and fauna | **?**  **R** | This Strategic Objective may affect biodiversity, flora and fauna as the community takes more empowered climate action. The effects are unknowable at this level, however. | The environmental effects of this Strategic Objective cannot be enhanced or mitigated because its effects are unknown. |
| Population and human health | **?**  **R** | This Strategic Objective could affect population and human health as communities become more informed about climate change The effects are unknowable at this level, however. | The environmental effects of this Strategic Objective cannot be enhanced or mitigated because its effects are unknown. |
| Soil | **?**  **R** | This Strategic Objective may affect soil quality as the community takes more empowered climate action. The effects are unknowable at this level, however. | The environmental effects of this Strategic Objective cannot be enhanced or mitigated because its effects are unknown. |
| Water | **?**  **R** | Empowering the community will have an unknown effect on water. | The environmental effects of this Strategic Objective cannot be enhanced or mitigated because its effects are unknown. |
| Air | **?**  **R** | Empowering the community will have an unknown effect on air. | The environmental effects of this Strategic Objective cannot be enhanced or mitigated because its effects are unknown. |
| Climatic factors | **+**  **R** | Climatic factors should be improved by having an empowered and capable community. | This objective has already been designed to maximally improve climatic factors. |
| Cultural heritage | **?**  **R** | This Strategic Objective may affect cultural heritage as the community takes more empowered climate action. Effects will need to be determined at a project-level and depend on community priorities. | The environmental effects of this Strategic Objective cannot be enhanced or mitigated because its effects are unknown. |
| Landscape | **?**  **R** | This Strategic Objective may affect the landscape as the community takes more empowered climate action. The effects are unknowable at this level, however. | The environmental effects of this Strategic Objective cannot be enhanced or mitigated because its effects are unknown. |
| Material assets | **?**  **R** | This Strategic Objective may affect material assets as the community takes more empowered climate action. The effects are unknowable at this level, however. | The environmental effects of this Strategic Objective cannot be enhanced or mitigated because its effects are unknown. |

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| **Empowerment** | | | |
| Strategic Objective (SO): **Provide the Shetland community with the opportunity to influence council decision-making related to the climate.** | | | |
| SEA Topic | Score | Justification | Mitigation and enhancement |
| Biodiversity, flora and fauna | **?**  **R** | This Strategic Objective may affect biodiversity, flora and fauna depending on community priorities. The effects are unknowable at this level, however, and must be assessed at project level. | The environmental effects of this Strategic Objective cannot be enhanced or mitigated because its effects are unknown. |
| Population and human health | **?**  **R** | This Strategic Objective may affect population and human health depending on community priorities. The effects are unknowable at this level, however, and must be assessed at project level. | The environmental effects of this Strategic Objective cannot be enhanced or mitigated because its effects are unknown. |
| Soil | **?**  **R** | This Strategic Objective may affect soil depending on community priorities. The effects are unknowable at this level, however, and must be assessed at project level. | The environmental effects of this Strategic Objective cannot be enhanced or mitigated because its effects are unknown. |
| Water | **?**  **R** | This Strategic Objective may affect water depending on community priorities. The effects are unknowable at this level, however, and must be assessed at project level. | The environmental effects of this Strategic Objective cannot be enhanced or mitigated because its effects are unknown. |
| Air | **?**  **R** | This Strategic Objective may affect air depending on community priorities. The effects are unknowable at this level, however, and must be assessed at project level. | The environmental effects of this Strategic Objective cannot be enhanced or mitigated because its effects are unknown. |
| Climatic factors | **?**  **R** | This Strategic Objective will affect climatic factors, but the nature of which is contingent on community priorities. | The environmental effects of this Strategic Objective cannot be enhanced or mitigated because its effects are unknown. |
| Cultural heritage | **?**  **R** | This Strategic Objective may affect cultural heritage depending on community priorities. The effects are unknowable at this level, however, and must be assessed at project level. | The environmental effects of this Strategic Objective cannot be enhanced or mitigated because its effects are unknown. |
| Landscape | **?**  **R** | This Strategic Objective may affect the landscape depending on community priorities. The effects are unknowable at this level, however, and must be assessed at project level. | The environmental effects of this Strategic Objective cannot be enhanced or mitigated because its effects are unknown. |
| Material assets | **?**  **R** | This Strategic Objective may affect material assets depending on community priorities. The effects are unknowable at this level, however, and must be assessed at project level. | The environmental effects of this Strategic Objective cannot be enhanced or mitigated because its effects are unknown. |

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| **Empowerment** | | | |
| Strategic Objective (SO): **Encourage the development and promotion of green jobs and skills across Shetland.** | | | |
| SEA Topic | Score | Justification | Mitigation and enhancement |
| Biodiversity, flora and fauna | **?**  **R** | More green jobs and skills will have unknown impacts on local species and biodiversity. Effects must be determined depending on the job or skill. | The environmental effects of this Strategic Objective cannot be improved or enhanced because its effects are unknown. |
| Population and human health | **+**  **R** | More green jobs and skills should improve population and human health as Shetlanders take on more sustainable and future-proof work. | Further enhancement or mitigation is outwith the scale of this Strategic Objective. |
| Soil | **?**  **R** | More green jobs and skills will have unknown effects on soil. Effects must be determined depending on the job or skill, though effects should be positive if the jobs and skills are in peatland restoration. | The environmental effects of this Strategic Objective cannot be enhanced or mitigated because its effects are unknown. |
| Water | **?**  **R** | More green jobs and skills will have unknown effects on water. Effects must be determined depending on the job or skill. | The environmental effects of this Strategic Objective cannot be enhanced or mitigated because its effects are unknown. |
| Air | **?**  **R** | More green jobs and skills will have unknown effects on air. | The environmental effects of this Strategic Objective cannot be enhanced or mitigated because its effects are unknown. |
| Climatic factors | **+**  **R** | This Strategic Objective should improve climatic factors by decarbonising labour and learning in Shetland. | This objective has already been designed to maximally improve climatic factors. |
| Cultural heritage | **?**  **R** | More green jobs and skills will have unknown effects on cultural heritage. | The environmental effects of this Strategic Objective cannot be enhanced or mitigated because its effects are unknown. |
| Landscape | **?**  **R** | More green jobs and skills will have unknown effects on the landscape. | The environmental effects of this Strategic Objective cannot be enhanced or mitigated because its effects are unknown. |
| Material assets | **?**  **R** | More green jobs and skills will have unknown effects on material assets. | The environmental effects of this Strategic Objective cannot be enhanced or mitigated because its effects are unknown. |

Themes

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| **Energy** | | | |
| Strategic Objective (SO): **Bring Shetland land and marine based energy emissions to net zero and contribute to national targets with the export of clean energy.** | | | |
| SEA Topic | Score | Justification | Mitigation and enhancement |
| Biodiversity, flora and fauna    To protect, conserve and enhance the biodiversity of Shetland. | **?**  **R** | Reductions in Shetland’s energy-based GHG emissions are unlikely to directly affect species locally. Wider, international change would be needed. | The environmental effects of this Strategic Objective cannot be enhanced or mitigated because its effects are unknown. National targets are also set at Governmental level and so alternatives are not suggested here. |
| Population and human health | **+**  **R** | There may be minor positive effects towards alleviating climate anxiety and associated mental health but studies would be needed to assess this. | Further enhancement or mitigation is outwith the scale of this Strategic Objective. National targets are also set at Governmental level and so alternatives are not suggested here. |
| Soil | **\***  **R** | Negative effects of local GHG emissions from energy have not been detected in soils and so changes are not currently determinable. | Further enhancement or mitigation is outwith the scale of this Strategic Objective. National targets are also set at Governmental level and so alternatives are not suggested here. |
| Water | **\***  **R** | Negative effects of local GHG emissions from energy have not been detected in water sources and so changes are not currently determinable. | Further enhancement or mitigation is outwith the scale of this Strategic Objective. National targets are also set at Governmental level and so alternatives are not suggested here. |
| Air | **\***  **R** | High concentrations of GHGs and related particles from energy emissions in Shetland have not been detected in previous studies and so changes are not currently determinable. | Further enhancement or mitigation is outwith the scale of this Strategic Objective. National targets are also set at Governmental level and so alternatives are not suggested here. |
| Climatic factors | **+**  **N** | Reduction in overall energy-based emissions and the likely contribution of local projects to national renewables targets shows positive change. | This objective has already been designed to maximally improve climatic factors.  National targets are also set at Governmental level and so alternatives are not suggested here. |
| Cultural heritage | **\***  **R** | Cultural heritage sites have not been determined to undergo change due to achieving net zero emissions. | Further enhancement or mitigation is outwith the scale of this Strategic Objective. National targets are also set at Governmental level and so alternatives are not suggested here. |
| Landscape | **\***  **R** | Landscape changes are possible but would need to be determined at project level | Further enhancement or mitigation is outwith the scale of this Strategic Objective. National targets are also set at Governmental level and so alternatives are not suggested here. |
| Material assets | **\***  **R** | Changes to material assets due to the achieving net zero energy-based emissions have not been determined. | Further enhancement or mitigation is outwith the scale of this Strategic Objective. National targets are also set at Governmental level and so alternatives are not suggested here. |

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| **Energy** | | | |
| Strategic Objective (SO): **Planning and decision-making which favours renewables within a holistic power system.** | | | |
| SEA Topic | Score | Justification | Mitigation and enhancement |
| Biodiversity, flora and fauna | **?**  **R** | Favouring renewables projects to encourage less reliability on fossil fuels could have positive impacts on Shetland’s local species but this is yet to be determined. | Developing with SIC services decision-making processes that consider the benefits of renewable energy projects. The environmental effects of this Strategic Objective cannot be enhanced or mitigated because its effects are unknown. |
| Population and human health | **+**  **R** | There may be minor positive effects towards alleviating climate anxiety and associated mental health, but studies would be needed to assess this. | Further enhancement or mitigation is outwith the scale of this Strategic Objective. |
| Soil | **\***  **R** | Negative effects of local GHG emissions from energy have not been detected in soils and so changes due to future energy networks are not currently determinable. | Further enhancement or mitigation is outwith the scale of this Strategic Objective. |
| Water | **\***  **R** | Negative effects of local GHG emissions from energy have not been detected in water sources and so changes in energy network are not currently determinable. | Further enhancement or mitigation is outwith the scale of this Strategic Objective. |
| Air | **\***  **R** | High concentrations of GHGs and related particles from energy emissions in Shetland have not been detected in previous studies and so changes are not currently determinable. | Further enhancement or mitigation is outwith the scale of this Strategic Objective. |
| Climatic factors | **+**  **R** | Reduction in Shetland’s own overall energy-based emissions would GHG emissions in Shetland and have a minor positive effect on climatic factors. | This objective has already been designed to maximally improve climatic factors. |
| Cultural heritage | **\***  **R** | Cultural heritage sites have not been determined to undergo change due to future renewable energy projects. | Further enhancement or mitigation is outwith the scale of this Strategic Objective. |
| Landscape | **\***  **R** | Landscape changes are possible due to favouring renewables, but this would need to be determined at project level | Further enhancement or mitigation is outwith the scale of this Strategic Objective. |
| Material assets | **\***  **R** | Changes to material assets due to future energy networks would need to be determined at project level. | Further enhancement or mitigation is outwith the scale of this Strategic Objective. |

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| **Energy** | | | |
| Strategic Objective (SO): **Facilitate secure affordable energy for all of Shetland through islands-based generation.** | | | |
| SEA Topic | Score | Justification | Mitigation and enhancement |
| Biodiversity, flora and fauna | **?**  **R** | Securing affordable energy would have unknown impacts on local species and biodiversity. | The environmental effects of this Strategic Objective cannot be enhanced or mitigated because its effects are unknown. |
| Population and human health | **+**  **R** | There may be minor positive effects towards alleviating fuel poverty, the cost of living crisis, and associated mental health impacts but ongoing studies would be needed to assess this. | Further enhancement or mitigation is outwith the scale of this Strategic Objective. |
| Soil | **\***  **R** | Effects of local GHG emissions from affordably priced energy on soils have not been determined so changes are not currently determinable. | Further enhancement or mitigation is outwith the scale of this Strategic Objective. |
| Water | **\***  **R** | Effects of local GHG emissions from energy have not been detected in water sources and so changes in energy affordability are not currently determinable. | Further enhancement or mitigation is outwith the scale of this Strategic Objective. |
| Air | **\***  **R** | Effects of energy-based emissions and related particles from energy emissions in Shetland have not been detected, so impacts from energy affordability are not currently determinable. | Further enhancement or mitigation is outwith the scale of this Strategic Objective. |
| Climatic factors | **+**  **R** | Reduction in Shetland’s own overall fossil fuel-based emissions  would GHG emissions in Shetland and have a minor positive effect on climatic factors. | This objective has already been designed to maximally improve climatic factors. |
| Cultural heritage | **\***  **R** | Cultural heritage sites have not been determined to undergo change due to energy affordability changes. | Further enhancement or mitigation is outwith the scale of this Strategic Objective. |
| Landscape | **\***  **R** | Landscape changes are unlikley to result from the securing of affordable energy locally but this would need to be determined at project level. | Further enhancement or mitigation is outwith the scale of this Strategic Objective. |
| Material assets | **\***  **R** | Changes to material assets due to future energy affordability  would need to be determined at project level. | Further enhancement or mitigation is outwith the scale of this Strategic Objective. |

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| **Energy** | | | |
| Strategic Objective (SO): **Maximise the socio-economic potential of energy development in Shetland – broaden opportunities, sustain jobs and improve skills.** | | | |
| SEA Topic | Score | Justification | Mitigation and enhancement |
| Biodiversity, flora and fauna | **\***  **R** | Impacts of socio-economic changes on biodiversity are unknown. Determination would be needed at future strategy or projects levels. | Continue to engage with internal and external partners to enhance efforts and streamline action. Further enhancement or mitigation is outwith the scale of this Strategic Objective. |
| Population and human health | **+**  **R** | There may be minor positive effects towards alleviating climate anxiety, and associated mental health impacts but ongoing studies would be needed to assess this. | Further enhancement or mitigation is outwith the scale of this Strategic Objective. |
| Soil | **\***  **R** | Effects of socio-economic change on energy generation on soils have not been determined. | Further enhancement or mitigation is outwith the scale of this Strategic Objective. |
| Water | **\***  **R** | Effects of energy-related socio-economic change have not been determined for water sources and so are not currently determinable. | Further enhancement or mitigation is outwith the scale of this Strategic Objective. |
| Air | **\***  **R** | Effects of energy-related socio-economic change on Shetland’s air quality have not been determined, so impacts are unknown. | Further enhancement or mitigation is outwith the scale of this Strategic Objective. |
| Climatic factors | **+**  **R** | Reduction in Shetland’s own overall fossil fuel-based emissions would GHG emissions in Shetland and have a minor positive effect on climatic factors. | This objective has already been designed to maximally improve climatic factors. |
| Cultural heritage | **\***  **R** | Cultural heritage sites have not been determined to undergo change due to energy related socio-economic augmentation. | Further enhancement or mitigation is outwith the scale of this Strategic Objective. |
| Landscape | **\***  **R** | Landscape changes are unlikely to result from changes to socio-economic changes from energy developments, but this would need to be determined at future strategy or project level. | Further enhancement or mitigation is outwith the scale of this Strategic Objective. |
| Material assets | **\***  **R** | Changes to material assets due to future energy networks, jobs and related skills would need to be determined at strategy or project level. | Further enhancement or mitigation is outwith the scale of this Strategic Objective. |

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| **Buildings** | | | |
| Strategic Objective (SO): **Reduce carbon emissions across the estate in line with net zero targets through estate rationalization, reduction of energy use, energy efficiency improvements with a fabric first approach and a transition to zero carbon energy sources.** | | | |
| SEA Topic | Score | Justification | Mitigation and enhancement |
| Biodiversity, flora and fauna | **+**  **L** | Some carbon emissions reduction initiatives have the potential to enhance biodiversity local to the project site(s). This could be through reduction of grasscutting or material enhancements. | Continuing to work with SIC departments and relevant partners to maximise efforts and streamline actions. Further enhancement or mitigation is outwith the scale of this Strategic Objective. |
| Population and human health | **+**  **L** | There may be minor positive effects for building managers and tenants by alleviating climate anxiety, and associated mental health impacts but ongoing studies would be needed to assess this. | Continuing to work with SIC departments and relevant partners to enhance possible positive impacts and streamline actions. Further enhancement or mitigation is outwith the scale of this Strategic Objective. |
| Soil | **?**  **R** | Effects of estate rationalisation and other tools on soils would need to be determined at project level. | The environmental effects of this Strategic Objective cannot be enhanced or mitigated because its effects are unknown. |
| Water | **\***  **R** | Effects of estate rationalisation and other tools on water sources would need to be determined at project level. | Further enhancement or mitigation is outwith the scale of this Strategic Objective. |
| Air | **\***  **R** | Effects of estate rationalisation and other tools on air quality would need to be determined at project level. | Further enhancement or mitigation is outwith the scale of this Strategic Objective. |
| Climatic factors | **+**  **R** | GHG emissions in Shetland and have a minor positive effect on climatic factors. Reduction in SIC’s own fossil fuel-based emissions would. | This objective has already been designed to maximally improve climatic factors. |
| Cultural heritage | **\***  **R** | The effects on cultural heritage sites in the care of SIC due to emissions reduction methods and energy efficiency improvements must be determined on a case-by-case basis. | Further enhancement or mitigation is outwith the scale of this Strategic Objective. |
| Landscape | **\***  **R** | Landscape changes are unlikely to result from changes to socio-economic changes from energy developments, but this would need to be determined at future strategy or project level. | Further enhancement or mitigation is outwith the scale of this Strategic Objective. |
| Material assets | **+**  **R** | Changes to material assets due to future energy networks, jobs and related skills would need to be determined at strategy or project level, but would nonetheless be expected to have a positive effect on SIC’s material assets. | Further enhancement or mitigation is outwith the scale of this Strategic Objective. |

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| **Buildings** | | | |
| Strategic Objective (SO): **All new Council buildings will be net zero in operation with minimum emissions during construction.** | | | |
| SEA Topic | Score | Justification | Mitigation and enhancement |
| Biodiversity, flora and fauna | **+**  **L** | Some low emissions construction initiatives have the potential to enhance biodiversity local to the project site(s). This could be through site improvement or material choices. | Continuing to work with SIC departments and relevant partners to maximise efforts and streamline actions. Further enhancement or mitigation is outwith the scale of this Strategic Objective. |
| Population and human health | **+**  **L** | There may be minor positive effects for building managers and tenants by alleviating climate anxiety, and associated mental health impacts but ongoing studies would be needed to assess this. | Continuing to work with SIC departments and relevant partners to enhance possible positive impacts and streamline actions. Further enhancement or mitigation is outwith the scale of this Strategic Objective. |
| Soil | **\***  **R** | Effects of estate rationalisation and other tools on soils would need to be determined at project level. | Further enhancement or mitigation is outwith the scale of this Strategic Objective. |
| Water | **\***  **R** | Effects of estate rationalisation and other tools on water sources would need to be determined at project level. | Further enhancement or mitigation is outwith the scale of this Strategic Objective. |
| Air | **\***  **R** | Effects of estate rationalisation and other tools on air quality would need to be determined at project level. | Further enhancement or mitigation is outwith the scale of this Strategic Objective. |
| Climatic factors | **+**  **R** | Reduction in SIC’s own fossil fuel-based building emissions would have a minor positive effect on climatic factors. | This objective has already been designed to maximally improve climatic factors. |
| Cultural heritage | **?**  **R** | The effects on cultural heritage sites in the care of SIC due to emissions relating to new buildings are unknown. | The environmental effects of this Strategic Objective cannot be enhanced or mitigated because its effects are unknown. |
| Landscape | **\***  **R** | Landscape changes are unlikely to result from creation of net zero operation buildings, but this would need to be determined at future strategy or project level. | Further enhancement or mitigation is outwith the scale of this Strategic Objective. |
| Material assets | **\***  **R** | Changes to material assets due to future building energy operations would need to be determined at strategy or project level. | Further enhancement or mitigation is outwith the scale of this Strategic Objective. |

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| **Buildings** | | | |
| Strategic Objective (SO): **Promote heat decarbonisation and energy efficiency across Shetland and increase levels of energy efficiency and net zero works occurring across Shetland buildings through skills development, building capacity, raising awareness and streamlining access to available funding**. | | | |
| SEA Topic | Score | Justification | Mitigation and enhancement |
| Biodiversity, flora and fauna | **+**  **L** | Some low emissions construction initiatives have the potential to enhance biodiversity local to the project site(s). This could be through site improvement or material choices. Appropriate assessments would be needed at project level. | Continuing to work with SIC departments and relevant partners to maximise efforts and streamline any agreed actions. Further enhancement or mitigation is outwith the scale of this Strategic Objective. |
| Population and human health | **+**  **L** | There may be minor positive effects for building managers and tenants by alleviating climate anxiety and associated mental health impacts. Studies would be needed to assess this at project level. | Continuing to work with SIC departments and relevant partners to enhance possible positive impacts and streamline actions. Further enhancement or mitigation is outwith the scale of this Strategic Objective. |
| Soil | **\***  **R** | Effects of decarbonisation initiatives on soils would need to be determined at project level. | Further enhancement or mitigation is outwith the scale of this Strategic Objective. |
| Water | **\***  **R** | Effects of decarbonisation initiatives on water sources at sites would need to be determined at project level. | Further enhancement or mitigation is outwith the scale of this Strategic Objective. |
| Air | **\***  **R** | Effects of estate decarbonisation on air quality would need to be determined at project level. | Further enhancement or mitigation is outwith the scale of this Strategic Objective. |
| Climatic factors | **\***  **R** | Promotion of decarbonisation and energy efficiency works within Shetland would have a minor positive effect on climatic factors. | This objective has already been designed to maximally improve climatic factors. |
| Cultural heritage | **?**  **R** | The effects on cultural heritage sites in the care of SIC due to emissions relating to decarbonisation and energy efficiency measure are unknown. | The environmental effects of this Strategic Objective cannot be enhanced or mitigated because its effects are unknown. |
| Landscape | **\***  **R** | Landscape changes are unlikely to result from promotion of decarbonisation and enegry efficiency, though this would need to be determined at future strategy or project level. | Further enhancement or mitigation is outwith the scale of this Strategic Objective. |
| Material assets | **?**  **R** | Changes to material assets due to promotion of decarbonisation and energy efficiency measures would need to be determined at strategy or project level. | Further enhancement or mitigation is outwith the scale of this Strategic Objective. |

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| **Buildings** | | | |
| Strategic Objective (SO): **Prepare our infrastructure for the effects of a changing climate.** | | | |
| SEA Topic | Score | Justification | Mitigation and enhancement |
| Biodiversity, flora and fauna | **?**  **R** | Impacts resulting from the improvement or adaptation of SIC infrastructure may have possible effects on local biodiversity, however appropriate assessments would be needed at project level. | Continue to work with SIC departments, and any relevant partners, to maximise efficiency and streamline services. Continue to gather information as to the likely changes in climate and related weather. The environmental effects of this Strategic Objective cannot be enhanced or mitigated because its effects are unknown. |
| Population and human health | **+**  **L** | There may be minor positive effects for estate managers and SIC tenants by alleviating climate anxiety and associated mental health impacts. Studies would be needed to assess this at project level. | Continuing to work with SIC departments and relevant partners to enhance possible positive impacts and streamline actions. Further enhancement or mitigation is outwith the scale of this Strategic Objective. |
| Soil | **\***  **R** | Effects of changes to SIC infrastructure on soils would need to be determined at project level. | Further enhancement or mitigation is outwith the scale of this Strategic Objective. |
| Water | **\***  **R** | Effects of changes to SIC infrastructure on water sources at sites would need to be determined at project level. | Further enhancement or mitigation is outwith the scale of this Strategic Objective. |
| Air | **\***  **R** | Effects of changes to SIC infrastructure on air quality would need to be determined at project level. | Further enhancement or mitigation is outwith the scale of this Strategic Objective. |
| Climatic factors | **+**  **R** | Improvement or adaptation of SIC infrastructure would have a minor positive effect on climatic factors. | This objective has already been designed to maximally improve climatic factors. |
| Cultural heritage | **?**  **R** | The effects on cultural heritage sites in the care of SIC due to improvement or adaptation of SIC infrastructure are as yet unknown. | Further enhancement or mitigation is outwith the scale of this Strategic Objective. |
| Landscape | **\***  **R** | Landscape changes are unlikely to result from changes to SIC infrastructure, though this would need to be determined at future strategy or project level. | Further enhancement or mitigation is outwith the scale of this Strategic Objective. |
| Material assets | **\***  **R** | Changes to material assets due to any changes to the SIC infrastructure would need to be determined at strategy or project level. | Further enhancement or mitigation is outwith the scale of this Strategic Objective. |

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| **Transport** | | | |
| Strategic Objective (SO): **Fully decarbonise the entire SIC fleet by 2045, including heavy-duty vehicles, vessels, and aircraft.** | | | |
| SEA Topic | Score | Justification | Mitigation and enhancement |
| Biodiversity, flora and fauna | **?**  **R** | Impacts resulting from the decarbonisation of SIC’s fleet may have possible effects on local biodiversity, however appropriate assessments would be needed at project level. | Continue to work with SIC departments, and relevant partners, to maximise any potential positive effects should they be identified. The environmental effects of this Strategic Objective cannot be enhanced or mitigated because its effects are unknown. |
| Population and human health | **+**  **L** | There may be minor positive effects for estate, operations and service managers for alleviating climate anxiety, and associated mental health impacts. Studies would be needed to assess this at project level. | Continuing to work with SIC departments and relevant partners to enhance possible positive impacts and streamline actions. Further enhancement or mitigation is outwith the scale of this Strategic Objective. |
| Soil | **\***  **R** | Effects of decarbonising SIC’s fleet on soils would need to be detailed at project level. | Further enhancement or mitigation is outwith the scale of this Strategic Objective. |
| Water | **\***  **R** | Effects of decarbonising SIC’s fleet on water sources at sites would need to be detailed at project level. | Further enhancement or mitigation is outwith the scale of this Strategic Objective. |
| Air | **\***  **R** | Effects of decarbonising SIC’s fleet on air quality would need to be detailed at project level. | Further enhancement or mitigation is outwith the scale of this Strategic Objective. |
| Climatic factors | **+**  **R** | Decarbonisation of SIC’s fleet would have a minor positive effect on climatic factors. | This objective has already been designed to maximally improve climatic factors. |
| Cultural heritage | **?**  **R** | The effects on cultural heritage sites in the care of SIC due to the decarbonisation of SIC’s fleet are as yet unknown. | The environmental effects of this Strategic Objective cannot be enhanced or mitigated because its effects are unknown. |
| Landscape | **\***  **R** | Landscape changes are unlikely to result from changes to SIC’s fleet, though this would need to be determined at future strategy or project level. | Further enhancement or mitigation is outwith the scale of this Strategic Objective. |
| Material assets | **\***  **R** | Changes to material assets due to any changes to the SIC fleet would need to be determined at strategy or project level. | Further enhancement or mitigation is outwith the scale of this Strategic Objective. |

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| **Transport** | | | |
| Strategic Objective (SO): **Reduce emissions from business and commuter travel by 30% by 2030 from the 2019 baseline.** | | | |
| SEA Topic | Score | Justification | Mitigation and enhancement |
| Biodiversity, flora and fauna | **\***  **R** | Biodiversity, flora and fauna are unlikely to be impacted due to the 30% emissions reductions from commuter travel. | Further enhancement or mitigation is outwith the scale of this Strategic Objective. |
| Population and human health | **+**  **R** | There may be minor positive effects for commuter health should active travel form part of this transition, though studies would be needed to assess this at project level. | Further enhancement or mitigation is outwith the scale of this Strategic Objective. |
| Soil | **\***  **R** | Effects of reduced emissions from business and commuter travel on soils would need to be detailed at project level. | Further enhancement or mitigation is outwith the scale of this Strategic Objective. |
| Water | **\***  **R** | Effects of reduced emissions from business and commuter travel on water sources at sites would need to be detailed at project level. | Further enhancement or mitigation is outwith the scale of this Strategic Objective. |
| Air | **\***  **R** | Effects of reduced emissions from business and commuter travel on air quality would need to be detailed at project level. | Further enhancement or mitigation is outwith the scale of this Strategic Objective. |
| Climatic factors | **+**  **R** | Reduction of emissions from business and commuter travel would have a minor positive effect on climatic factors. | This objective has already been designed to maximally improve climatic factors. |
| Cultural heritage | **?**  **R** | The effects on cultural heritage sites in the care of SIC due to the reduced emissions from business and commuter travel are as yet unknown. | The environmental effects of this Strategic Objective cannot be enhanced or mitigated because its effects are unknown. |
| Landscape | **\***  **R** | Landscape changes are unlikely to result from reduced emissions associated with business and commuter travel, though this would need to be determined at future strategy or project level. | Further enhancement or mitigation is outwith the scale of this Strategic Objective. |
| Material assets | **\***  **R** | Changes to material assets due to any  reduced emissions from business and commuter travel would need to be determined at strategy or project level. | Further enhancement or mitigation is outwith the scale of this Strategic Objective. |
| **Transport** | | | |
| Strategic Objective (SO): **Increase active travel infrastructure and encourage uptake of active travel for SIC employees and the Shetland community.** | | | |
| SEA Topic | Score | Justification | Mitigation and enhancement |
| Biodiversity, flora and fauna | **?**  **R** | Biodiversity, flora and fauna may be impacted by creation or adaptation of active travel infrastructure though it’s imperative this is assessed at project level. | Continue to engage with SIC departments. The environmental effects of this Strategic Objective cannot be enhanced or mitigated because its effects are unknown. |
| Population and human health | **+**  **R** | There may be minor positive effects for population health resulting from uptakes of active travel, though focused studies would be needed to assess this. | Further enhancement or mitigation is outwith the scale of this Strategic Objective. |
| Soil | **\***  **R** | Effects of active travel infrastructure on soils would need to be detailed at project level. | Further enhancement or mitigation is outwith the scale of this Strategic Objective. |
| Water | **\***  **R** | Effects of active travel infrastructure on water sources at sites would need to be detailed at project level. | Further enhancement or mitigation is outwith the scale of this Strategic Objective. |
| Air | **\***  **R** | Effects of active travel on air quality would need to be detailed at project level. | Further enhancement or mitigation is outwith the scale of this Strategic Objective. |
| Climatic factors | **+**  **R** | Reduction of emissions from business and commuter travel would have a minor positive effect on climatic factors. | This objective has already been designed to maximally improve climatic factors. |
| Cultural heritage | **?**  **R** | The impacts on cultural heritage sites in the care of SIC resulting from active travel infrastructure developments are as yet unknown. | The environmental effects of this Strategic Objective cannot be enhanced or mitigated because its effects are unknown. |
| Landscape | **\***  **R** | Landscape changes are unlikely to result from active travel infrastructure developments, though this would need to be determined at future strategy or project level. | Further enhancement or mitigation is outwith the scale of this Strategic Objective. |
| Material assets | **\***  **R** | Changes to material assets due to any active travel infrastructure developments  would need to be determined at strategy or project level. | Further enhancement or mitigation is outwith the scale of this Strategic Objective. |

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| **Transport** | | | |
| Strategic Objective (SO): **Work towards developing a decarbonised public transport system that is affordable and attractive to residents, which will increase use and efficiency.** | | | |
| SEA Topic | Score | Justification | Mitigation and enhancement |
| Biodiversity, flora and fauna | **?**  **R** | Biodiversity, flora and fauna may be impacted by creation or adaptation of active travel infrastructure though it’s imperative this is assessed at project level. | Continue to engage with SIC departments. The environmental effects of this Strategic Objective cannot be enhanced or mitigated because its effects are unknown. |
| Population and human health | **+**  **R** | There may be minor positive effects for population health resulting from uptakes of active travel, though focused studies would be needed to assess this. | Further enhancement or mitigation is outwith the scale of this Strategic Objective. |
| Soil | **\***  **R** | Effects of active travel infrastructure on soils would need to be detailed at project level. | Further enhancement or mitigation is outwith the scale of this Strategic Objective. |
| Water | **\***  **R** | Effects of active travel infrastructure on water sources at sites would need to be detailed at project level. | Further enhancement or mitigation is outwith the scale of this Strategic Objective. |
| Air | **\***  **R** | Effects of active travel on air quality would need to be detailed at project level. | Further enhancement or mitigation is outwith the scale of this Strategic Objective. |
| Climatic factors | **+**  **R** | Reduction of emissions from business and commuter travel would have a minor positive effect on climatic factors. | This objective has already been designed to maximally improve climatic factors. |
| Cultural heritage | **?**  **R** | The impacts on cultural heritage sites in the care of SIC resulting from active travel infrastructure developments are as yet unknown. | The environmental effects of this Strategic Objective cannot be enhanced or mitigated because its effects are unknown. |
| Landscape | **\***  **R** | Landscape changes are unlikely to result from active travel infrastructure developments, though this would need to be determined at future strategy or project level. | Further enhancement or mitigation is outwith the scale of this Strategic Objective. |
| Material assets | **\***  **R** | Changes to material assets due to any active travel infrastructure developments  would need to be determined at strategy or project level. | Further enhancement or mitigation is outwith the scale of this Strategic Objective. |

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| **Transport** | | | |
| Strategic Objective (SO): **Support the transition to zero-emissions vehicle use and transport infrastructure.** | | | |
| SEA Topic | Score | Justification | Mitigation and enhancement |
| Biodiversity, flora and fauna | **?**  **R** | Biodiversity, flora and fauna may be impacted by creation or adaptation of infrastructure networks across Shetland, though it’s imperative this is assessed at project level. Consideration must be given to the effects of noise and routes that may impact habitats, for example. | Continue to engage with relevant SIC departments and relevant partners to maximise positive outcomes and streamline action. The environmental effects of this Strategic Objective cannot be enhanced or mitigated because its effects are unknown. |
| Population and human health | **+**  **R** | There may be minor positive effects for population health resulting from supporting the transition to zero emissions vehicle usage though focused studies would be needed to assess this. | Further enhancement or mitigation is outwith the scale of this Strategic Objective. |
| Soil | **\***  **R** | Effects that zero-emissions vehicle usage and changes to infrastructure on soils would need to be detailed at project level. | Further enhancement or mitigation is outwith the scale of this Strategic Objective. |
| Water | **\***  **R** | Effects from zero emissions vehicle usage and changes to infrastructure on water sources at sites would need to be detailed at project level. | Further enhancement or mitigation is outwith the scale of this Strategic Objective. |
| Air | **\***  **R** | Effects from zero emissions vehicle usage and changes to infrastructure on air quality would need to be detailed at project level. | Further enhancement or mitigation is outwith the scale of this Strategic Objective. |
| Climatic factors | **+**  **R** | Supporting the transition to zero-emissions vehicles and resultant changes to infrastructure would have a minor positive effect on climatic factors. | This objective has already been designed to maximally improve climatic factors. |
| Cultural heritage | **?**  **R** | The impacts on cultural heritage sites in the care of SIC resulting from zero-emissions vehicle usage and changes to infrastructure are as yet unknown. | The environmental effects of this Strategic Objective cannot be enhanced or mitigated because its effects are unknown. |
| Landscape | **\***  **R** | Landscape changes are unlikely to result from zero emissions vehicle usage and changes to infrastructure, though this would need to be determined at future strategy or project level. | Further enhancement or mitigation is outwith the scale of this Strategic Objective. |
| Material assets | **\***  **R** | Changes to material assets due to zero emissions vehicle usage and changes to infrastructure would need to be determined at strategy or project level. | Further enhancement or mitigation is outwith the scale of this Strategic Objective. |

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| **Transport** | | | |
| Strategic Objective (SO): **Prepare our transport networks and infrastructure for the effects of climate change.** | | | |
| SEA Topic | Score | Justification | Mitigation and enhancement |
| Biodiversity, flora and fauna | **?**  **R** | Biodiversity, flora and fauna may be impacted by creation or adaptation of infrastructure networks across Shetland, though it’s imperative this is assessed at project level. Consideration must be given to the effects of noise and routes that may impact habitats, for example. | Continue to engage with relevant SIC departments and relevant partners to maximise positive outcomes and streamline action. The environmental effects of this Strategic Objective cannot be enhanced or mitigated because its effects are unknown. |
| Population and human health | **+**  **R** | There may be minor positive effects for population health resulting from adapting transport to climate change though focused studies would be needed to assess this. | Further enhancement or mitigation is outwith the scale of this Strategic Objective. |
| Soil | **\***  **R** | Effects that adapating transport to climate change on soils would need to be detailed at project level. | Further enhancement or mitigation is outwith the scale of this Strategic Objective. |
| Water | **\***  **R** | Effects from adapting transport to climate change to infrastructure on water sources at sites would need to be detailed at project level. | Further enhancement or mitigation is outwith the scale of this Strategic Objective. |
| Air | **\***  **R** | Effects from adapting transport to climate change to infrastructure on air quality would need to be detailed at project level. | Further enhancement or mitigation is outwith the scale of this Strategic Objective. |
| Climatic factors | **+**  **R** | Adapting transport to climate change in Shetland and have a minor positive effect on the adaptation climatic factors SEA Objective. | This objective has already been designed to maximally improve climatic factors. |
| Cultural heritage | **?**  **R** | The impacts on cultural heritage sites of adapting transport to climate change to infrastructure are as yet unknown. | The environmental effects of this Strategic Objective cannot be enhanced or mitigated because its effects are unknown. |
| Landscape | **\***  **R** | Landscape changes are unlikely to result from adapting transport to climate change, though this would need to be determined at future strategy or project level. | Further enhancement or mitigation is outwith the scale of this Strategic Objective. |
| Material assets | **\***  **R** | Changes to material assets due to adapting transport to climate change would need to be determined at strategy or project level. | Further enhancement or mitigation is outwith the scale of this Strategic Objective. |

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| **Resources and Waste** | | | |
| Strategic Objective (SO): **Promote efficient resource and waste management across Shetland through the development of a Shetland Resources and Waste Strategy and begin its implementation.** | | | |
| SEA Topic | Score | Justification | Mitigation and enhancement |
| Biodiversity, flora and fauna | **?**  **R** | Biodiversity, flora and fauna may be impacted by creation and implementation of a Shetland Resources and Waste Strategy, though it’s imperative this is assessed at project level. | Continue to engage with relevant SIC departments and relevant partners to maximise positive outcomes and streamline action. The environmental effects of this Strategic Objective cannot be enhanced or mitigated because its effects are unknown. |
| Population and human health | **+**  **R** | There may be minor positive effects for population health resulting from a Shetland Resources and Waste Strategy, though focused studies would be needed to assess this. | Further enhancement or mitigation is outwith the scale of this Strategic Objective. |
| Soil | **\***  **R** | Effects of a Shetland Resources and Waste Strategy  on soils would need to be detailed at project level. | Further enhancement or mitigation is outwith the scale of this Strategic Objective. |
| Water | **\***  **R** | Effects from zero emissions vehicle usage and changes to infrastructure on water sources at sites would need to be detailed at project level. | Further enhancement or mitigation is outwith the scale of this Strategic Objective. |
| Air | **\***  **R** | Effects of a Shetland Resources and Waste Strategy on air quality would need to be detailed at project level. | Further enhancement or mitigation is outwith the scale of this Strategic Objective. |
| Climatic factors | **+**  **R** | Development and implementation of a Shetland Resources and Waste Strategy would reduce GHG emissions in Shetland and have a minor positive effect on climatic factors. | This objective has already been designed to maximally improve climatic factors. |
| Cultural heritage | **?**  **R** | The impacts on cultural heritage sites in the care of SIC resulting from a Shetland Resources and Waste Strategy are as yet unknown. | The environmental effects of this Strategic Objective cannot be enhanced or mitigated because its effects are unknown. |
| Landscape | **\***  **R** | Landscape changes are unlikely to result from a Shetland Resources and Waste Strategy, though this would need to be determined at future strategy or project level. | Further enhancement or mitigation is outwith the scale of this Strategic Objective. |
| Material assets | **+**  **R** | Maximising efficiency of operations and systems will likely have a minor positive effect on SIC material assets. | Further enhancement or mitigation is outwith the scale of this Strategic Objective. |

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| **Resources and Waste** | | | |
| Strategic Objective (SO): **Reduce emissions from Shetland Islands Council waste operations in line with Net Zero targets.** | | | |
| SEA Topic | Score | Justification | Mitigation and enhancement |
| Biodiversity, flora and fauna | **\***  **R** | Biodiversity, flora and fauna are unlikely to be impacted by a reduction in emissions from SIC waste operations, though it’s imperative this is assessed at project level. | Continue to engage with relevant SIC departments and relevant partners to maximise positive outcomes and streamline action. Further enhancement or mitigation is outwith the scale of this Strategic Objective. |
| Population and human health | **+**  **R** | There may be minor positive effects for population health resulting from reduction in emissions from SIC waste operations, though focused studies would be needed to assess this. | Further enhancement or mitigation is outwith the scale of this Strategic Objective. |
| Soil | **\***  **R** | Effects of a reduction in emissions from SIC waste operations on soils would need to be detailed at project level. | Further enhancement or mitigation is outwith the scale of this Strategic Objective. |
| Water | **\***  **R** | Effects from a reduction in emissions from SIC waste operations on water sources at sites would need to be detailed at project level. | Further enhancement or mitigation is outwith the scale of this Strategic Objective. |
| Air | **\***  **R** | Effects of reduction in emissions from SIC waste operations on air quality would need to be detailed at project level. | Further enhancement or mitigation is outwith the scale of this Strategic Objective. |
| Climatic factors | **+**  **R** | Reductions in emissions from SIC waste operations would reduce overall GHG emissions in Shetland and have a minor positive effect on climatic factors. | This objective has already been designed to maximally improve climatic factors. |
| Cultural heritage | **?**  **R** | The impacts on cultural heritage sites in the care of SIC resulting from reduction in emissions from SIC waste operations are as yet unknown. | The environmental effects of this Strategic Objective cannot be enhanced or mitigated because its effects are unknown. |
| Landscape | **\***  **R** | Landscape changes are unlikely to result from a Shetland Resources and Waste Strategy, though this would need to be determined at future strategy or project level. | Further enhancement or mitigation is outwith the scale of this Strategic Objective. |
| Material assets | **+**  **R** | Reducing emissions in line with Net Zero targets may have a minor positive effect on SIC material assets via operational rationalisation, though this would need to be determined at project level. | Further enhancement or mitigation is outwith the scale of this Strategic Objective. |

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| **Resources and Waste** | | | |
| Strategic Objective (SO): **Improve SIC resource management through reducing waste generated by 50% and increasing recycling of remaining waste by 50% by 2040.** | | | |
| SEA Topic | Score | Justification | Mitigation and enhancement |
| Biodiversity, flora and fauna | **?**  **R** | Impacts to Shetland’s biodiversity, flora and fauna as a result of improved resource management in SIC are as yet unknown and detailed environmental assessments would be needed at policy, plan and project levels. | The environmental effects of this Strategic Objective cannot be enhanced or mitigated because its effects are unknown. |
| Population and human health | **+**  **R** | There may be minor positive effects from improved resource management in SIC, though focused studies would be needed to assess this. | Further enhancement or mitigation is outwith the scale of this Strategic Objective. |
| Soil | **\***  **R** | Effects of improved resource management in SIC on soils would need to be detailed at project level. | Further enhancement or mitigation is outwith the scale of this Strategic Objective. |
| Water | **\***  **R** | Effects of improved resource management in SIC on water sources at sites would need to be detailed at project level. | Further enhancement or mitigation is outwith the scale of this Strategic Objective. |
| Air | **\***  **R** | Effects of improved resource management in SIC on air quality would need to be detailed at project level. | Further enhancement or mitigation is outwith the scale of this Strategic Objective. |
| Climatic factors | **+**  **R** | Reductions in emissions from improved resource management in SIC would reduce overall GHG emissions in Shetland and have a minor positive effect on climatic factors. | This objective has already been designed to maximally improve climatic factors. |
| Cultural heritage | **?**  **R** | The impacts on cultural heritage sites in the care of SIC resulting from improved resource management in SIC are as yet unknown. | The environmental effects of this Strategic Objective cannot be enhanced or mitigated because its effects are unknown. |
| Landscape | **\***  **R** | Landscape changes are unlikely to result from improved resource management in SIC, though this would need to be determined at future strategy or project level. | Further enhancement or mitigation is outwith the scale of this Strategic Objective. |
| Material assets | **+**  **R** | Maximising efficiency of operations and improved resource management in SIC will likely have a minor positive effect on SIC material assets. | Further enhancement or mitigation is outwith the scale of this Strategic Objective. |
| **Resources and Waste** | | | |
| Strategic Objective (SO): **Support communities to reduce the amount of waste generated in Shetland and increase recycling of remaining waste, encouraging the transition to a local, circular economy.** | | | |
| SEA Topic | Score | Justification | Mitigation and enhancement |
| Biodiversity, flora and fauna | **?**  **R** | Impacts to Shetland’s biodiversity, flora and fauna as a result of reduced waste are as yet unknown and detailed environmental assessments would be needed at a project level. | The environmental effects of this Strategic Objective cannot be enhanced or mitigated because its effects are unknown. |
| Population and human health | **+**  **R** | There may be minor positive effects from reduced waste, though focused studies would be needed to assess this. | Further enhancement or mitigation is outwith the scale of this Strategic Objective. |
| Soil | **\***  **R** | Effects of reduced waste on soils would need to be detailed at project level. | Further enhancement or mitigation is outwith the scale of this Strategic Objective. |
| Water | **\***  **R** | Effects of reduced waste on water sources at sites would need to be detailed at project level. | Further enhancement or mitigation is outwith the scale of this Strategic Objective. |
| Air | **\***  **R** | Effects of reduced waste on air quality would need to be detailed at project level. | Further enhancement or mitigation is outwith the scale of this Strategic Objective. |
| Climatic factors | **+**  **R** | Reductions in emissions from reduced waste may have a minor positive effect on climatic factors. | This objective has already been designed to maximally improve climatic factors. |
| Cultural heritage | **?**  **R** | The impacts on cultural heritage sites in the care of SIC resulting from reduced waste are as yet unknown. | The environmental effects of this Strategic Objective cannot be enhanced or mitigated because its effects are unknown. |
| Landscape | **\***  **R** | Landscape changes are unlikely to result from reduced waste, though this would need to be determined at future strategy or project level. | Further enhancement or mitigation is outwith the scale of this Strategic Objective. |
| Material assets | **+**  **R** | There may be a minor positive effect on SIC materials assets should waste be redcued across Shetland. | Further enhancement or mitigation is outwith the scale of this Strategic Objective. |

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| **Resources and Waste** | | | |
| Strategic Objective (SO): **Promote and support the development of local produce networks, including ‘Grow Your Own’ and ‘Buy Local’ initiatives, with an aim to increase the amount of local produce consumed in Shetland, increase local food security and reduce food and product miles.** | | | |
| SEA Topic | Score | Justification | Mitigation and enhancement |
| Biodiversity, flora and fauna | **?**  **R** | Impacts to Shetland’s biodiversity, flora and fauna as a result of development of local produce networks are as yet unknown and detailed environmental assessments would be needed at policy, plan and project levels. | The environmental effects of this Strategic Objective cannot be enhanced or mitigated because its effects are unknown. |
| Population and human health | **+**  **R** | There may be minor positive effects from improved access to locally grown foods, though focused studies would be needed to assess this. | Further enhancement or mitigation is outwith the scale of this Strategic Objective. |
| Soil | **\***  **R** | Effects of the development of local produce networks on soils would need to be detailed at project level. | Further enhancement or mitigation is outwith the scale of this Strategic Objective. |
| Water | **\***  **R** | Effects of the development of local produce networks on water sources at sites would need to be detailed at project level. | Further enhancement or mitigation is outwith the scale of this Strategic Objective. |
| Air | **\***  **R** | Effects of the development of local produce networks on air quality would need to be detailed at project level. | Further enhancement or mitigation is outwith the scale of this Strategic Objective. |
| Climatic factors | **+**  **R** | Reductions in emissions from ‘food miles’ would likely reduce overall GHG emissions in Shetland and have a minor positive effect on climatic factors. | This objective has already been designed to maximally improve climatic factors. |
| Cultural heritage | **?**  **R** | The impacts on cultural heritage sites in the care of SIC resulting from development of local produce networks are as yet unknown. | The environmental effects of this Strategic Objective cannot be enhanced or mitigated because its effects are unknown. |
| Landscape | **\***  **R** | Landscape changes are unlikely to result from development of local produce networks, though this would need to be determined at future strategy or project level. | Further enhancement or mitigation is outwith the scale of this Strategic Objective. |
| Material assets | **+**  **R** | Maximising efficiency and sustainability of procurement channels and supply chains may have a minor positive effect on SIC material assets. | Further enhancement or mitigation is outwith the scale of this Strategic Objective. |

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| **Business and Industry** | | | |
| Strategic Objective (SO): **Work with partners to support decarbonisation, adaptation and a circular economy by supporting long term, sustainable business models where people and the environment are key priorities.** | | | |
| SEA Topic | Score | Justification | Mitigation and enhancement |
| Biodiversity, flora and fauna | **?**  **R** | Impacts to Shetland’s biodiversity, flora and fauna as a result of supporting decarbonisation, adaptation and a circular economy of long-term sustainable business models are as yet unknown and detailed environmental assessments would be needed at policy, plan and project levels. | The environmental effects of this Strategic Objective cannot be enhanced or mitigated because its effects are unknown. |
| Population and human health | **+**  **R** | There may be minor positive effects from alleviating climate anxiety and associated mental health of business owners and operators, though focused studies would be needed to assess this. | Further enhancement or mitigation is outwith the scale of this Strategic Objective. |
| Soil | **\***  **R** | Effects of supporting sustainable business models across Shetland on soils would need to be detailed at project level. | Further enhancement or mitigation is outwith the scale of this Strategic Objective. |
| Water | **\***  **R** | Effects of supporting sustainable business models across Shetland on water sources at sites would need to be detailed at project level. | Further enhancement or mitigation is outwith the scale of this Strategic Objective. |
| Air | **\***  **R** | Effects of supporting sustainable business models across Shetland on air quality would need to be detailed at project level. | Further enhancement or mitigation is outwith the scale of this Strategic Objective. |
| Climatic factors | **+**  **R** | Reductions in emissions from Shetland businesses and operations would likely reduce overall GHG emissions in Shetland and have a minor positive effect on climatic factors. | This objective has already been designed to maximally improve climatic factors. |
| Cultural heritage | **?**  **R** | The impacts on cultural heritage sites in the care of SIC resulting from supporting the creation of sustainable business models are as yet unknown. | The environmental effects of this Strategic Objective cannot be enhanced or mitigated because its effects are unknown. |
| Landscape | **\***  **R** | Landscape changes are unlikely to result from supporting the creation of sustainable business models, though this would need to be determined at future strategy or project level. | Further enhancement or mitigation is outwith the scale of this Strategic Objective. |
| Material assets | **+**  **R** | Supporting Shetland’s businesses by creation of sustainable business models may have a resultant minor positive effect on SIC material assets. | Further enhancement or mitigation is outwith the scale of this Strategic Objective. |

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| **Business and Industry** | | | |
| Strategic Objective (SO): **Support the embedding of community wealth building principles where progressive procurement, socially productive land and property use, and approaches to business development are directed towards a place-based approach to economic development.** | | | |
| SEA Topic | Score | Justification | Mitigation and enhancement |
| Biodiversity, flora and fauna | **?**  **R** | Impacts to Shetland’s biodiversity, flora and fauna as a result of promoting community wealth building principles are as yet unknown and detailed environmental assessments would be needed at policy, plan and project levels. | The environmental effects of this Strategic Objective cannot be enhanced or mitigated because its effects are unknown. |
| Population and human health | **+**  **R** | There may be minor positive effects from alleviating the cost of living crisis, climate anxiety and associated mental health of individuals and communities, though focused studies would be needed to assess this. | Further enhancement or mitigation is outwith the scale of this Strategic Objective. |
| Soil | **\***  **R** | Effects of promoting community wealth building principles across Shetland on soils would need to be detailed at project level. | Further enhancement or mitigation is outwith the scale of this Strategic Objective. |
| Water | **\***  **R** | Effects of promoting community wealth building principles across Shetland on water sources at sites would need to be detailed at project level. | Further enhancement or mitigation is outwith the scale of this Strategic Objective. |
| Air | **\***  **R** | Effects of promoting community wealth building principles across Shetland on air quality would need to be detailed at project level. | Further enhancement or mitigation is outwith the scale of this Strategic Objective. |
| Climatic factors | **+**  **R** | Promoting community wealth building principles may reduce GHG emissions from Shetland communities and businesses which would likely reduce overall GHG emissions in Shetland and have a minor positive effect on climatic factors. | Work will continue to engage with SIC departments and relevant partners, such as HIE, to investigate methods of unlocking further finance for climate conscious initiatives in communities. This objective has already been designed to maximally improve climatic factors. |
| Cultural heritage | **?**  **R** | The impacts on cultural heritage sites in the care of SIC resulting from promoting community wealth building principles are as yet unknown. | The environmental effects of this Strategic Objective cannot be enhanced or mitigated because its effects are unknown. |
| Landscape | **\***  **R** | Landscape changes are unlikely to result from promoting community wealth building principles, though this would need to be determined at future strategy or project level. | Further enhancement or mitigation is outwith the scale of this Strategic Objective. |
| Material assets | **+**  **R** | Supporting Shetland’s communities by promoting community wealth building principles may have a resultant minor positive effect on SIC material assets. | Further enhancement or mitigation is outwith the scale of this Strategic Objective. |

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| **Business and Industry** | | | |
| Strategic Objective (SO): **Support the embedding of community wealth building principles where progressive procurement, socially productive land and property use, and approaches to business development are directed towards a place-based approach to economic development.** | | | |
| SEA Topic | Score | Justification | Mitigation and enhancement |
| Biodiversity, flora and fauna | **?**  **R** | Impacts to Shetland’s biodiversity, flora and fauna as a result of promoting community wealth building principles are as yet unknown and detailed environmental assessments would be needed at policy, plan and project levels. | The environmental effects of this Strategic Objective cannot be enhanced or mitigated because its effects are unknown. |
| Population and human health | **+**  **R** | There may be minor positive effects from alleviating the cost of living crisis, climate anxiety and associated mental health of individuals and communities, though focused studies would be needed to assess this. | Further enhancement or mitigation is outwith the scale of this Strategic Objective. |
| Soil | **\***  **R** | Effects of promoting community wealth building principles across Shetland on soils would need to be detailed at project level. | Further enhancement or mitigation is outwith the scale of this Strategic Objective. |
| Water | **\***  **R** | Effects of promoting community wealth building principles across Shetland on water sources at sites would need to be detailed at project level. | Further enhancement or mitigation is outwith the scale of this Strategic Objective. |
| Air | **\***  **R** | Effects of promoting community wealth building principles across Shetland on air quality would need to be detailed at project level. | Further enhancement or mitigation is outwith the scale of this Strategic Objective. |
| Climatic factors | **+**  **R** | Promoting community wealth building principles may reduce GHG emissions from Shetland communities and businesses which would likely reduce overall GHG emissions in Shetland and have a minor positive effect on climatic factors. | Work will continue to engage with SIC departments and relevant partners, such as HIE, to investigate methods of unlocking further finance for climate conscious initiatives in communities. This objective has already been designed to maximally improve climatic factors. |
| Cultural heritage | **?**  **R** | The impacts on cultural heritage sites in the care of SIC resulting from promoting community wealth building principles are as yet unknown. | The environmental effects of this Strategic Objective cannot be enhanced or mitigated because its effects are unknown. |
| Landscape | **\***  **R** | Landscape changes are unlikely to result from promoting community wealth building principles, though this would need to be determined at future strategy or project level. | Further enhancement or mitigation is outwith the scale of this Strategic Objective. |
| Material assets | **+**  **R** | Supporting Shetland’s communities by promoting community wealth building principles may have a resultant minor positive effect on SIC material assets. | Further enhancement or mitigation is outwith the scale of this Strategic Objective. |

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| **Business and Industry** | | | |
| Strategic Objective (SO): **Make Shetland a hub which attracts citizens to learn, develop and utilise green skills within our business and industry sectors.** | | | |
| SEA Topic | Score | Justification | Mitigation and enhancement |
| Biodiversity, flora and fauna | **?**  **R** | Impacts to Shetland’s biodiversity, flora and fauna as a result of promoting the expansion of green skills are as yet unknown and detailed environmental assessments would be needed at policy, plan and project levels. | Continuing to work with SIC departments and relevant organisations will be paramount in developing frameworks to incorporate biodiversity considerations into skill expansion. The environmental effects of this Strategic Objective cannot be enhanced or mitigated because its effects are unknown. |
| Population and human health | **+**  **R** | There may be minor positive effects from alleviating the cost of living crisis, climate anxiety and associated mental health of individuals and communities, though focused studies would be needed to assess this. | Further enhancement or mitigation is outwith the scale of this Strategic Objective. |
| Soil | **\***  **R** | Effects of promoting the expansion of green skills across Shetland on soils would need to be detailed at project level. | Further enhancement or mitigation is outwith the scale of this Strategic Objective. |
| Water | **\***  **R** | Effects of promoting the expansion of green skills across Shetland on water sources at sites would need to be detailed at project level. | Further enhancement or mitigation is outwith the scale of this Strategic Objective. |
| Air | **\***  **R** | Effects of promoting the expansion of green skills across Shetland on air quality would need to be detailed at project level. | Further enhancement or mitigation is outwith the scale of this Strategic Objective. |
| Climatic factors | **+**  **R** | Promoting the expansion of green skills may reduce GHG emissions from Shetland communities and businesses, which would likely reduce overall GHG emissions in Shetland and have a minor positive effect on climatic factors. | Work will continue to engage with SIC departments and relevant partners, such as HIE, to investigate methods of unlocking further finance for climate conscious initiatives in communities. This objective has already been designed to maximally improve climatic factors. |
| Cultural heritage | **?**  **R** | The impacts on cultural heritage sites in the care of SIC resulting from promoting the expansion of green skills are as yet unknown. | The environmental effects of this Strategic Objective cannot be enhanced or mitigated because its effects are unknown. |
| Landscape | **\***  **R** | Landscape changes are unlikely to result from promoting the expansion of green skills, though this would need to be determined at future strategy or project level. | Further enhancement or mitigation is outwith the scale of this Strategic Objective. |
| Material assets | **+**  **R** | Supporting Shetland’s communities by promoting the expansion of green skills may have a resultant minor positive effect on SIC material assets. | Further enhancement or mitigation is outwith the scale of this Strategic Objective. |

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| **Nature Based Solutions** | | | |
| Strategic Objective (SO): **Facilitate, support and promote a reduction in greenhouse gas emissions from land and sea, a reduction in biodiversity loss and an increase in biodiversity gain, mitigating ecological risk.** | | | |
| SEA Topic | Score | Justification | Mitigation and enhancement |
| Biodiversity, flora and fauna | **+**  **R** | Impacts to Shetland’s biodiversity, flora and fauna are likely to provide a minor positive effect, though detailed environmental assessments would be needed at policy, plan and project levels. SIC is one of several organisations responsible for supporting biodiversity and aligned work is needed to attain best results. | Continuing to work with SIC departments and relevant orgnisations will be paramount in developing frameworks to incorporate biodiversity considerations into skill expansion. Further enhancement or mitigation is outwith the scale of this Strategic Objective. |
| Population and human health | **+**  **R** | There may be minor positive effects from alleviating climate anxiety and associated mental health of individuals and communities, though focused studies would be needed to assess this. | Further enhancement or mitigation is outwith the scale of this Strategic Objective. |
| Soil | **+**  **R** | Effects of supporting a reduction in emissions but particularly in supporting biodiversity and ecosystem health will likely have positive effects on soils in Shetland. | Work will be needed going forward to enhance the ecosystem services afforded by healthy ecosystems in Shetland. Further enhancement or mitigation is outwith the scale of this Strategic Objective. |
| Water | **+**  **R** | Effects of supporting a reduction in emissions but particularly in supporting biodiversity and ecosystem health will likely have positive effects on water sources in Shetland. | Work will be needed going forward to enhance the ecosystem services afforded by healthy ecosystems in Shetland. Further enhancement or mitigation is outwith the scale of this Strategic Objective. |
| Air | **\***  **R** | Effects of supporting a reduction in emissions but particularly in supporting biodiversity and ecosystem health on air quality in Shetland are unlikely to be significant due to the already high quality. | Work will be needed going forward to enhance the ecosystem services afforded by healthy ecosystems in Shetland. Further enhancement or mitigation is outwith the scale of this Strategic Objective. |
| Climatic factors | **+**  **R** | Promoting the supporting a reduction in emissions but particularly in supporting biodiversity and ecosystem health, which would likely reduce overall GHG emissions in Shetland and have a minor positive effect on climatic factors. | Work will continue to engage with SIC departments and relevant partners, such as HIE, to investigate methods of unlocking further finance for climate conscious initiatives in communities. This objective has already been designed to maximally improve climatic factors. |
| Cultural heritage | **?**  **R** | The impacts on cultural heritage sites in the care of SIC resulting from supporting a reduction in emissions but particularly in supporting biodiversity and ecosystem health are as yet unknown. | The environmental effects of this Strategic Objective cannot be enhanced or mitigated because its effects are unknown. |
| Landscape | **+**  **R** | Landscape changes are likely to result from supporting a reduction in emissions but particularly in supporting biodiversity and ecosystem health, though this would need to be determined at future strategy or project level. | Further enhancement or mitigation is outwith the scale of this Strategic Objective. |
| Material assets | **+**  **R** | Supporting  biodiversity and ecosystem health may have a resultant minor positive effect on  SIC material assets. This may be in the form of reduced risk of fluvial flooding and impacts to road networks, for example. | Further enhancement or mitigation is outwith the scale of this Strategic Objective. |

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| **Nature Based Solutions** | | | |
| Strategic Objective (SO): **Support an increase in levels of peatland restoration and tree planting works occurring across Shetland through skills development, building capacity, raising awareness and streamlining access to available funding.** | | | |
| SEA Topic | Score | Justification | Mitigation and enhancement |
| Biodiversity, flora and fauna | **++**  **R** | Impacts to Shetland’s biodiversity, flora and fauna are likely to provide a major positive effect, though detailed environmental assessments would be needed at policy, plan and project levels. Habitat and network improvement will have positive effects on the potential ecosystem services, such as carbon storage. | Continuing to work with SIC departments and relevant orgnisations will be paramount in developing frameworks to incorporate biodiversity considerations into skill expansion. Further enhancement or mitigation is outwith the scale of this Strategic Objective. |
| Population and human health | **+**  **R** | There may be minor positive effects from alleviating climate anxiety and associated mental health of individuals and communities, though focused studies would be needed to assess this. | Continuing to work with SIC departments and relevant organisations will enable the enhancement of potential positive effects. Further enhancement or mitigation is outwith the scale of this Strategic Objective. |
| Soil | **++**  **R** | Effects of supporting an increase in levels of peatland restoration and tree planting works occurring across Shetland on soils would provide a major positive effect. | Work will be needed going forward to enhance the ecosystem services afforded by healthy ecosystems in Shetland. Further enhancement or mitigation is outwith the scale of this Strategic Objective. |
| Water | **+**  **R** | Effects of supporting an increase in levels of peatland restoration and tree planting works occurring across Shetland will likely have positive effects on water sources in Shetland. | Work will be needed going forward to enhance the ecosystem services afforded by healthy ecosystems in Shetland. Further enhancement or mitigation is outwith the scale of this Strategic Objective. |
| Air | **\***  **R** | Effects of supporting an increase in levels of peatland restoration and tree planting works occurring across Shetland on air quality in Shetland are unlikely to be significant due to the already high quality. | Work will be needed going forward to enhance the ecosystem services afforded by healthy ecosystems in Shetland. Further enhancement or mitigation is outwith the scale of this Strategic Objective. |
| Climatic factors | **++**  **R** | Promoting an increase in levels of peatland restoration and tree planting works occurring across Shetland would likely significantly reduce overall GHG emissions in Shetland and have a major positive effect on climatic factors. | Work will continue to engage with SIC departments and relevant partners, such as HIE, to investigate methods of unlocking further finance for climate conscious initiatives in communities. This objective has already been designed to maximally improve climatic factors. |
| Cultural heritage | **?**  **R** | The impacts of an increase in levels of peatland restoration and tree planting works occurring across Shetland are as yet unknown. | The environmental effects of this Strategic Objective cannot be enhanced or mitigated because its effects are unknown. |
| Landscape | **+**  **R** | Landscape changes are likely to result from an increase in levels of peatland restoration and tree planting works occurring across Shetland. | Further enhancement or mitigation is outwith the scale of this Strategic Objective. |
| Material assets | **+**  **R** | Supporting  an increase in levels of peatland restoration and tree planting works occurring across Shetland may have a resultant minor positive effect on SIC material assets. This may be in the form of reduced risk of fluvial flooding and impacts to road networks, for example. | Further enhancement or mitigation is outwith the scale of this Strategic Objective. |

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| **Nature Based Solutions** | | | |
| Strategic Objective (SO): **Work with partners to ensure nature-based solutions are considered and implemented to mitigate damage to our environment from the future physical risks related to climate change.** | | | |
| SEA Topic | Score | Justification | Mitigation and enhancement |
| Biodiversity, flora and fauna | **+**  **R** | Impacts to Shetland’s biodiversity, flora and fauna are likely to provide a minor positive effect, though detailed environmental assessments would be needed at policy, plan and project levels. Habitat and network improvement will have positive effects on the potential ecosystem services. | Continuing to work with SIC departments and relevant orgnisations will be paramount in developing frameworks to incorporate biodiversity considerations into skill expansion. Further enhancement or mitigation is outwith the scale of this Strategic Objective. |
| Population and human health | **+**  **R** | There may be minor positive effects from alleviating climate anxiety and associated mental health of individuals and communities, though focused studies would be needed to assess this. | Continuing to work with SIC departments and relevant organisations will enable the enhancement of potential positive effects. Further enhancement or mitigation is outwith the scale of this Strategic Objective. |
| Soil | **+**  **R** | The effects that ensuring nature-based solutions are considered and implemented to mitigate damage to our environment would have on soils are likely provide a minor positive effect. | Work will be needed going forward to enhance the ecosystem services afforded by healthy ecosystems in Shetland. Further enhancement or mitigation is outwith the scale of this Strategic Objective. |
| Water | **+**  **R** | The effects that ensuring nature-based solutions are considered and implemented to mitigate damage to our environment would have will likely have minor positive effects on water sources in Shetland. | Work will be needed going forward to enhance the ecosystem services afforded by healthy ecosystems in Shetland. Further enhancement or mitigation is outwith the scale of this Strategic Objective. |
| Air | **\***  **R** | The effects that ensuring nature-based solutions are considered and implemented to mitigate damage to our environment would have on air quality in Shetland are unlikely to be significant due to the already high quality. | Work will be needed going forward to enhance the ecosystem services afforded by healthy ecosystems in Shetland. Further enhancement or mitigation is outwith the scale of this Strategic Objective. |
| Climatic factors | **+**  **R** | Ensuring nature-based solutions are considered and implemented to mitigate damage to our environment would likely reduce overall GHG emissions in Shetland and have a minor positive effect on climatic factors. | Work will continue to engage with SIC departments and relevant partners, such as HIE, to investigate methods of unlocking further finance for climate conscious initiatives in communities. This objective has already been designed to maximally improve climatic factors. |
| Cultural heritage | **?**  **R** | The impacts of ensuring nature-based solutions are considered and implemented to mitigate damage to our environment are as yet unknown. | Work must continue with SIC departments and relevant partners to fully understand the likely future impacts of nature-based solutions on cultural heritage sites or practices. The environmental effects of this Strategic Objective cannot be enhanced or mitigated because its effects are unknown. |
| Landscape | **+**  **R** | Minor positive effects to landscapes are likely to result from ensuring nature-based solutions are considered and implemented to mitigate damage to our environment across Shetland. | Further enhancement or mitigation is outwith the scale of this Strategic Objective. |
| Material assets | **+**  **R** | Ensuring nature-based solutions are considered and implemented to mitigate damage to our environment across Shetland may have a resultant minor positive effect on SIC material assets. This may be in the form of reduced risk of fluvial flooding and impacts to road networks, for example. | Further enhancement or mitigation is outwith the scale of this Strategic Objective. |

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| **Nature Based Solutions** | | | |
| Strategic Objective (SO): **Aspire to protect peatland habitat, carbon rich soils, wild land and coastal landscapes from planned development.** | | | |
| SEA Topic | Score | Justification | Mitigation and enhancement |
| Biodiversity, flora and fauna | **+**  **R** | Impacts to Shetland’s biodiversity, flora and fauna from aspiring to protect valuable habitats are likely to provide minor positive effects, though detailed environmental assessments would be needed at policy, plan and project levels. Habitat and network improvement will have positive effects on the potential ecosystem services. | Continuing to work with SIC departments and relevant orgnisations will be paramount in developing frameworks to incorporate biodiversity considerations into skill expansion. Further enhancement or mitigation is outwith the scale of this Strategic Objective. |
| Population and human health | **+**  **R** | There may be minor positive effects from alleviating climate anxiety and associated mental health of individuals and communities, though focused studies would be needed to assess this. | Continuing to work with SIC departments and relevant organisations will enable the enhancement of potential positive effects. Further enhancement or mitigation is outwith the scale of this Strategic Objective. |
| Soil | **+**  **R** | The effects that aspiring to protect valuable habitats would have on soils are likely provide a minor positive effect. | Work will be needed going forward to enhance the ecosystem services afforded by healthy ecosystems in Shetland. Further enhancement or mitigation is outwith the scale of this Strategic Objective. |
| Water | **+**  **R** | The effects aspiring to protect valuable habitats would have will likely have minor positive effects on water sources in Shetland. | Work will be needed going forward to enhance the ecosystem services afforded by healthy ecosystems in Shetland. Further enhancement or mitigation is outwith the scale of this Strategic Objective. |
| Air | **\***  **R** | The effects that aspiring to protect valuable habitats would have on air quality in Shetland are unlikely to be significant due to the already high quality. | Work will be needed going forward to enhance the ecosystem services afforded by healthy ecosystems in Shetland. Further enhancement or mitigation is outwith the scale of this Strategic Objective. |
| Climatic factors | **+**  **R** | Aspiring to protect valuable habitats would likely reduce overall GHG emissions in Shetland and have a minor positive effect on climatic factors. | Work will continue to engage with SIC departments and relevant partners, such as HIE, to investigate methods of unlocking further finance for climate conscious initiatives in communities. This objective has already been designed to maximally improve climatic factors. |
| Cultural heritage | **?**  **R** | The impacts of aspiring to protect valuable habitats to our environment are as yet unknown. | Work must continue with SIC departments and relevant partners to fully understand the likely future impacts of nature-based solutions on cultural heritage sites or practices. The environmental effects of this Strategic Objective cannot be enhanced or mitigated because its effects are unknown. |
| Landscape | **+**  **R** | Minor positive effects to landscapes are likely to result from aspiring to protect valuable habitats across Shetland. | Further enhancement or mitigation is outwith the scale of this Strategic Objective. |
| Material assets | **+**  **R** | Aspiring to protect valuable habitats across Shetland may have a resultant minor positive effect on SIC material assets. This may be in the form of reduced risk of fluvial flooding and impacts to road networks, for example. | Further enhancement or mitigation is outwith the scale of this Strategic Objective. |

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| **Nature Based Solutions** | | | |
| Strategic Objective (SO): **Explore the role of blue carbon and marine carbon** **sequestration.** | | | |
| SEA Topic | Score | Justification | Mitigation and enhancement |
| Biodiversity, flora and fauna | **?**  **R** | Impacts to Shetland’s biodiversity, flora and fauna from exploring the role of blue carbon and storage is, as yet, unknown. As understanding improves, detailed assessments would be needed at future policy, plan and project levels. | Continuing to work with SIC departments and relevant organisations will be paramount in developing frameworks to incorporate biodiversity considerations into skill expansion. The environmental effects of this Strategic Objective cannot be enhanced or mitigated because its effects are unknown. |
| Population and human health | **\***  **R** | There are unlikely to be significant impacts from exploring the role of blue carbon and storage. | Continuing to work with SIC departments and relevant organisations will enable the enhancement of potential positive effects. Further enhancement or mitigation is outwith the scale of this Strategic Objective. |
| Soil | **\***  **R** | Effects of exploring future blue carbon and storage options on soil quality would need to be detailed at project level. | Work will be needed going forward to enhance the ecosystem services afforded by healthy ecosystems in Shetland. Further enhancement or mitigation is outwith the scale of this Strategic Objective. |
| Water | **+**  **R** | Effects of exploring future blue carbon and storage options on water sources would need to be detailed at project level. | Work will be needed going forward to enhance the ecosystem services afforded by healthy ecosystems in Shetland. Further enhancement or mitigation is outwith the scale of this Strategic Objective. |
| Air | **\***  **R** | Effects of exploring future blue carbon and storage options on air quality would need to be detailed at project level. | Work will be needed going forward to enhance the ecosystem services afforded by healthy ecosystems in Shetland. Further enhancement or mitigation is outwith the scale of this Strategic Objective. |
| Climatic factors | **+**  **R** | Exploring future blue carbon and storage options are could reduce overall GHG emissions in Shetland. | Work will continue to engage with SIC departments and relevant partners, such as HIE, to investigate methods of unlocking further finance for climate conscious initiatives in communities. This objective has already been designed to maximally improve climatic factors. |
| Cultural heritage | **\***  **R** | The impacts of exploring future blue carbon and storage options on cultural heritage sites are as yet unknown. | Work must continue with SIC departments and relevant partners to fully understand the likely future impacts of nature-based solutions on cultural heritage sites or practices. Further enhancement or mitigation is outwith the scale of this Strategic Objective. |
| Landscape | **\***  **R** | There are no significant landscape effects likely to result from exploring future blue carbon and storage options. | Further enhancement or mitigation is outwith the scale of this Strategic Objective. |
| Material assets | **\***  **R** | There are no significant effects likely to impact material assets resulting from exploring future blue carbon and storage options. | Further enhancement or mitigation is outwith the scale of this Strategic Objective. |

## Additional effects

* + 1. There is potential for a number of the SOs to have cumulative effects. This is mainly due to inter-relationships between actions and their possible outcomes associated with:
    - Energy efficiency measures, estate rationalisation, decarbonisation and material assets of the SIC; and,
    - Peatland restoration and reduction of land-based emissions on Shetland’s biodiversity and wildlife.
    1. While there are links to be made within this higher level context of the SIC CCS, the likely, data-supported conclusions which may be drawn are difficult to make. There is a lack of peer-reviewed data and research on the effects of peatland restoration and other techniques on Shetland’s biodiversity and this is why the decision has been made to instead expect such determinations must be made at project level.

## Mitigation and Monitoring

* + 1. Several mitigation measures have been identified during the SEA process.
    2. The SIC Climate Change Strategy supports the use of nature-based solutions where possible and places environmental co-benefits at its core. Alignment of future plans and projects to the Climate Change Strategy, a key Strategic Objective, should result in the enhancement of positive environmental effects and mitigation of negative effects at a plan- or project-level. If successful, this should be the case not only for plans and projects that result from the Climate Change Strategy, but all Council plans and projects.
    3. Future Council projects should also align with National Planning Framework 4, which contains robust measures for the protection of nature. Additionally, future policies, plans and strategies will complete the SEA process. We can therefore assume that the projects, policies, plans and strategies which result from this Strategy document will have robust consideration of environmental effects and will make necessary alterations to enhance positive environmental effects and mitigate negative effects.

# Conclusion

## **Overall findings of the Environmental Assessment**

* + 1. The main conclusion of this environmental report is two-fold:
* firstly, that there are significant positive environmental impacts on climatic factors associated with the reduction of the reduction of GHG emissions across SIC and indeed Shetland; and,
* secondly, that the greatest environmental impacts are likely to be achieved through restoration and support of the natural environment, which is so unique to Shetland.
  + 1. It is important to note though, that the SIC CCS is a high level strategy and each plan or project that either results from it, or is related to it, should involve undertaking detailed environmental assessments.

## **Influence of Environmental Assessment on the production of the SIC CCS**

* + 1. The writing of the Environmental Report, and indeed the entire SEA process, has afforded the opportunity to focus on each of our strategic objectives from the perspectives of multiple environmental perspectives. Each environmental topic that informed the SEA Objectives has been carefully considered and the SIC CCS objectives have been assessed with these considerations in mind.
    2. Responses from the SEA Consultation Authorities has also proved invaluable during the SEA process and has been used to inform this report and objective’s assessments.

# Consultation

## **Consultation process**

* + 1. This SEA Environmental Report and its Non-Technical Summary have been published for consultation alongside the Draft SIC CCS which has been prepared the SIC Climate Change Strategy team.
    2. The SIC CCS and accompanying SEA documents, including this Environmental Report have been published for public consultation for a period lasting 6 weeks. All documentation will be hosted on the Climate Change webpages of the Council’s own website. Hard copies are available, upon request, from the Infrastructure Offices in Lerwick.
    3. Information explaining how to respond to the Consultation documents during this period will be available on the website. Further in accordance with statutory requirements, an advertisement will be placed in local newspapers inviting members of the public to access the webpage and engage in the consultation process.
    4. The SEA Environmental Report and a copy of the Draft SIC CCS will also be provided to the SEA Gateway for distribution to the SEA Consultation Authorities, for formal consultation on the Strategy and the SEA as per the requirements of the Environmental Assessment (Scotland) Act 2005.

## **Next Stages**

* + 1. This report will be consulted simultaneously with the SIC CCS. All public responses and representation received from the SEA Consultation Authorities will be analysed by the Climate Change Strategy team and determinations will be made as to whether:
* Any significant changes need to be made to the SIC CCS which may result in the need to re-assess and re-consult as part of the SEA process; or,
* More minor changes need to be made to the SIC CCS prior to its submission to Committee.
  + 1. Should the Environment and Transport Committee see fit to approve the SIC CCS, and following final approval of the Strategy, the Council will formally adopt and publicise the SIC CCS. At which time, an SEA Post Adoption Statement (PAS) will be prepared to explain how the SEA process has informed the creation of the SIC CCS, and how feedback from this consultation period has been taken into account. The PAS will be released and advertised in a local newspaper as per the requirements of the Environmental Assessment (Scotland) Act 2005.

1. **​**Appendices

## **Appendix I – SEA Consultation Authorities Responses to SIC CCS Scoping Report**

|  |  |  |
| --- | --- | --- |
| SEA Consultation Authority | Comments | Relevant Section within Environmental Report |
| Historic Environment Scotland | *State of the Environment and Key Issues*  We note that you have not identified any key issues for the historic environment. In this context, you should consider the effects of climate change on the historic environment, the likely adaptation needs of the historic environment, and the potential for effects on the historic environment from other adaptation and mitigation measures. You should ensure that your baseline includes non-designated historic assets. | Section 3.3 |
| *Table 2 Scoping of SEA Topics*  We agree that the historic environment should be scoped into the assessment. Whilst we agree with the rationale for doing so, we consider this to take a limited view of the range of potential effects that the Strategy could have on the historic environment. | Section 3.5.4. |
| *Table 3 Proposed SEA Objectives*  Your objectives for the historic environment focus on mitigation of climate change. We recommend that you expand the scope of the sub-objectives to encompass the broad interconnections between the historic environment and climate change, including sub-objectives which aim to promote and enable the re-use and sensitive adaptation of historic environment assets, to make the historic environment more climate resilient and to reduce emissions from the historic environment. | Section 3.5.4. |
| *Table 6 Next Steps and Consultation*  We note that the predicted timetable appears to be tight, particularly in terms of the time allowed for assessment, and also for refinement of the Strategy following consultation. SEA should be an iterative process which informs the plan making process as it develops. You should ensure that your timetable allows the assessment to effectively influence the draft Strategy. | Section 5.2. |
| NatureScot | Page 2, Table 1.2:   * The protected features of East Mainland Coast, Shetland SPA are red-throated diver, great northern diver and Slavonian grebe. Red-breasted merganser and long-tailed duck are no longer qualifying interests. * Merlin is no longer a protected feature of Ronas Hill – North Roe and Tingon SPA. * Sumburgh Head SPA, designated for breeding Arctic tern, kittiwake, guillemot, fulmar and seabird assemblage, is missing from the table. | Environmental Baseline  Appendix III |
| Page 45: For clarity, it should be noted that whilst Marine Scotland is the licensing authority for marine mammals, NatureScot has responsibility for otter licensing. | Environmental Baseline Appendix III |
| Fig 3.4 on page 78 highlights two small areas of Class 2 peatland on Ronas Hill, however there are two larger areas on Ward of Arisdale and Ward of Otterswick in Yell totalling approximately 36 Ha, which aren’t shown | Environmental Baseline Appendix III |
| SEPA | Relationship with other Plans, Policies and Strategies (PPS)  Some of the PPS included have themselves been subject to SEA. Where this is the case you may find it useful to prepare a summary of the key SEA findings that may be relevant to the Climate Change Strategy and Action Plan. This help to ensure the current SEA picks up environmental issues or mitigation actions which may have been identified elsewhere. | Section 2.4. |
| Baseline information  2.1 We note that environmental data held by SEPA was used, alongside other data, to support the Environmental Baseline Report in Appendix 2 of the SEA Scoping report. | Section 3.2. |
| Environmental problems  3.1 We consider that the environmental problems described generally highlight the main issues of relevance for the SEA topics within our remit. | Section 3.6.3. |
| Alternatives  4.1 We note that alternatives are still being considered. Any reasonable alternatives identified during the preparation of the plan should be assessed as part of the SEA process and the findings of the assessment should inform the choice of the preferred option. This should be documented in the Environmental Report. | Section 3.6.3. |
| Scoping in / out of environmental topics 5.1 We agree that in this instance all environmental topics should be scoped into the assessment | Section 3.5.4. |
| Methodology for assessing environmental effects  6.1 We welcome the proposed methodology in section 3. Including a commentary section within the matrices in order to state, where necessary, the reasons for the PUBLIC effects cited and the score given helps to fully explain the rationale behind the assessment results. This allows the Responsible Authority to be transparent and also allows the reader to understand the rationale behind the scores given.  6.2 Where it is expected that other plans, programmes or strategies are better placed to undertake more detailed assessment of environmental effects this should be clearly set out in the Environmental Report.  6.3 We would expect all aspects of the PPS which could have significant effects to be assessed.  6.4 We support the use of SEA objectives as assessment tools as they allow a systematic, rigorous and consistent framework with which to assess environmental effects.  6.5 We are content with the proposed detailed assessment matrix and particularly welcome the justification box to provide commentary to fully explain the rationale behind the assessment results. We also welcome the link to mitigation / enhancement measures in the proposed assessment framework and the consideration of mitigation of impacts.  6.6 We are content with the proposed SEA objectives to be used in the assessment | 3.1. |
|  | Mitigation and enhancement  7.1 We would encourage you to use the assessment as a way to improve the environmental performance of individual aspects of the final option; hence we support proposals for enhancement of positive effects as well as mitigation of negative effects.  7.2 We would encourage you to be very clear in the Environmental Report about mitigation measures which are proposed as a result of the assessment. We welcome that it is proposed to follow the mitigation hierarchy (avoid, reduce, remedy or compensate).  7.3 One of the most important ways to mitigate significant environmental effects PUBLIC identified through the assessment is to make changes to the plan itself so that significant effects are avoided. The Environmental Report should therefore identify any changes made to the plan as a result of the SEA.  7.4 Where the mitigation proposed does not relate to modification to the plan itself then it would be extremely helpful to set out the proposed mitigation measures in a way that clearly identifies: (1) the measures required, (2) when they would be required and (3) who will be required to implement them. The inclusion of a summary table in the Environmental Report such as that presented below will help to track progress on mitigation through the monitoring process. | 3.7. |

## **Appendix II – Relevant Legislation**

**General**

| Source | Key objectives | Implications/ Comments |
| --- | --- | --- |
| **International** |  |  |
| Aarhus Convention (1998) | To develop a number of rights of the public with regard to the environment. Local authorities should provide for:   * The right of everyone to receive environmental information * The right to participate from an early stage in environmental decision making * The right to challenge in a court of law public decisions that have been made without respecting the two rights above or environmental law in general | Ensure that the public are involved and consulted at all relevant stages of SEA production. |
| Johannesburg Declaration on Sustainable Development (2002) | Commitment to building a humane, equitable and caring global society aware of the need for human dignity for all.  Areas of focus include:   * Sustainable consumption and production patterns. * Accelerate shift towards sustainable consumption and production – 10-year framework of programmed of action. * Reverse trend in loss of natural resources. * Renewable energy and energy efficiency. * Urgently and substantially increase Global share of renewable energy. * Significantly reduce the rate of biodiversity loss by 2010. | The SEA should reflect objectives to support reduction in emissions of greenhouse gases, promote renewable energy and energy efficiency. |
| **European** |  |  |
| EU Public Participation Directive  Directive 2003/35/EC on providing for public participation in respect of the drawing up of certain plans and programmes relating to the environment and amending with regard to public participation and access to justice Council Directives 85/337/EEC and 96/61/EC | Provides a legal framework for community involvement by requiring public participation in decision-making and regulation, including through access to information and consultation. | Ensure that the public are involved and consulted at all relevant stages of drawing up certain plans and programmes relating to the environment. |
| SEA Directive 2001  Directive 2001/42/EC on the assessment of the effects of certain plans and programmes on the environment | The key objective of the SEA Directive is to provide for a high level of protection of the environment and contribute to the integration of environmental considerations into the preparation and adoption of plans and programmes with a view to promoting sustainable development. | Requirements of the SEA Directive must be met in Strategic Environmental Assessments. |
| **National (Legislation)** | | |
| Town and Country Planning (Scotland) Act 1997 (as amended) | The Town and Country Planning (Scotland) Act governs the use and development of land within Scotland. The 1997 Act forms the basis of the Scottish planning system. It sets out the roles of Scottish Ministers and designates local authorities as ‘planning authorities’ with a responsibility for producing local development plans and handling most aspects of development management and enforcement.  All planning applications in Scotland are required to be determined against the Town and Country Planning (Scotland) Ac 1997. | The SEA should be mindful of the requirements set out in the 1997 Act. |
| Planning etc. (Scotland) Act 2006 | The Planning etc. (Scotland) Act 2006 formed a central part of the reform of the Scottish planning system. One of its key effects was the creation of Strategic Development Planning Authorities, which comprise several local planning authorities and are charged with producing long-term development plans. | The SEA should be mindful of the requirements set out in the Planning etc. (Scotland) Act 2006 |
| Town and Country Planning (Development Management Procedure) (Scotland) Regulations 2008 (as amended) | Sets out provisions for granting planning permission in accordance with the Town and Country Planning (Scotland) Act 1997. | The SEA should be mindful of the requirements of the Town and  Country Planning (Development Management Procedure) Scotland Regulations |
| Town and Country Planning (Environmental Impact Assessment) (Scotland) Regulations 2011 | Sets out criteria for determining whether an Environmental Impact Assessment would be required for developments. | The SEA should reflect the objectives to minimise the potential environmental impacts of development |
| Planning (Scotland) Bill | An Act of the Scottish Parliament to make provision about how land is developed and used.  The Bill is part of a wider planning system reform responding to an independent review of planning, which includes changes to secondary legislation made under existing powers as well as non-legislative changes. Some of the key aspects of the Bill are its provisions in relation to the system of development plans; the opportunities for community engagement in planning; the effective performance of planning authorities’ functions; and a new way to fund infrastructure development. | The SEA should be mindful of the requirements proposed by the Planning (Scotland) Bill. |
| Electricity Act 1989 | Establishes a licensing regime for generation, transmission, distribution and supply, and sets out the statutory duties of the regulator. The Act gives powers to Scottish Ministers for the determination of applications for electricity infrastructure including applications to construct, extend and operate onshore electricity generating stations exceeding 50 megawatts capacity; applications to vary existing consents which were granted under section 36; and applications for overhead lines. | The SEA should be mindful of the requirements of the Act. |
| **National (policies, Plans, Programmes and Strategies)** | | |
| *National Planning Framework 4 Revised Draft[[3]](#footnote-3)* (the Scottish Government) | The Fourth National Planning Framework (Revised Draft, details the long-term plan for what Scotland could be in 2045, was approved by Parliament on 11th January 2023.  NPF4 comprises:   * Part 1 – A National Spatial Strategy for Scotland 2045 * Part 2 - National Planning Policy; covering sustainable places, liveable places, and productive places | The SEA should be mindful of the policy framework of National Planning Framework 4. |
| *National Planning Framework 3* (the Scottish Government, 2014) | The National Planning Framework 3 set out the Scottish Government’s spatial development/investment priorities over the next 20-30 years. It is a long-term strategy to promote environmental sustainability, equality in opportunity, technological progress and human well-being and health.  Key outcomes of the framework are as follows:   * Creating sustainable places * Reducing carbon emissions and adapting to climate change * Protecting and enhancing Scotland’s natural cultural assets as well as facilitating their sustainable use * Supporting better transport and digital connectivity | The SEA should reflect the objectives to make Scotland a successful, sustainable place; a low carbon place; a natural, resilient place; and a connected place. |
| *Scottish Planning Policy* (The Scottish Government, 2014) | The purpose of the Scottish Planning Policy is to set out national planning policies on how to address land use matters across the country. It is non-statutory, however, it is in line with the Town and Country Planning (Scotland)   * Creating sustainable places * Reducing carbon emissions and adapting to climate change * Protecting and enhancing Scotland’s natural cultural assets as well as facilitating their sustainable use * Supporting better transport and digital connectivity | The SEA should reflect the objectives to make Scotland a successful, sustainable place; a low carbon place; a natural, resilient place; and a connected place. |

Local

|  |  |  |
| --- | --- | --- |
| Source | Key objectives | Implications/ Comments |
| Shetland Local Development Plan 2014 | Provides the strategic and detailed planning policy framework for decisions within the local Authority area |  |
| Shetland Islands Council Corporate Plan 2021 -2026  Our Ambition | Provides strategic political direction to help Shetland Islands Council focus on the things that can help most to create opportunities and achieve long term sustainability for Shetland.   * Population balance * Covid – 19 recovery and renewal * UK withdrawal from the European Union * Climate Change * Sustaining current jobs and creating new ones * Skills and learning * Digital connectivity * Caring for our community * Fairer Shetland * Transport | The SEA should reflect the vision to create a positive, confident and sustainable future for Shetland. |
| Shetland Partnership Delivery Plan 2018-28 | Sets out an understanding of the issues Shetland’s people and communities face and sets out how to move towards the improvements identified. |  |

**Climatic Factors**

| Source | Key objectives | Implications/ Comments |
| --- | --- | --- |
| **International** |  |  |
| IPCC’s Fifth Assessment Report on Climate Change (2014) | To limit and/or reduce all greenhouse gas emissions which contribute to climate change | The SEA should reflect objectives to support reduction in emissions of greenhouse gases. |
| The Cancun Agreement- UNFCC (2011) | Shared vision to keep global temperature rise to below two degrees Celsius, with objectives to be reviewed as to whether it needs to be strengthened in future on the basis of the best scientific knowledge available. | Include sustainability objectives to support the reduction in greenhouse gas emissions and mitigation to climate change. |
| Paris Agreement (United Nations 2015) | The main aim of the Paris Agreement centres on keeping global temperature rise this century below 2°C above preindustrial levels. Frameworks are to be put in place to help achieve these goals. | The SEA should reflect objectives to adapt and mitigate climate change. |
| The Kyoto Protocol to the UNFCCC (1997) | The Kyoto Protocol to the UNFCCC established the first policy that actively aims to reduce greenhouse gas emissions by industrialised countries. | The SEA Framework should include objectives to reduce greenhouse gas emissions and promote sustainable development. |
| **European** | | |
| Emissions Trading System Directive 2009  Directive 2009/29/EC to improve and extend the greenhouse gas emission allowance trading scheme of the Community | The main aim of the Directive is to improve and extend the greenhouse gas emission allowance trading scheme of the Community | The SEA should reflect objectives to promote energy efficiency and reduce the emission of greenhouse gases. |
| Renewable Energy Directive 2009  Directive 2009/28/EC on the use of energy from renewable sources | The Directive sets targets for renewable energy use within the EU, which requires that 20% of the energy consumed within the EU is renewable. | The SEA should reflect objectives to promote renewable energy. |
| Energy Efficiency Directive 2012  Directive 2012/30/EU on energy efficiency | The purpose of the Directive is to promote energy efficiency by establishing a set of binding measures to help the EU reach its 20% energy efficiency target by 2020. | The SEA should reflect objectives to promote energy efficiency and prudent use of resources. |
| **National (Legislation)** | | |
| The Fuel Poverty (Targets, Definition and Strategy) (Scotland) Act 2019 | The Fuel Poverty (Targets, Definition and Strategy) (Scotland) Act 2019 ("The Fuel Poverty Act") was introduced in 2019. Alongside the increased funding, work to decarbonise our homes and buildings will be led and co-ordinated by a new-dedicated National Public Energy Agency, to be established by 2025. A virtual agency will be in place and will act first to coordinate and then accelerate existing- and new-delivery programmes as part of the transition process. | The SEA should reflect the objective to support the decarbonising of homes and buildings |
| Climate Change (Scotland) Act 2009  Including amendments made by the Climate Change  (Emissions Reduction Targets)  (Scotland) Act 2019 | The 2009 Act sets statutory targets for the reduction of greenhouse gas emissions and makes further provision about energy efficiency and about the reduction and recycling of waste. The Act set an interim 42 percent reduction target by 2020 and an 80 percent reduction target for 2050. In 2019, the Climate Change (Emissions Reduction Targets) (Scotland) Act 2019 amended these reduction targets to a 56% reduction by 2020, 75% reduction by 2030, 90% reduction by 2040 and achieving net-zero emissions by 2045.  Secondary legislation has been made under the Climate Change (Scotland) Act 2009, including:   * The Climate Change (Annual Targets) (Scotland) Order 2010: sets emission reduction targets for 2010-2022 * The Climate Change (Limit on Carbon Units) (Scotland) Order 2010: places a limit on the amount of carbon units that may be credited to net Scottish Emissions for the period 2010-2012 * The Carbon Accounting Scheme (Scotland) Regulations 2010: establish a scheme for monitoring compliance with annual reduction targets for 2010-22 (as amended in 2015 and 2016) * The Climate Change (International Aviation and Shipping) (Scotland) Order 2010: establish a method by which emissions of greenhouse gases from international aviation and international shipping that are attributable to Scotland are calculated. * The Climate Change (Annual Targets) (Scotland) Order 2011: sets emission reduction targets for 2023-2027 * The Climate Change (Limit on Carbon Units) (Scotland) Order 2011: places a limit on the amount of carbon units that may be credited to net Scottish Emissions for the period 2023-2027 * The Climate Change (Limit on Carbon Units) (Scotland) Order 2010: places a limit on the amount of carbon units that may be credited to net Scottish Emissions for the period 2013-2017 * The Climate Change (Duties of Public Bodies: Reporting Requirements) (Scotland) Order 2015: requires bodies to prepare reports on compliance with climate change duties * The Climate Change (Additional Greenhouse Gas) (Scotland) Order 2015: adds nitrogen trifluoride as an additional greenhouse gas listed in the Climate Change (Scotland) Act 2009 * The Climate Change (Annual Targets) (Scotland) Order 2016: sets annual reduction targets for 2028-2032 * The Climate Change (Limit on Carbon Units) (Scotland) Order 2016: places a limit on the amount of carbon units that may be credited to net Scottish Emissions for the period 2018-2022 * Part 5 of the Climate Change (Scotland) Act 2009 also includes secondary legislation in relation to the energy performance of buildings and the functions of forestry commissioners. | The SEA should reflect the objective to reduce the emission of greenhouse gases and mitigate climate change |
| Heat Networks (Scotland) Act 2021 | The Heat Networks (Scotland) Act 2021 (the Act) received Royal Assent in February 2021.  The Act aims to accelerate the deployment of heat networks in Scotland through the introduction of a regulatory system aimed at boosting consumer confidence in the sector and providing greater certainty for investors.  The Act sets statutory targets for heat network deployment in 2027 and 2030, which are equivalent to an estimated 120,000 and 650,000 additional homes being connected to heat networks. This helps it to contribute to the achievement of the targets and ambition set out in Scotland's 2018 to 2032 climate change plan. | The SEA should reflect objectives to support the development of heat networks. |
| **National (policies, Plans, Programmes and Strategies)** | | |
| Climate Change Plan 2018  Including the Update to the Climate Change Plan 2020 | The Climate Change (Scotland) Act 2009 requires that Ministers publish a report setting out policies and proposals to meet annual targets. With the publication of the Climate Change Plan (2018), the Scottish Government aims to meet its emission reduction targets over the period 2018-2032. The Climate Change Plan sits alongside the Scottish Government’s Energy Strategy, and provides the strategic framework for our transition to a low carbon Scotland. Building on previous reports on policies and proposals, the Plan sets out the path to a low carbon economy while helping to deliver sustainable economic growth and secure the wider benefits to a greener, fairer and healthier Scotland in 2032.  The third Climate Change Plan provides policies and proposals to reduce GHG emissions from seven key sectors, including: electricity; buildings; transport; industry; waste and the circular economy; land use, land use change and forestry; and agriculture.  The update to the Climate Change Plan, published in 2020, committed to lay out a coordinated vision for the whole energy system within Scotland's refreshed energy strategy as well as ensuring the targets within the 2017 Energy Strategy remain on track. This update also provided a detailed, clear and credible pathway to meeting emissions targets over the period to 2032.  Following the amendments to emissions reduction targets by the Climate Change (Emissions Reduction Targets) (Scotland) Act 2019, the Scottish Government committed to updating the climate change plan (2020). The new plan continues to drive progress towards the current emissions reduction target of net-zero b 2045. The plan includes an additional sector, negative emissions technologies. | The SEA should reflect objectives to adapt and mitigate climate change, and support the reduction of greenhouse gas emissions. |
| Reducing emissions in Scotland Progress Report to Parliament 2020 | This report documents Scotland's progress towards reducing greenhouse gas emissions. The report sets out strategic policies, objectives and milestones for the coming years, including:   * Delivering an update to the Climate Change Plan which takes into account recent progress, seeks to deliver meaningful reductions outside of the power sector, and considers the implications of COVID-19. * Delivering a strategy for low-carbon heat and energy efficiency in Scotland’s buildings. * Decarbonising transport by encouraging behavioural change, uptake of active and sustainable means of travel, and promoting ’20 minute’ neighbourhoods. * Accelerating investments in low-carbon technologies (e.g. carbon capture and storage, renewables and hydrogen) and climate adaptation infrastructure * Maximise carbon sequestration by increasing tree planting to 18,000 ha per year, and peatland restoration to 20,000 ha per year. * Strengthen policies in local plans relating to climate change and adaptation. | The SEA should reflect objectives to adapt and mitigate climate change, and support the reduction of greenhouse gas emissions. |
| Climate Ready Scotland:  Second Scottish Climate Change Adaptation Programme 2019 | The Adaptation Programme provides an overarching framework for adaptation to climate change, setting out Scottish Ministers’ objectives as required by the 2009 Act. Building on the work of Climate Change Ready Scotland: Scottish Climate Change Adaptation Programme (2014) this second Programme sets out to address the impacts identified for Scotland by the 2017 UK Climate Change Risk Assessment. | The SEA should reflect objectives to mitigate the effects of climate change. |
| Climate Ready Scotland: Scottish Climate Change Adaptation Programme 2014 | Addresses the impacts identified for Scotland in the UK Climate Change Risk  Assessment (CCRA) published under section 56 of the UK Climate Change Act 2008. It aims to increase the resilience of Scotland’s people, environment and economy to the impacts of a changing climate. | The SEA should reflect objectives to mitigate the effects of climate change. |
| Climate Emergency Skills Action Plan (CESAP) (2020) | Published in December 2020, the Climate Emergency Skills Action Plan sets out the government’s plan to maximise the transition to net-zero for Scotland ensuring that Scotland’s workforce has the skills required to make the transition to net-zero a just transition, fair and inclusive to all.  It will act as a driver towards Scotland’s ambition to be a world leader in decarbonisation, aiming to reduce reach zero greenhouse gases by 2045, with an interim reduction of 45 per cent by 2030.  It sets out a clear direction for the changes needed in the skills system, and signals the role that industry, communities and individuals across Scotland will play in achieving this. | The SEA should reflect objectives to support the transition to net zero. |
| Hydrogen Action Plan 2022 | Scottish Government’s Hydrogen Action Plan articulates the actions that will be taken over the next five years to support the development of a hydrogen economy to further our efforts to reduce greenhouse gas emissions from Scotland’s energy system while ensuring a just transition. | The SEA should reflect the objectives to support the development of a hydrogen economy. |
| Hydrogen Policy Statement 2020 | The Statement sets out a vision for Scotland to become a leading hydrogen nation in the production of reliable, competitive, and sustainable hydrogen. It recognises the importance of hydrogen in the transition to renewable energy. The policy statement outlines the commitments of the Scottish Government to help achieve hydrogen production. | The SEA should reflect objectives to support the reduction of greenhouse gas emissions. |
| Energy Strategy Position Statement 2021 | The Scottish Government’s Energy Strategy position statement, published in March 2021, provided an overview of the Scottish Government’s key short-to-medium-term priorities, set out a comprehensive programme of work across the energy sector as well as an overview of the Scottish Government’s commitment to ensuring a green economic recovery in respect to energy. It also summarised policy publications and consultations.  The UK Government published their energy security strategy in April 2022, which will need to be taken into consideration for Scotland’s Energy Strategy | The SEA should reflect objectives to support the transition to net zero through changes to the energy sector. |
| Scotland's electricity and gas networks: vision to 2030 (2019) | In 2019, the Scottish Government published Scotland's electricity and gas networks: vision to 2030, supporting an inclusive transition to a decarbonised energy system; a whole system approach across heat, transport and electricity; and smarter local energy models. It recognises that new transmission infrastructure will be required, including links to meet the needs of the islands, within Scotland and with the rest of the UK | The SEA should reflect objectives to support the transition to a decarbonised energy system. |
| Heat in Buildings Strategy 2021 | The Heat in Buildings Strategy, published October 2021, sets out our vision for the future of heat in buildings, and the actions we are taking in the buildings sector to deliver our climate change commitments, maximise economic opportunities, and ensure a just transition, including helping address fuel poverty. This Strategy outlines the steps we will take to reduce greenhouse gas emissions from Scotland’s homes, workplaces and community buildings and to ensure that we remove poor energy performance as a driver of fuel poverty. The focus of this Strategy is on energy demand for space and water heating in homes, workplaces and community buildings. This Strategy sets out a pathway to zero emissions buildings by 2045 and details a series of near-term actions to put us on a clear path towards this, as well as a range of further, longer-term commitments to accelerate the transformation of the nation’s building stock. It sets out the principles we will apply to ensure our zero emissions heat delivery programmes support the fuel poverty objectives. | The SEA should reflect objectives to support the transition to zero emissions buildings. |
| A Low Carbon Economic Strategy for Scotland – Scotland A Low Carbon Society 2010 | The main purpose of the Low Carbon Economic Strategy is to achieve the targets as set out in the Climate Change (Scotland) Act 2009, as amended.  The document provides a comprehensive framework for developing a low carbon economy across Scotland. The strategy sets out measures that could be undertaken by Parties to cut their greenhouse gas emissions. This vision relates to the energy sector, the built environment, Scotland’s resources and businesses. | The SEA should reflect objectives to support the reduction of greenhouse gas emissions |
| Scotland’s national strategy for Economic Transformation | Sets out the priorities for Scotland’s economy as well as the actions needed to maximise the opportunities of the next decade to achieve our vision of a wellbeing economy. | The SEA should reflect aim to ensure a transformation of the way Government and business listen to, support and work with each other. |
| Towards a Low Carbon  Scotland – Smart Cities 2012 | The purpose of the document is to highlight the ways in which Scotland can become a low carbon society by presenting a number of case studies about sustainable urban development in Scottish cities such as district heating development and a hydrogen bus project in Aberdeen, renewable energy projects in Edinburgh and the ‘Energy from Waste’ project in Glasgow. | The SEA should support the reduction of greenhouse gas emissions. |
| Delivering for Today, Investing for Tomorrow: The Government’s Programme for Scotland 2018-19 | One of the key objectives of the Programme is to promote further investments in renewable and low carbon energies in order to tackle climate change. | The SEA should reflect objectives to support renewable and low carbon technologies. |
| The Scottish Energy Strategy 2017 | Scotland’s Energy Strategy sits alongside the aforementioned Climate Change Delivery Plan.  Three key themes underpin the Strategy;   * A whole-system view in which energy supply and consumption are seen as equal * priorities * A stable energy transitiontowards renewable energies and sustainable transport * A smarter model of local energy provisionwhich promotes local energy, community involvement and community ownership of energy generation | The SEA should reflect objectives to adapt to and mitigate climate change. |
| Scottish Emissions Targets 2028-2032 – The high ambition pathway towards a low-carbon economy 2016 | Sets out recommendations by the Committee on Climate Change which involves the following;   * Significant rollout of low-carbon heat pumps and heat networks * Promoting sales of electric cars * Stimulating afforestation in Scotland * Expanding renewable power and shutdown of coal-fired power | The SEA should reflect objectives to reduce greenhouse gas emissions. |
| 2020 Routemap for Renewable Energy in Scotland (2011), updated 2013 | Reflects the new target to meet an equivalent of 100% demand for electricity from renewable energy by 2020, as well as our target of 11% renewable heat. | The SEA should reflect objectives to reduce greenhouse gas emissions. |
| Offshore Wind Policy Statement 2020 | The Offshore Wind Policy Statement was published October 2020. Scottish offshore wind generation will play a vital part in helping us meet this challenge, while taking into account wider environmental factors and the interests of other users of the sea. This needs to happen within timeframes that keep us on course for Scotland's 2045 and interim emissions reduction targets and securing our 2030 target of meeting at least 50% of Scotland's total energy needs from renewable sources. | The SEA should reflect objectives to support continued use of offshore wind. |
| Onshore Wind Policy Statement 2022 | The Onshore Wind Policy Statement was published in December 2022. The transition to net zero means that our demand for green electricity will increase substantially over the course of the next decade. This means that a consistently higher rate of onshore wind and other renewables capacity will be required year on year. The onshore wind policy statement, confirms the Scottish Government ambition to deploy 20 GW of installed onshore wind capacity by 2030. This will be enabled in part by a strong, supportive policy environment from the Scottish Government, particularly one that mitigates preventable barriers. The Climate Change Plan Update noted the need to develop 11-16GW of renewable capacity through to 2032. | The SEA should reflect objectives to support continued use of onshore wind. |
| Sectoral Marine Plan for  Offshore Wind Energy 2020 | Sets out the spatial framework for the development of commercial-scale offshore wind energy in Scotland. | The SEA should reflect objectives to reduce greenhouse gas emissions, minimise negative impacts to population and human health; biodiversity; soils; water quality; landscape and coastal environment; and, historic environment. |
| Delivering Scotland’s circular economy: A Route Map to 2025 and beyond’ 2022 | Through this consultation we set out our proposals for a Route Map to 2025, our strategic plan to deliver Scotland’s zero waste and circular economy ambitions. This consultation invites views on the proposed priorities and actions to reach our waste, recycling and emissions reduction targets. | The SEA should reflect objectives to support the circular economy. |
| Big Climate Conversation | The Big Climate Conversation engaged over 2,500 people in Scotland over a six-month period up to November 2019, in a discussion about Scotland’s response to tackling the global climate emergency. Cross cutting issues which emerged included:   * A holistic and system-wide approach requiring an integrated plan. * Government leadership ensuring that low carbon behaviours become the most convenient or only option. * A just transition to ensure that action to address climate change should not exacerbate inequalities and where possible, should reduce them. | The SEA should reflect objectives to reduce greenhouse gas emissions. |
| Bute House Agreement 2021 | The Scottish Government and the Scottish Green Party Parliamentary Group have agreed to work together over the next five years to build a green economic recovery from COVID, respond to the climate emergency and create a fairer country.  A shared draft policy programme has been agreed. It details collaboration on the climate emergency, economic recovery, child poverty, the natural environment, energy and the constitution. It includes commitments to:   * increase investment in active travel and public transport * a strengthened framework of support for the marine renewables and offshore wind * take forward a ten-year £500 million Just Transition Fund for the North East and Moray * significantly increase the level of the Scottish Child Payment, in order to maximise the impact on child poverty * designate at least one new National Park by the end of this parliamentary session * enhance marine environmental protection * implement an effective national system of rent controls, enhance tenants’ rights and deliver 110,000 affordable homes by 2032 * invest at least £1.8 billion over this parliamentary session in energy efficiency and renewable heating | The SEA should reflect the agreement to build a green economic recovery. |
| Zero Emission Energy for Transport Report 2022 | The Zero Emission Energy for Transport Report was published on 26 May 2022. Transport Scotland is committed to removing greenhouse gas emissions from the transport system. The Climate Change (Emissions Reduction Targets) (Scotland) Act 2019 requires Scotland to reduce greenhouse gas emissions to net-zero by 2045, with an interim reduction target of 75% against 1990 levels by 2030. Transport is one of the biggest ‘demand sectors’ of energy, and neither the energy nor transport sectors can decarbonise without the other in sync. | The SEA should reflect objectives to reduce greenhouse gas emissions from transport. |
| Scotland's Economic Strategy 2015 | The strategy sets out an overarching framework for a more productive, cohesive and fairer Scotland. The Economic Strategy forms the strategic plan for existing and all future Scottish Government policy. In addition to setting goals for sustainable economic growth, the Economic Strategy also sets out our ambitions for investing in Scotland’s  infrastructure, and prioritises investment to ensure that Scotland protects and nurtures its natural resources and captures the opportunities offered by the transition to a more resource efficient, lower carbon economy. | The SEA should reflect objectives to adapt and mitigate climate change, and support the reduction of greenhouse gas emissions. |
| Protecting Scotland Renewing Scotland: The Government’s  Programme for Scotland 2020- 2021 | The programme sets out Scottish Governments plans to make Scotland a more successful country, with opportunities and increased well-being for all. Within the context of the global climate emergency it sets out that the Scottish Government is committed to achieving net zero by 2045. The importance of adaption to prepare and manage the impacts of climate change is also set out. The programme sets out the next Infrastructure Investment Plan which will reflect Scotland's commitment to achieving net zero. | The SEA should reflect objectives to reduce greenhouse gas emissions. |
| Energy Consumer Action Plan: Putting Consumers at the heart of Scotland’s Energy Transition 2019 | Energy Consumer Action Plan sets out our commitment to ensure consumers are at the heart of Scotland's energy transition. | The SEA should reflect objectives to support the energy transition. |
| Heat networks delivery plan 2022 | The delivery plan sets out how provisions of the Heat Networks Scotland Act 2021 and wider policy will contribute to increasing heat networks in Scotland. | The SEA should reflect objectives to support heat networks. |
| Potential heat network zones: first national assessment 2022 | Analysis to identify and characterise potential zones for heat networks in Scotland. It provides further detail on the analysis criteria, assessment methodology, limitations, definitions and the interpretation of the outputs. | The SEA should reflect objectives to support heat networks. |
| Heat Network Fund: application guidance 2022 | Information on Scotland's Heat Network Fund, including eligibility and how to apply. | The SEA should reflect objectives to support heat networks. |
| Bioenergy: update - March 2021 | The update considers the potential role for bioenergy to support our net zero greenhouse emissions targets and outlines how we intend to move forward over the next 18 to 24 months to understand the most appropriate and sustainable use of bioenergy resources in Scotland. | The SEA should reflect objectives to support bioenergy |

**Local**

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| Source | Key Objective | Implications / Comments |
| Living Shetland. Shetland Local Biodiversity Action Plan (Shetland Biodiversity Partnership) 2004. | Priorities and actions for biodiversity in Shetland | The SEA should reflect biodiversity actions. |
| Marine Spatial Plan 2015 (Shetland) | Provides an overarching policy framework to guide marine development and activity out to 12 nautical miles. |  |
| Regional Marine Plan (Shetland) | Shetland is one of the first two regions in Scotland to take forward Regional Marine Planning under the Marine (Scotland) Act 2010.  The Regional Marine Plan, once established, will cover:   * the physical, environmental, social, cultural (including historic or archaeological in nature)and economic characteristics of the Scottish marine region to which the plan applies and of the living resources which the region supports, * the purposes for which any part of the region is used, * the communications, energy and transport systems of the region, * any other considerations which may be expected to affect those matters, * any changes which could reasonably be expected to occur in relation to any matter above, * the effect that any such changes may have in relation to the sustainable development of the Scottish marine region, its natural resources, or the living resources dependent on the region. |  |
| Transport Strategy 2008 (Shetland) (under review) | Set out how to deliver an effective, efficient, safe and reliable transport system for Shetland |  |

**Biodiversity, Flora and Fauna**

| Source | | Key objectives | Implications/ Comments |
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| **International** | | | |
| Bern Convention (1979) | | To ensure conservation and protection of wild plant and animal species and their natural habitats (listed in Appendices I and II of the Convention), to increase cooperation between contracting parties, and to regulate the exploitation of those species) listed in Appendix III. To this end the Convention imposes legal obligations on contracting parties, protecting over 500 wild plant species and more than 1,000 wild animal species. | The SEA should consider the preservation and protection of the environment. |
| Bonn Convention on the Conservation of Migratory Species of Wild Animals (1979) | | To ensure that contracting parties work together to conserve terrestrial, marine and avian migratory species and their habitats (on a global scale) by providing strict protection for endangered migratory species.  The overarching objectives set for the Parties are:   * Promote, co-operate in and support research relating to migratory species * Endeavour to provide immediate protection for migratory species included in Appendix I * Endeavour to conclude Agreements covering the conservation and management of migratory species included in Appendix II | The SEA should reflect the objectives protecting biodiversity and the natural environment. |
| Ramsar Convention (1971) | | To promote the wise use of wetlands and their resources.  The Convention’s mission is “the conservation and wise use of all wetlands through local and national actions and international cooperation, as a contribution towards achieving sustainable development throughout the world”. | The SEA should take into account the conservation of wetlands and their resources. |
| The Convention on Biological Diversity (2010) | | The Convention on Biological Diversity (CBD) is a multilateral treaty which served three main goals, including:   * Conservation of biological diversity * Sustainable use of its components * Fair and equitable sharing of benefits arising from genetic | The SEA should reflect objectives protecting biodiversity and sustainable use of its components. |
| **European** | | | |
| The Habitats Directive 1992  Directive 92/43/EEC on the conservation of natural habitats and of wild fauna and flora | | To promote the maintenance of biodiversity taking account of economic, social, cultural and regional requirements. Conservation of natural habitats and maintain landscape features of importance to wildlife and fauna. | The SEA should reflect objectives to protect and maintain the natural environment and important landscape features. |
| The Birds Directive 2009  Directive 2009/147/EC is a codified version of Directive 79/409/EEC as amended | | The preservation, maintenance, and re-establishment of biotopes and habitats shall include the following measures:  Creation of protected areas.  Upkeep and management in accordance with the ecological needs of habitats inside and outside the protected zones.  Re-establishment of destroyed biotopes.  Creation of biotopes. | The SEA should reflect objectives for the protection of birds. |
| EU Biodiversity Strategy to 2020 (European Commission, 2011) | The European Commission has adopted an ambitious new strategy to halt the loss of biodiversity and ecosystem services in the EU by 2020. The six targets cover:   * Full implementation of EU nature legislation to protect biodiversity * Better protection for ecosystems, and more use of renewable infrastructure * More sustainable agriculture and forestry * Better management of fish stocks * Tighter controls on invasive alien species * A bigger EU contribution to averting global biodiversity loss | | The SEA should reflect objectives to value, protect and enhance biodiversity. |
| EU Seventh Environmental Action Plan to 2020 (European Commission, 2013) | The EU’s objectives in implementing the programme are:   1. to protect, conserve and enhance the Union’s natural capital; 2. to turn the Union into a resource-efficient, renewable and competitive low-carbon economy; 3. to safeguard the Union's citizens from environment-related pressures and risks to health and wellbeing; 4. to maximise the benefits of the Union's environment legislation; 5. to improve the evidence base for environment policy; 6. to secure investment for environment and climate policy and get the prices right; 7. to improve environmental integration and policy coherence; 8. to enhance the sustainability of the Union's cities; 9. to increase the Union’s effectiveness in confronting regional and global environmental challenges. | | The SEA should reflect objectives to protect and enhance the natural environment. |
| **National (Legislation)** | | | |
| Wildlife and Countryside Act 1981 (as amended) | The Act implements the principles of the Bern Convention and the EU Birds Directive in the UK. Since it came into force, the Act has been amended several times. The act applies to the terrestrial environment and inland waters.  According to the Act, Scottish Natural Heritage (SNH) is a regulator of the Wild and Countryside Act and is legally responsible for Sites of Special Scientific Interest (SSSIs) and to enforce law when necessary.  It is important to note that specific amendments, which only apply in Scotland due to devolution, have been made to the Act. | | The SEA should reflect objectives to value, protect and enhance biodiversity. |
| The Conservation (Natural Habitats, &c.) Regulations 1994 | The Act amends the Wildlife and Countryside Act 1981 for Scotland. The Act, together with the Nature Conservation (Scotland) Act 2004, implements the EU Birds and Habitats Directives. | | The SEA should reflect objectives to value, protect and enhance biodiversity. |
| Nature Conservation (Scotland) Act 2004 | The Act amends the Wildlife and Countryside Act 1981 for Scotland and makes provision for the further conservation of biodiversity. The Act requires the Scottish Government to report on progress in relation to the Scottish Biodiversity Strategy | | The SEA should reflect objectives to protect biodiversity and the natural environment. |
| Wildlife and Natural Environment (Scotland) Act 2011 (as amended) | The Act amends the Wildlife and Countryside Act 1981 for Scotland. The Act mainly changed the way land and the environment is managed in Scotland e.g., it made operational changes to how SSSIs are managed. | | The SEA should reflect objectives to protect and enhance designated biodiversity areas. |
| The Conservation of Offshore Marine Habitats and Species Regulations 2017 | The Regulations form the legal basis for the implementation of the Habitats Directive and the Bird Directive in terrestrial areas and territorial waters. | | The SEA should reflect objectives to value, protect and enhance marine habitats and species. |
| **National (policies, Plans, Programmes and Strategies)** | | | |
| UK Post-2010 Biodiversity Framework (JNCC, 2012) | The Framework shows how the work of the four UK countries joins up with work at a UK level to achieve the ‘Aichi Biodiversity Targets’ and the aims of the EU biodiversity strategy. The Framework identifies the following strategic goals:   * Address the underlying causes of biodiversity loss by mainstreaming biodiversity across government and society. * Reduce the direct pressures on biodiversity and promote sustainable use. * Improve the status of biodiversity by safeguarding ecosystems, species and genetic diversity. * Enhance the benefits to all from biodiversity and ecosystems. * Enhance implementation through participatory planning, knowledge management and capacity building. | | The SEA should reflect objectives to value, protect and enhance biodiversity. |
| Scotland’s Biodiversity: It’s in Your Hands (Scottish Executive, 2004) | Scotland’s Biodiversity: It’s in Your Hands presents a 25 year strategy (until 2030) for the conservation and enhancement of Scotland’s biodiversity. It sets out a number of outcomes in relation to;   * Species and habitats * People * Landscapes and Ecosystems * Integration and Co-ordination * Knowledge | | The SEA should reflect objectives to value, protect and enhance biodiversity. |
| 2020 Challenge for Scotland’s Biodiversity – A Strategy for the conservation and enhancement of biodiversity in Scotland (The Scottish Government, 2013) | The aims of the 2020 Challenge are in line with the targets set by the aforementioned United Nations Convention on Biological Diversity (20100 and the European Union’s Biodiversity Strategy for 2020, and include:   * Protect and restore biodiversity on land and in Scotland’s SAs * Involve and engage people in decisions about the environment * Promote sustainable economic growth * The 2020 Challenge and the ‘Scotland’s Biodiversity: It’s in Your Hands’ together make up the Scottish Biodiversity Strategy. | | The SEA should reflect objectives to value, protect and enhance biodiversity. |
| Scotland’s Biodiversity: A Route Map to 2020 (The Scottish Government, 2015) | The ‘Six Big Steps for Nature’ identified in the Route Map are:   * Ecosystem restoration * Investment in natural capital * Quality greenspace for health and education benefits * Conserving wildlife in Scotland * Sustainable management of land and freshwater * Sustainable management of marine and coastal ecosystems | | The SEA should reflect objectives to value, protect and enhance biodiversity. |
| Scottish Biodiversity Strategy; Report to the Scottish Parliament 2014-2016 | Report to the Scottish Parliament which sets out progress with delivery of the Scottish Biodiversity Strategy. It records progress from 2014-2016 and highlights the remaining challenges that must be overcome to meet the aims of the 2020 Challenge for Scotland’s Biodiversity | | The SEA should reflect objectives to value, protect and enhance biodiversity. |

**Population and Human Health**

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| Source | Key objectives | Implications/ Comments |
| **International** |  |  |
| International Health Regulations, 2007 | The International Health Regulations provide a legal instrument for upholding global public health security by preventing and responding to acute public health risks. The Regulations require countries to report certain disease outbreaks and public health risks to the World Health Organisation. | The SEA should reflect the objective that acknowledges the potential health hazards that could be caused by the different development types. |
| **European** |  |  |
| The Bathing Water Quality Directive 2006  Directive 2006/7/EC on the quality of water intended for human consumption | The overall objective of the revised Directive remains the protection of public health whilst bathing. | The SEA should reflect the Directive requirements and protect the quality of bathing waters. |
| The Drinking Water Directive 1998  Directive 98/83/EC on the quality of water intended for human consumption | Protect human health from the adverse effects of any contamination of water intended for human consumption by ensuring that it is wholesome and clean. | The SEA should reflect objectives to protect and enhance drinking water quality. |
| The Noise Directive 2000/14/EC | * Monitor the environmental problem by drawing up strategic noise maps. * Informing and consulting the public about noise exposure, its effects and the measures considered to address noise. * Addressing local noise issues by requiring authorities to draw up action Plans to reduce noise where necessary and maintain environmental noise where it is good. | The SEA should reflect objectives to reduce noise pollution. |
| **National (Legislation)** | |  |
| Public Health etc. (Scotland) Act 2008 | The Act updates the law on public health, enabling Scottish Ministers to protect public health. It also makes provision for law on statutory nuisances. | The SEA should reflect objectives to protect public health. |
| Community Empowerment (Scotland) Act 2015 | Community Planning now has a clear statutory purpose focused on improving outcomes. It is explicitly about how public bodies work together and with the local community to plan for, resource and provide services which improve local outcomes in the local authority area, all with a view to reducing inequalities. | The SEA should reflect the need for public bodies to work with the local community to plan for, resource and provide services. |
| Equality Act 2010 | The Equality Act 2010 legally protects people from discrimination in the workplace and in wider society. | The SEA should reflect the need to protect people from discrimination. |
| **National (policies, Plans, Programmes and Strategies)** | |  |
| *National Performance Framework* (The Scottish Government, 2016) | The main purpose of the National Performance Framework is to promote sustainable economic growth by setting out a measurement set that can be used to determine the extent to which key targets are being fulfilled. It sets seven broad targets in relation to:   * Growth – stimulating economic growth * Productivity – improving productivity * Participation – improving economic participation * Population – increase population growth * Solidarity – reduce income equality * Cohesion – reduce inequalities in economic participation * Sustainability – reduce greenhouse gas emissions | The SEA should reflect objective to promote the principles of sustainable economic growth. |
| Scotland’s Third Land Use Strategy 2021-2026 | Scotland’s Third Land Use Strategy 2021-2026 sets out our vision, objectives and policies to achieve sustainable land use. The strategy covers the next five years and aims to provide a more holistic understanding of our land the demands we place upon it and the benefits we get from our land. | The SEA should reflect objective to support sustainable land use. |
| Scotland's Public Health Priorities (Scottish Government, 2018) | Sets out the six public health priorities for Scotland and how they are to be developed.  The 6 priorities are:   * A Scotland where we live in vibrant, healthy and safe places and communities * A Scotland where we flourish in our early years * A Scotland where we have good mental wellbeing * A Scotland where we reduce the use of and harm from alcohol, tobacco and other drugs * A Scotland where we have a sustainable, inclusive economy with equality of outcomes for all * A Scotland where we eat well, have a healthy weight and are physically active | The SEA should reflect objectives which support Scotland’s public health priorities. |
| Tackling Fuel Poverty in Scotland: A Strategic Approach 2021 | The fuel poverty strategy sets out policies and proposals for national government, local authorities and third sector partners to help meet the targets set out in the Fuel Poverty (Targets, Definition and Strategy) (Scotland) Act 2019. | The SEA should reflect objectives which support tackling fuel poverty. |
| A National Mission with Local Impact: Infrastructure Investment Plan for Scotland 2021-22 to 2025-26 (2021) | The Infrastructure Investment Plan outlines a coherent, and strategic approach to delivering our National Infrastructure Mission. The Plan demonstrates the vital role infrastructure has to play in helping businesses and communities to adapt and recover from the COVID-19 pandemic. | The SEA should reflect objectives which supports delivering the National Infrastructure Mission. |
| Social Housing Net Zero Heat Fund - development funding invitation 2022 | Information and guidance notes for the Social Housing Net Zero - Development Funding Invitation. | The SEA should reflect objectives which supports net zero housing. |

**Local**

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| **Source** | **Key Objective** | **Implications / Comments** |
| Economic Development Strategy 2018-2022 (SIC) 2018 | Provides a policy framework for the Council’s Economic Development Service.  The strategy discusses issues faced by the region’s economy and to enable and promote the ideal conditions for growth and to support our business, residents and communities to take advantage of the opportunities this will create. | The SEA should reflect objectives that |
| Shetland Outdoor Access Strategy 2019 (SIC) | The Strategy provides a vision for outdoor access and the strategic framework for planning, managing and developing access in Shetland. |  |
| Shetland Core Paths Plan 2009 (SIC) | The Land Reform Act requires the Council to formulate a basic framework of paths that will serve the needs of residents and visitors throughout the region. |  |
| Housing Needs & Demand Assessment (Shetland) | Assess housing need and demand in each local authority area, and identify likely future need and demand to inform housing strategies and development plans. |  |
| Community Learning & Development Plan 2021-24  (Shetland) | To empower people, individually and collectively, to make positive changes in their lives and in their communities, through learning | The SEA should reflect the plan requirement to empower people |

**Soil**

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| Source | Key objectives | Implications/ Comments |
| **European** |  |  |
| EU Management of Waste from Extractive Industries  (2006/21/EC) | The purpose of the Directive is to prevent water and soil pollution from the deposition of waste into heaps or ponds and puts emphasis on the long-term stability of waste facilities to help avoid major accidents.  The main elements of the Directive are:   * Conditions for operating permits. * General obligations concerning waste management. * The obligation to characterise waste before disposing of it or treating it. * Measures to ensure the safety of waste management facilities. * A requirement to draw up closure plans. * An obligation to provide for an appropriate level of financial security. | The SEA should reflect objectives to protect soil quality and minimise soil pollution. |
| The Industrial Emissions Directive 2010  Directive 2010/75/EU on industrial emissions (integrated pollution prevention and control) | This Directive lays down rules on integrated prevention and control of pollution arising from industrial activities. It also lays down rules designed to prevent or, where that is not practicable, to reduce emissions into land and to prevent the generation of waste, in order to achieve a high level of protection of the environment taken as a whole. | The SEA should reflect objectives to protect soil quality and minimise soil pollution. |
| Thematic Strategy for Soil Protection (European Commission, 2006) | Includes a thematic strategy which aims to:   * Establish common principles for the protection and sustainable use of soils * Mitigate potential threats to soils * Preserve soil functions * Restore degraded and contaminated soils | The SEA should reflect objectives to protect soils and minimise soil pollution. |
| **National (Legislation)** | | |
| Environmental Protection Act 1990 (as amended) | Sets out legislation for the management and remediation of contaminated land that in its current states, is causing or has the potential to cause significant pollution of the environment. | The SEA should reflect objectives to protect soil quality. |
| Contaminated Land (Scotland) Regulations 2000 | Provides a detailed framework for the definition, identification and remediation of contaminated land. | The SEA should reflect objectives to protect soil quality. |
| **National (policies, Plans, Programmes and Strategies)** | | |
| *The Scottish Soil Framework*  (The Scottish Government, 2009) | The Soil Framework sets out a vision for the enhancement and protection of soil consistent with the economic, social and environmental needs of Scotland.  The Framework identifies 13 key outcomes, as follows:   * Protecting and enhancing soil organic matter * Reducing soil erosion * Maintaining soil structure * Reduce greenhouse gas emissions from soils * Protecting soil biodiversity * Ensuring that soils contribute to sustainable flood management * Enhancing water quality through sustainable soil management * Enhancing soil’s productive capacity * Reducing soil contamination * Reducing pressure on greenfield land and redirect development to brownfield sites where appropriate * Protecting soils with significant historical and cultural features * Enhancing knowledge base * Promoting effective coordination between stakeholders | The SEA should reflect objectives to protect soils and minimise soil pollution. |
| *Scotland’s National Peatland Plan* | This plan sets out proposals for the sustainable use, protection, management and restoration of Scotland’s peatlands.  It identifies the following outcomes: | The SEA should reflect objectives to protect and promote sustainable use and management of peatlands. |
| *Working for our future (Scottish Natural Heritage, 2015)* | * Protect those areas of peatland currently in good condition and supporting their potential range of ecosystem functions; * Enhance ecosystem resilience to climate change through appropriate management; * Restore peatland ecosystem functions and biodiversity, evaluating and understanding the benefits to help inform future decisions; * Secure greater peatland restoration capabilities and understanding of these amongst land managers, developers, advisers and the public; * Ensure peatland values are reflected in the support given to those who manage and restore them; and * Demonstrate and communicate the wider public benefits of healthy peatland landscapes and peatland restoration. |  |

**Water**

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| Source | | Key objectives | | Implications/ Comments |
| **International** | |  | |  |
| Convention on the Law of the Sea (1982) | | Defines the rights and responsibilities of national in their use of the world’s oceans, establishing guidelines for businesses, the environment, and the management of natural resources. | | The SEA should reflect objectives to protect and enhance the water environment. |
| **European** | |  | |  |
| The Water Framework Directive 2000  Directive 2000/60/EC establishing a framework for community action in the field of water policy | | The main aim of the Directive is to protect of inland surface waters, transitional waters, coastal waters and ground waters. | | The SEA should reflect objectives to protect and minimise the impact on water quality. |
| The Bathing Water Quality Directive 2006  Directive 2006/7/EC on the quality of water intended for human consumption | | The overall objective of the revised Directive remains the protection of public health whilst bathing. | | The SEA should reflect the Directive requirements and protect the quality of bathing waters. |
| The Floods Directive 2007  Directive 2007/60/EC on the assessment and management of flood risks | | Establish a framework for the assessment and management of flood risks, aiming at the reduction of the adverse consequences for human health, the environment, cultural heritage and economic activity associated with floods. | | The SEA should reflect objectives that relate to flood management and reduction of risk. |
| Marine Strategy Framework Directive 2007 | | The MSFD extends the requirements of the Water Framework Directive (WFD) into seas beyond 1nm. The MSFD requires Member States to "take necessary measures to achieve or maintain good environmental status in the marine environment by the year 2020 at the latest". | | The SEA should reflect objectives to protect and enhance the water environment. |
| **National (legislation)** | | | | |
| Marine (Scotland) Act 2010 | | The Act provides a framework which will help balance the competing demands of Scotland's seas. It introduces a duty to protect and enhance the marine environment and includes measure to help boost economic investment and growth in areas such as marine renewables. The main measures include:   * Marine Planning - a new statutory marine planning system to sustainably manage the increasing, and often conflicting, demands on Scotland's seas * Marine Licencing - a simpler licensing system, minimising the number of licences required for development in the marine environment to cut bureaucracy and encourage economic investment * Marine Conservation - improved marine nature and historic conservation with new powers to protect and manage areas of importance for marine wildlife, habitats and historic monuments * Conservation - much improved protection for seals and a new comprehensive licence system to ensure appropriate management when necessary * Enforcement – a range of enhanced powers of marine conservation and licensing | | The SEA should reflect objectives to protect and enhance the marine environment. |
| Bathing Waters (Scotland) Regulations 2008 | | The Act implements the EU Bathing Water Quality Directive. | | The SEA should reflect objectives that relate to flood management and reduction of risk. |
| Flood Risk Management (Scotland) Act 2009 | | The Act requires local authorities to assess bodies of water to determine potential flood risk and carry out measures if required. The Act implements the EU Floods Directive. | | The SEA should reflect objectives that relate to flood management and reduction of risk. |
| Water Environment (Controlled Activities) (Scotland) Regulations 2011 (as amended) | | Provides a regulatory framework for controlling activities which could have an adverse effect on Scotland’s water environment including abstraction, impoundments, dredging, impoundments, surface water drainage and pollution.  The primary objective of the Regulations is to protect and restore Scotland’s water environment. | | The SEA should reflect objectives to protect and restore the water environment. |
| Water Environment and Water Services (Scotland) Act 2003 | | The Water Environment and Water Services (Scotland) Act 2003 is the enabling legislation for the Water Framework Directive and makes major changes to the administration of water and sewerage provision in Scotland.  It identifies the Scottish Environmental Protection Agency (SEPA) as the competent authority. Part 1 makes provision for protection of the water environment, whilst Part 2 deals with water and sewerage services. | | The SEA should reflect objectives to protect the water environment. |
| Water Environment (Miscellaneous) (Scotland) Regulations 2017 | | The Regulations amend existing general binding rules and introduces requirements for particular projects to have a construction license in place before works can commence. | | The SEA should reflect sustainability objectives to protect the natural environment. |
| The Flood Risk Management (Flood Protection Schemes, Potentially Vulnerable Areas and Local Plan Districts) (Scotland) Amendment Regulations 2017 | | Provides a regulatory framework for flood risk management amending the previous regulations made in 2009. | | The SEA should reflect sustainability objectives to relate to flood management and reduction of risk. |
| **National (Policies, Plans, Programmes and Strategies)** | | |  |
| National Marine Plan 2015 | | The plan covers the management of both Scottish inshore waters (out to 12 nautical miles) and offshore waters (12 to 200 nautical miles). It also applies to the exercise of both reserved and devolved functions. It provides guidance to decision-makers and users within Scotland’s marine environment. | The SEA should reflect sustainability objectives to protect the sustainable use of the marine environment. |
| SEPA Draft River Basin Management Plans Scotland River Basin District / Solway Tweed River Basin District 2008 | | Identifies key pressures and environmental impacts on Scottish water bodies, which may be exacerbated by climate change. | The SEA should reflect objectives that relate to flood management and reduction of risk. |
| Scotland’s Bathing Waters: A Strategy For Improvement (Scottish Executive Environment Group, 2002) | | The main purpose of this strategic document is to reduce water pollution in bathing waters by implementing changes to agricultural practices, ensuring compliance with controls on industrial discharges and making use of SUDs. | The SEA should reflect the Directive requirements and protect the quality of bathing waters. |
| Scottish Water Net Zero Emissions Routemap | | We are responsible for providing water and waste water services that are essential to everyday life for households and businesses across Scotland; making a critical contribution to the country’s health, wellbeing, economic prosperity and natural environment.  But the changing climate will increasingly threaten our ability to deliver these services. We must therefore adapt our approaches, deal with the climate challenges, and secure the future reliability and sustainability of the country’s water and waste water services. While we must adapt our services to deal with climate change, we must also eliminate the greenhouse gas emissions that are contributing to the climate emergency. | The SEA should reflect the Scottish Water Routemap to ensure future reliability and sustainability of water and waste water services. |

**Air**

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| Source | Key objectives | Implications/ Comments |
| **International** |  |  |
| UNECE Convention on Long Range Transboundary Air Pollution (1979) | The purpose of the UNECE Convention was to address the environmental consequences of air pollution. The main aim of the Convention was to reduce and prevent air pollution in order to improve air quality on the local, regional and national levels. To achieve this, the Convention sets out measures to be taken by parties to cut their emissions of air pollutions.  The UNECE Convention has been extended by eight other protocols that identify measures to be undertaken by Parties to cut their emissions of air pollutants. These eight protocols include the following:   * EMEP Protocol on Long-Term Financing of the Cooperative Programme for Monitoring and Evaluation of the Long-Range Transmission of Air Pollutions in Europe (1984) * Helsinki Protocol on the Reduction of Sulphur Emissions (1985) * Nitrogen Oxide Protocol (1988) * Volatile Organic Compounds Protocol (1991) * Oslo Protocol on Further Reduction of Sulphur Emissions (1994) * Protocol on Heavy Metals (1998) * Aarhus Protocol on Persistent Organic Pollutants (1998) * Gothenburg Protocol on Abate Acidification, Eutrophication and Ground-level Ozone (1999) | The SEA should reflect the objectives to protect and enhance air quality from factors such as eutrophication and acidification |
| **European** |  |  |
| The National Emissions Ceiling Directive 2001  Directive 2001/81 EC on national emission ceilings for certain atmospheric pollutants | The Directives sets limits for the main causal factors of acidification, eutrophication and ground-level ozone. | The SEA should reflect the objectives to protect and enhance air quality from factors such as eutrophication and acidification. |
| The Air Quality Directive 2008  Directive 2008/50/EC on ambient air quality and cleaner air for Europe | Avoid, prevent and reduce harmful effects of air pollution on human health and the environment. The Directive Brings together existing legislation (at the time) on air quality, including objectives for key pollutants such as SO2, NOx, particulates, lead, benzene and ozone.  The Directive sets out statutory limits for the concentration of different pollutants (Annex XI) and thresholds for human and environmental health (Annex II). | The SEA should reflect the objectives to reduce harmful effects of air pollution. |
| The Industrial Emissions Directive 2010  Directive 2010/75/EU on industrial emissions (integrated pollution prevention and control) | This Directive lays down rules on integrated prevention and control of pollution arising from industrial activities. It also lays down rules designed to prevent or, where that is not practicable, to reduce emissions into air in order to achieve a high level of protection of the environment taken as a whole. | The SEA should reflect the objective for reducing air pollution caused by industrial emissions. |
| The Clean Air Policy Package and Clean Air Programme for Europe 2013 | The Clean Air Policy Package and Clean Air Programme for Europe set targets up to 2030, and also introduces measures and proposals to reduce emissions and improve air quality across the EU. | The SEA should reflect the objectives to protect and enhance air quality. |
| **National (Legislation)** | | |
| The Environment Act 1995 | The Act requires the UK government and devolved administrations to produce a national air quality strategy. The most recent version of this national air quality strategy is The Air Quality Strategy for England Scotland Wales and Northern Ireland which defines the roles of the local and central government, as well as the Scottish Environment Protection Agency (SEPA), industry, business, transport, individuals and other groups.  In addition, the Act sets objectives for specific emissions and measures for monitoring. Where limits are not met, the local authority must declare it an Air Quality Management Area (AQMA) | The SEA should reflect the objective for reducing air pollution. |
| The Air Quality (Scotland) Regulations 2000  As amended by the Air Quality (Scotland) Amendment Regulations 2002 and the Air Quality (Scotland) Amendment Regulations 2016 | Sets out air quality objectives for several substances in line with the Environment Act 1995. In contrast to EU requirement, Scotland has set stricter levels for specific pollutants including PM10 and PM2.5. | The SEA should reflect the objective for reducing air pollution. |
| The Air Quality Standards (Scotland) Regulations (2010) | Sets statutory targets for concentrations of pollutants in ambient air in accordance with EU Directives. The Act allows for Air Quality Management Zones to be identified and makes provision for the sharing of this information with the public.  The Regulations were amended through The Air Quality Standards (Scotland) Amendment Regulations 2016. | The SEA should reflect the objective for reducing air pollution. |
| Pollution Prevention and Control (Scotland) Regulations 2012 | Implements the requirements of the EU Industrial Emissions Directive in Scotland. The Act states that emissions to air, water and land must be considered together, and permits are considered based on the nature of the activity.  The Act has been amended several times since 2012. | The SEA should reflect the objective for reducing air pollution. |
| **National (policies, Plans, Programmes and Strategies)** | |  |
| The Air Quality Strategy for England Scotland Wales and Northern Ireland (2011) | The key objective of the strategy is to improve and protect ambient air quality in the UK, with the overall aim of health protection. The strategy sets out key objectives and monitoring recommendations for specific emissions. | The SEA should reflect the objective for reducing air pollution, particularly in relation to health protection. |
| Cleaner Air for Scotland – The Road to a Healthier Future (the Scottish Government, 2015) | Presents a single framework which sets out further proposals for delivering improvements to air quality in Scotland.  It summarises six broad types of key actions that could help to reduce air pollution and improve air quality;   * **Transport** – reducing transport emissions by promoting active travel and/or low and zero emission fuels * **Legislation and Policy** – comply with European and Scottish legal requirements * **Communication** – inform and engage citizens * **Health** – protecting citizens from air pollution * **Placemaking** – minimise air pollution through appropriate design * **Climate Change** – achieve Scotland’s renewable targets | The SEA should reflect the objective for reducing air pollution and promote active/sustainable travel. |

**Cultural Heritage and the Historic Environment**

|  |  |  |  |
| --- | --- | --- | --- |
| Source | | Key objectives | Implications/ Comments |
| **International** | |  |  |
| European Convention on the Protection of the Archaeological Heritage (Valletta, 1992) Revision of the 1985 Granada Convention | | Protection of the archaeological heritage, including any physical evidence of the human past that can be investigated archaeologically both on land and underwater.  Creation of archaeological reserves and conservation of excavated sites. | The SEA should reflect objectives to protect the archaeological heritage. |
| UNESCO World Heritage Convention (1972) | | The 1972 World Heritage Convention links together in a single document the concepts of nature conservation and the preservation of cultural properties. The Convention recognises the way in which people interact with nature, and the fundamental need to preserve the balance between the two.  The Convention defines the kind of natural or cultural sites which can be considered for inscription on the World Heritage List. It also sets out the duties of [States Parties in](https://whc.unesco.org/pg.cfm?cid=246) identifying potential sites and their role in protecting and preserving them. By signing the Convention, each country pledged to conserve not only the World Heritage sites situated on its territory, but also to protect its national heritage. | The SEA Framework should include objectives relating to the conservation and enhancement of cultural heritage and natural heritage. |
| **European** | |  |  |
| European Spatial Development Perspective (1999) | Economic and social cohesion across the community. Conservation of natural resources and cultural heritage. Balanced competitiveness between different tiers of government. | | The SEA should reflect objectives to conserve natural resources and cultural heritage. |
| **National (Legislation)** | | | |
| Planning (Listed Buildings and Conservation Areas) (Scotland) Act 1997 | Provides main legislation to:   * list buildings of special architectural or historic interest * providing requirements in relation to changes affecting listed buildings and conservation areas * setting out a framework for designating and managing Conservation Areas | | The SEA should reflect objectives to conserve cultural heritage, particularly in relation to Listed Buildings, Conservation Areas and buildings of special architectural or historic interest. |
| National Parks (Scotland) Act 2000 | Sets out for main aims for the National Parks of Scotland:   * Conserving and enhancing the natural and cultural heritage of the area * Promoting sustainable use of the natural resources of the area * Promoting understanding and enjoyment of the area by the public * Promoting sustainable economic and social development of the area’s communities | | The SEA should reflect objectives to conserve cultural heritage in National Parks. |
| Historic Environment Scotland Act 2014 | The Act established Historic Environment Scotland (HES) as a Non-Departmental Public Body (NDPB). Under the Act, HES will be a statutory consultee in relation to listed buildings and conservation area consents, as well as in relation to EIA.  The Act also amended statutory processes in relation to the historic environment by changing the processes for the designation of sites and buildings (by scheduling and listing) and for consents relating to scheduled monuments, listed buildings and conservation areas. | | The SEA should reflect objectives to conserve cultural heritage and the wider historic environment.  In addition, the role of Historic Environment Scotland should be taken into account. |
| The Town and Country Planning (Development Management Procedure) (Scotland) Regulations 2013 The Town and Country Planning (Neighbouring Planning Authorities and Historic Environment) (Scotland) Direction 2015 | Both Acts state that Historic Environment Scotland must be consulted on any development affecting a UNESCO World Heritage Site in Scotland. | | The SEA should reflect objectives to conserve cultural heritage and the wider historic environment. |
| **National (policies, Plans, Programmes and Strategies)** | | |  |
| Our Place in Time – The Historic Environment Strategy for Scotland (The Scottish Government, 2014) | The Strategy provides a high-level framework which sets out a 10-year vision for safeguarding the cultural, social, environmental and economic value of Scotland’s heritage assets.  The Strategy sets out three main aims:   * Investigating and recording the assets that make up Scotland’s historic environment * Protecting Scotland’s historic environment * Sharing information on the significance of Scotland’s historic environment * Each ambition is underpinned by a number of strategic priorities e.g. application of new technologies. | | The SEA should reflect objectives to conserve the historic environment. |
| Historic Environment Policy for Scotland (HEPS) | This policy replaces the 2016 Policy Statement and supports the protection and enhancement of the historic environment, and sets out the principles for designation. | | The SEA should reflect the principles of the protection and enhancement of the historic environment. |

**Landscape and Geodiversity**

| Source | Key objectives | Implications/ Comments |
| --- | --- | --- |
| **European** | |  |
| European Landscape Convention (Florence, 2002) | The convention promotes landscape protection, management and planning. | The SEA should reflect objectives to protect, manage and plan for landscape provision. |
| **National (Policies, Plans, Programmes and Strategies)** | |  |
| Getting the best from our land A Land Use Strategy for Scotland 2016-2021 | The Strategy supports sustainable land use, and recognises the interactions between different interests and land use. The objectives of the strategy include:   * Land-based businesses working with nature to contribute more to Scotland’s prosperity. * Responsible stewardship of Scotland’s natural resources delivering more benefits to Scotland’s people. * Urban and rural communities better connected to the land with more people enjoying the land and positively influencing land use. | The SEA should reflect the need to support sustainable land use. |
| Scottish Land Rights and Responsibilities Statement 2017 | This statement sets out 6 principles relating to land rights and responsibilities. It aims to work towards a Scotland with a strong and dynamic relationship between its land and people, where all land contributes to a modern and successful country, and where rights and responsibilities in relation to land are fully recognised and fulfilled. The 6 principles outlined are:   * The overall framework of land rights, responsibilities and public policies should promote, fulfil and respect relevant human rights in relation to land contribute to public interest and wellbeing, and balance public and private interests. The framework should support sustainable economic development, protect and enhance the environment, help achieve social justice and build a fairer society * There should be a more diverse pattern of land ownership and tenure, with more opportunities for citizens to own, lease and have access to land. * More local communities should have the opportunity to own, lease or use buildings and land which can contribute to their community’s wellbeing and future development. * The holders of land rights should exercise these rights in ways that take account of their responsibilities to meet high standards of land ownership, management and use. Acting as the stewards of Scotland’s land resource for future generations they contribute to sustainable growth and a modern, successful country * There should be improved transparency of information about the ownership, use and management of land and this should be publicly available, clear and contain relevant detail. * There should be greater collaboration and community engagement in decisions about land | The SEA should reflect objectives to promote a strong relationship between Scotland’s land and people. |
| Scotland’s Forestry Strategy 2019-2029 | The strategy supports an increase in Scotland’s forests and woodlands that will be sustainably managed and better integrated with other land uses. It has 3 main objectives:   * Increase the contribution of forests and woodlands to Scotland’s sustainable and inclusive economic growth * Improve the resilience of Scotland’s forests and woodlands and increase their contribution to a healthy and high-quality environment * Increase the use of Scotland’s forest and woodland resources to enable more people to improve their health, well-being and life chances | The SEA should reflect objectives to promote an increase in the number and use of forests and woodlands. |
| Natural Heritage Futures 2002 | This programme aims to guide the sustainable management and use of Scotland's nature and landscapes up until 2025. The programme's six national prospectuses cover:   * farmland * coasts and seas * hills and moors * settlements * freshwater * forests and woodlands * And each prospectus describes: * what is distinctive to each region in Scotland * a vision for the natural heritage for 2025 * objectives and actions required to pursue that vision. | The SEA should reflect objectives to conserve and enhance the landscape and natural environment. |
| Landscape Policy Framework 2017 | The policy aims to 'safeguard and enhance the distinct identity, the diverse character and the special qualities of Scotland’s landscapes as a whole, so as to ensure tomorrow’s landscapes contribute positively to people’s environment and are at least as attractive and valued as they are today'. The principles of approach are based on four propositions: | The SEA should reflect objectives to conserve and enhance the landscape and natural environment. |

**Material Assets**

| Source | Key objectives | Implications/ Comments |
| --- | --- | --- |
| **European** |  |  |
| The Landfill Directive 1999  Directive 99/31/EC on the landfill of waste | Prevent or reduce negative effects on the environment from the landfilling of waste by introducing stringent technical requirements for waste and landfills. | The SEA should reflect objectives to increase recycling and reduce the amount of waste. |
| The Waste Framework Directive 2008  Directive 2008/98/EC on waste | Prevention or reduction of waste production and its harmfulness. The recovery of waste by means of recycling, re-use or reclamation. Recovery or disposal of waste without endangering human health and without using processes that could harm the environment. | The SEA should reflect objectives that minimise waste production as well as promote recycling. |
| *The Urban Waste Water Directive* 1991  Directive 91/271/EEC concerning urban waste water treatment | Protect the environment from the adverse effects of urban waste water collection, treatment and discharge, and discharge from certain industrial sectors. | The SEA should reflect objectives to reduce water pollution. |
| EU Management of Waste from Extractive Industries  (2006/21/EC) | The purpose of the Directive is to prevent water and soil pollution from the deposition of waste into heaps or ponds and puts emphasis on the long-term stability of waste facilities to help avoid major accidents.  The main elements of the Directive are:   * Conditions for operating permits. * Scotland’s landscapes are a shared responsibility. * All of Scotland’s landscapes deserve attention. * Scotland’s landscapes will continue to change. * Scotland’s landscapes deserve greater care. * General obligations concerning waste management. * The obligation to characterise waste before disposing of it or treating it. * Measures to ensure the safety of waste management facilities. * A requirement to draw up closure plans. * An obligation to provide for an appropriate level of financial security. | Include sustainability objectives that encourage recycling and the prudent use of natural resources and the protection of the environment. Also promote a reduction in water and soil pollution. |
| **National (Legislation)** | | |
| Environmental Protection Act 1990 | The Act implements the EU Waste Framework Directive (2008) and includes provisions for improved control of pollution and waste generation arising from certain industrial processes  Moreover, the Act places a duty on local authorities, as the primary regulators, to identify and secure the remediation of contaminated land in their respective areas.  The Environmental Protection Act comprises the following parts:  Part I: Integrated Pollution and Control  Part II: Waste Management Licencing  Part III: Statutory Nuisances  Part IV: Criminal Offences Concerning Litter  Part VI: Statutory Notification and Risk Assessment for Genetically Modified Organisms (GMOs)  Part VII: Creation of Nature Conservancy Council for England the Nature Conservancy Council for Scotland and the Countryside Council for Wales. | The SEA should reflect objectives to reduce pollution. |
| The Management of Extractive Waste (Scotland) 2010 Regulations | EU directive 2006/21/EC was transposed in the form of the Management of Extractive Waste (Scotland) 2010 Regulations, also known as ‘MEW’. It sets out conditions for granting planning permission for extractive waste areas and waste facilities, along with additional requirements for category A (high risk) waste facilities. | The SEA should reflect objectives to minimise the environmental impact of waste. |
| Waste Management Licencing (Scotland) Regulations 2011 (as amended) | Sets out requirements for the management of waste and related activities with regard to granting site licences and consolidating existing licences. | The SEA should reflect objectives to minimise the environmental impact of waste. |
| Pollution Prevention and Control (Scotland) Regulations 2012 (as amended) | Implements the requirements of the EU Industrial Emissions Directive in Scotland. The Act states that emissions to air, water and land must be considered together, and permits are considered based on the nature of the activity.  The Act has been amended several times since 2012. | The SEA should reflect objectives for reducing air/water/soil pollution. |
| Scotland Rural Development Programme (SRDP) 2021 2024 | The key purpose of the SRDP 2014 - 2020 is to help achieve sustainable economic growth in Scotland’s rural areas and the priorities remains broadly the same as the previous programme: The main priorities are:   * Enhancing the rural economy * Supporting agricultural and forestry businesses * Protecting and improving the natural environment * Addressing the impact of climate change * Supporting rural communities | The SEA should reflect objectives for protecting the environment. |
| **National (policies, Plans, Programmes and Strategies)** | |  |
| Scotland’s circular economy: A Route Map to 2025 and beyond (The Scottish Government, 2022) | Scotland’s circular economy: A Route Map to 2025 and beyond has been through consultation which sets out the Scottish Government’s proposals for a Route Map to 2025, our strategic plan to deliver Scotland’s zero waste and circular economy ambitions. This consultation invites views on the proposed priorities and actions to reach our waste, recycling and emissions reduction targets. | The SEA should reflect objectives to support a circular economy. |
| Scotland’s Zero Waste Plan (2010) | The Zero Waste Plan presents a vision to minimise waste transport to landfills, promote recycling and enhancing collection methods. The key objective of the Plan is to maximise the economic and environmental opportunities of waste reduction and reuse. | The SEA should reflect objectives to minimise the environmental impact of waste and promote recycling. |
| Planning Advice Note 63: energy from waste (2013) | Sets out guidance for planning authorities on proactively planning for waste management | The SEA should reflect objectives to minimise the environmental impact of waste and promote recycling. |
| A strategy for improving waste data in Scotland (2017) | Sets out a strategy to improve the relevance, quality and availability of data on waste from all sources (e.g. households, commerce and industry). The primary objective of the strategy is to improve waste data strategies in order to enhance Scotland’s waste and resources sector. | The SEA should reflect objectives to minimise the environmental impact of waste and promote recycling. |

## 

## **Appendix III - Environmental Baseline**

**[](http://www.shetland.gov.uk/)**

**Shetland Islands Council**

**Climate Change Strategy – SEA Environmental Baseline**

**Appendix 2**

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* Introduction

The Environmental Assessment (Scotland) Act 2005 (‘the Act’) requires that information be provided on the current state of the environment and how it might evolve if the SIC Climate Change Strategy Strategy were not implemented.

Baseline data helps to identify the issues on which the SEA should focus and provides a benchmark against which to assess performance.

The baseline is presented using a topic-based approach, which reflects the issues set out within Schedule 3 of the *Act*:

* Biodiversity, Flora and Fauna
* Population and Human Health
* Soil
* Water
* Air
* Material Assets
* Climatic Factors
* Cultural Heritage
* Landscape

The baseline looks to present data to demonstrate trends over time, where possible, while also providing a narrative explanation. Whilst some issues may be considered under a number of topics in this report they are only recorded in a single chapter to avoid duplication.

The purpose of this environmental baseline is to bring together background information, statistics and trends for Shetland. This will support the Strategic Environmental Assessment of the SIC Climate Change Strategy.

This report aims to provide a baseline of the current state Shetland in terms of the environment, the economy and social issues in an accessible way. It includes the most up-to-date information available up to March 23. Changes and trends, both and existing can them be compared against this. This will feed into identifying areas for action and issues for assessment as part of the SIC Climate Change Strategy. It is also recognised that as the report seeks to present a rounded picture of Shetland’s environment it is likely to include some indicators which energy transition in Shetland is unlikely to influence.

* Topic 1: Biodiversity, Flora and Fauna

Shetland's geographic location, its hugely diverse geology and the pervasive influence of the sea have combined to create richness in flora and fauna within a relatively confined area. The islands' geological journey has resulted in a landscape dominated by low hills and deep inlets where no spot is more than 3 miles from the sea.

Seabirds and sea mammals are important components of the biodiversity of the islands. Shetland was home to one tenth of the total seabird population of Britain; in excess of 750,000 birds from 22 species. However, Shetland was affected by the avian influenza outbreak in 2022, with gannets and great skua significantly impacted, although the impact on the population size is still being assessed. The waters around Shetland are home to a diverse range of fish, shellfish and mammals. Shetland is also important for its peatland and the number of breeding waders and other ground nesting birds that are present.

* Protected Areas

Protected areas represent the very best of Scotland's landscapes, habitats and species. Their protection and management will help to ensure that they remain in good health for all to enjoy, both now and for future generations. Many areas of Shetland are designated to meet the needs of international directives and treaties, national legislation and policies as well as more local needs and interests.

***Table 1.1*** indicates the range of statutory and non-statutory sites designated within Shetland including international, national, and local designations. It should be noted, however, many sites have multiple designations, while others overlap and their total areas may include marine and / or terrestrial habitats. Therefore the total areas designated can’t be added together to provide a total.

Table 1.1 – Designated Sites in Shetland

|  |  |  |
| --- | --- | --- |
| **Designation** | **Number of Sites** | **Total Area Covered in Hectares** |
| Special Protection Areas | 15 | 423,733 |
| Special Areas of Conservation | 13 | 111,920\* |
| Ramsar Wetlands of International Importance | 1 | 5,470 |
| Sites of Special Scientific Interest | 78 | 19,931 |
| National Scenic Area (details under Topic 9, Landscape) | 1 | 41,833 |
| National Nature Reserves | 2 | 1,322 |
| Marine Protected Areas (Nature Conservation and Demonstration and Research) | 3 | 38,897 |
| Marine Protected Areas (Nature Conservation) outside 12nm | 3 | 1,201,100 |
| Marine Consultation Areas | 4 | 540 |
| Protected Seal Haul-out Sites | 43 | 15,133 |
| Local Nature Conservation Sites | 49 | 1,264 |

*\* This does include Pobie Bank Reef which is marine SAC that lies partly within Shetland inshore waters.*

* International Designations

**European Sites Network**

The European sites network is a network of sites which are considered the best for wildlife in Europe. There are two types of European site in Shetland, namely Special Areas of Conservation (SAC) and Special Protection Areas (SPA). While these sites were originally classified under European Directives they were transposed into UK law under The Conservation (Natural Habitats, &c.) Regulations 1994 - commonly referred to as the Habitats Regulations. These Regulations require the UK to achieve the aims of the European Directives and therefore European sites (and European Protected Species (EPS)) continue to have the same degree of protection under domestic legislation as they did when the UK was a member of the EU.

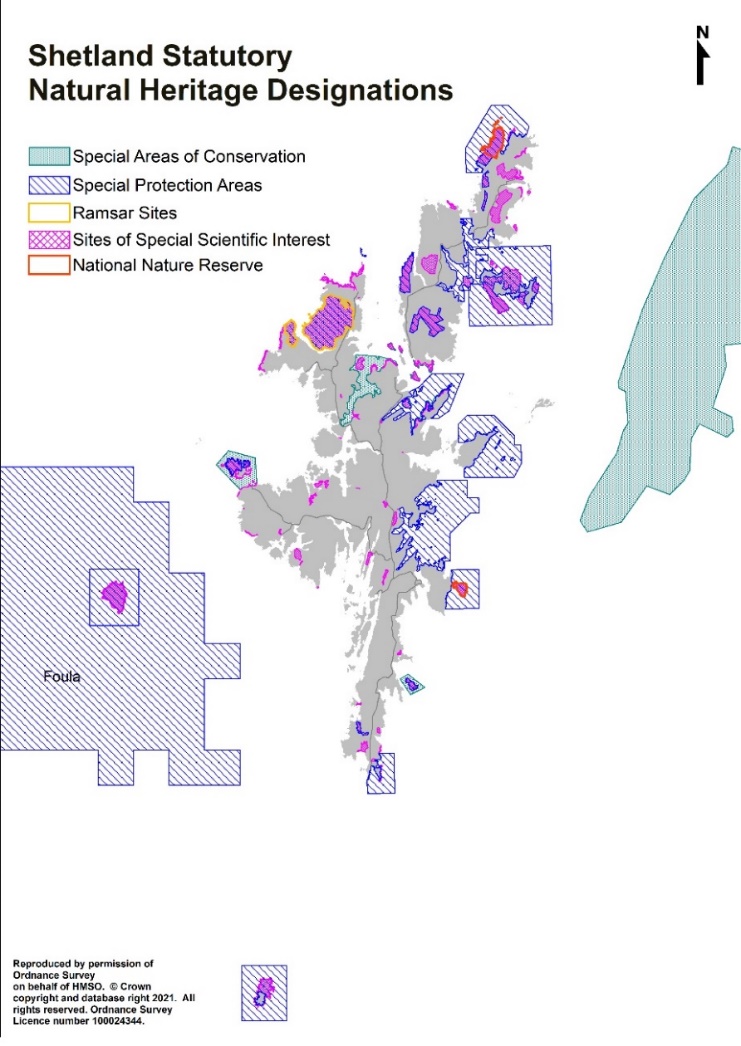
**SPAs**

These sites were classified in accordance with Article 4 of the EC Directive on the conservation of Wild Birds (79/409/EEC) also known as the Birds Directive which came into force in April 1979. In the UK, sites are protected under The Conservation (Natural Habitats, &c.) Regulations 1994. They are classified for rare and vulnerable birds (as listed on Annex I of the Directive), and for regularly occurring migratory species. 11 of these Annex I species nest in Shetland, with a number of other species occurring as migrant or wintering birds.

There are 15 SPAs in Shetland, including three marine SPAs that were officially designated on the 3rd December 2020. The location of these can be viewed in ***Figure 1.1*** *on*page 7***.*** The SPAs, their name, qualifying feature and condition are listed in ***Table 1.2***. Over 50% of the qualifying features are in unfavourable condition with the most common reason being changes in prey species populations (mainly the decline in sandeels) this could be linked to many factors including global warming, natural changes or fisheries management.

Three new marine SPAs were formally designated in December 2020, as these are important foraging areas of birds breeding in Shetland they have been included in the baseline as they could be impacted by potential energy developments offshore.

Figure 1.1 *Statutory Natural Heritage Designations in Shetland*

**

*Source: NatureScot – (*[*https://www.nature.scot/information-hub/snhi-data-services*](https://www.nature.scot/information-hub/snhi-data-services)*).*

Table 1.2 – Special Protection Areas in Shetland

| **Site Code** | **Name** | **Qualifying Feature** | **Total Area (ha)** | **Summary Condition** | **Pressures** | **Last Visit Date** |
| --- | --- | --- | --- | --- | --- | --- |
| 10483 | [Bluemull and Colgrave Sounds](https://sitelink.nature.scot/site/10483)[[4]](#footnote-4) | Red-throated diver (*Gavia stellata*), breeding | 3823.27 | Not assessed | None | N/A |
| 10482 | [East Mainland Coast, Shetland](https://sitelink.nature.scot/site/10482)[[5]](#footnote-5) | Red-throated diver (*Gavia stellata*), breeding | 23333.23 | Not assessed | None | N/A |
| Great northern diver (*Gavia immer*), non-breeding | Favourable | None | 10/02/2010 |
| Long-tailed duck (*Clangula hyemalis*), non-breeding | Not assessed | None | N/A |
| Red-breasted merganser (*Mergus serrator*), non-breeding | Not assessed | None | N/A |
| Slavonian grebe (*Podiceps auritus*), non-breeding | Favourable | None | 10/02/2010 |
| 8496 | [Fair Isle](http://gateway.snh.gov.uk/sitelink/siteinfo.jsp?pa_code=8496) | Arctic skua (*Stercorarius parasiticus*), breeding | 6825.1 | Unfavourable | Invasive Species, Game / fisheries management | 01/06/2016 |
| Arctic tern (*Sterna paradisaea*), breeding | Unfavourable | 01/06/2016 |
| Fair Isle wren (*Troglodytes troglodytes fridariensis*), breeding | Favourable | 30/06/2012 |
| Fulmar (*Fulmarus glacialis*), breeding | Favourable | 01/06/2016 |
| Gannet (*Morus bassanus*), breeding | Favourable | 01/06/2014 |
| Great skua (*Stercorarius skua*), breeding | Favourable | 01/06/2016 |
| Guillemot (*Uria aalge*), breeding | Unfavourable | 01/06/2016 |
| Kittiwake (*Rissa tridactyla*), breeding | Unfavourable | 01/06/2016 |
| Puffin (*Fratercula arctica*), breeding | Unfavourable | 01/04/2015 |
| Razorbill (*Alca torda*), breeding | Unfavourable | 01/06/2015 |
| Seabird assemblage, breeding | Unfavourable | 01/06/2016 |
| Shag (*Phalacrocorax aristotelis*), breeding | Unfavourable | 01/06/2013 |
| 8498 | [Fetlar](http://gateway.snh.gov.uk/sitelink/siteinfo.jsp?pa_code=8498) | Arctic skua (*Stercorarius parasiticus*), breeding | 16964.69 | Unfavourable | Inter-specific competition | 21/06/2017 |
| Arctic tern (*Sterna paradisaea*), breeding | Unfavourable | 21/06/2017 |
| Dunlin (*Calidris alpina schinzii*), breeding | Favourable | 30/06/2003 |
| Fulmar (*Fulmarus glacialis*), breeding | Unfavourable | 26/06/2016 |
| Great skua (*Stercorarius skua*), breeding | Favourable | 21/06/2017 |
| Red-necked phalarope (*Phalaropus lobatus*), breeding | Favourable | 31/07/2014 |
| Seabird assemblage, breeding | Unfavourable | 21/06/2017 |
| Whimbrel (*Numenius phaeopus*), breeding | Favourable | 30/06/2002 |
| 8504 | [Foula](http://gateway.snh.gov.uk/sitelink/siteinfo.jsp?pa_code=8504) | Arctic skua (*Stercorarius parasiticus*), breeding | 7985.49 | Unfavourable | Game/fisheries management, Natural Event | 01/06/2015 |
| Arctic tern (*Sterna paradisaea*), breeding | Unfavourable | 22/07/2016 |
| Fulmar (*Fulmarus glacialis*), breeding | Unfavourable | 24/06/2015 |
| Great skua (*Stercorarius skua*), breeding | Favourable | 05/06/2015 |
| Guillemot (*Uria aalge*), breeding | Unfavourable | 24/06/2015 |
| Kittiwake (*Rissa tridactyla*), breeding | Unfavourable | 24/06/2015 |
| Leach's petrel (*Oceanodroma leucorhoa*), breeding | Unfavourable | 22/09/2001 |
| Puffin (*Fratercula arctica*), breeding | Unfavourable | 06/05/2016 |
| Razorbill (*Alca torda*), breeding | Unfavourable | 24/06/2015 |
| Red-throated diver (*Gavia stellata*), breeding | Favourable | 28/08/2013 |
| Seabird assemblage, breeding | Unfavourable | 01/06/2016 |
| Shag (*Phalacrocorax aristotelis*), breeding | Unfavourable | 24/06/2015 |
| 8512 | [Hermaness, Saxa Vord and Valla Field](http://gateway.snh.gov.uk/sitelink/siteinfo.jsp?pa_code=8512) | Fulmar (*Fulmarus glacialis*), breeding | 6832.36 | Favourable | Invasive species, Inter-specific competition | 20/07/2016 |
| Gannet (*Morus bassanus*), breeding | Favourable | 24/10/2014 |
| Great skua (*Stercorarius skua*), breeding | Favourable | 25/06/2013 |
| Guillemot (*Uria aalge*), breeding | Unfavourable | 11/06/2017 |
| Kittiwake (*Rissa tridactyla*), breeding | Unfavourable | 11/06/2017 |
| Puffin (*Fratercula arctica*), breeding | Unfavourable | 28/06/2017 |
| Red-throated diver (*Gavia stellata*), breeding | Unfavourable | 02/07/2013 |
| Seabird assemblage, breeding | Unfavourable | 28/06/2017 |
| Shag (*Phalacrocorax aristotelis*), breeding | Unfavourable | 11/06/2017 |
| 8543 | [Lochs of Spiggie and Brow](http://gateway.snh.gov.uk/sitelink/siteinfo.jsp?pa_code=8543) | Whooper swan (*Cygnus cygnus*), non-breeding | 140.66 | Unfavourable | None | 04/02/2016 |
| 8551 | [Mousa](http://gateway.snh.gov.uk/sitelink/siteinfo.jsp?pa_code=8551) | Arctic tern (*Sterna paradisaea*), breeding | 196.85 | Unfavourable | Recreation/Disturbance, Natural Event | 01/06/2015 |
| Storm petrel (*Hydrobates pelagicus*), breeding | Favourable | 31/07/2015 |
| 8561 | [Noss](http://gateway.snh.gov.uk/sitelink/siteinfo.jsp?pa_code=8561) | Fulmar (*Fulmarus glacialis*), breeding | 3338.38 | Favourable | Climate Change | 26/06/2016 |
| Gannet (*Morus bassanus*), breeding | Favourable | 01/06/2014 |
| Great skua (*Stercorarius skua*), breeding | Favourable | 13/08/2013 |
| Guillemot (*Uria aalge*), breeding | Unfavourable | 23/06/2015 |
| Kittiwake (*Rissa tridactyla*), breeding | Unfavourable | 23/06/2015 |
| Puffin (*Fratercula arctica*), breeding | Unfavourable | 10/05/2017 |
| Seabird assemblage, breeding | Unfavourable | 01/05/2017 |
| 8563 | [Otterswick and Graveland](http://gateway.snh.gov.uk/sitelink/siteinfo.jsp?pa_code=8563) | Red-throated diver (*Gavia stellata*), breeding | 2239.59 | Unfavourable | None | 12/06/2018 |
| 8564 | [Papa Stour](http://gateway.snh.gov.uk/sitelink/siteinfo.jsp?pa_code=8564) | Arctic tern (*Sterna paradisaea*), breeding | 569.6 | Unfavourable | None | 19/06/2015 |
| Ringed plover (*Charadrius hiaticula*), breeding | Favourable | 19/06/2015 |
| 8568 | [Ramna Stacks and Gruney](http://gateway.snh.gov.uk/sitelink/siteinfo.jsp?pa_code=8568) | Leach's petrel (*Oceanodroma leucorhoa*), breeding | 11.66 | Unfavourable | None | 29/06/2018 |
| 8572 | [Ronas Hill - North Roe and Tingon](http://gateway.snh.gov.uk/sitelink/siteinfo.jsp?pa_code=8572) | Great skua (*Stercorarius skua*), breeding | 5474.35 | Favourable | Over-grazing | 14/06/2017 |
| Merlin (*Falco columbarius*), breeding | Favourable | 08/05/2014 |
| Red-throated diver (*Gavia stellata*), breeding | Favourable | 05/06/2014 |
| 10489 | [Seas off Foula[[6]](#footnote-6)](https://sitelink.nature.scot/site/10489) | Arctic skua (*Stercorarius parasiticus*), breeding | 341214.5 | Not Assessed | None | N/A |
| Atlantic puffin (*Fratercula arctica*), breeding | Not Assessed | None | N/A |
| Guillemot (*Uria aalge*), breeding and non-breeding | Not Assessed | None | N/A |
| Fulmar (*Fulmarus glacialis*), breeding and non-breeding | Not Assessed | None | N/A |
| Great skua (*Stercorarius skua*), breeding and non-breeding | Not Assessed | None | N/A |
| Seabird assemblage, breeding and non-breeding | Not Assessed |  | N/A |
| 8582 | [Sumburgh Head](http://gateway.snh.gov.uk/sitelink/siteinfo.jsp?pa_code=8582) | Arctic tern (*Sterna paradisaea*), breeding | 2478.91 | Unfavourable | Natural Event, Game/fisheries management | 11/06/2018 |
| Fulmar (*Fulmarus glacialis*), breeding | Favourable | 14/06/2017 |
| Guillemot (*Uria aalge*), breeding | Unfavourable | 14/06/2017 |
| Kittiwake (*Rissa tridactyla*), breeding | Unfavourable | 14/06/2017 |
| Seabird assemblage, breeding | Unfavourable | 11/06/2018 |

Source: NatureScot – ([*https://sitelink.nature.scot/home*](https://sitelink.nature.scot/home)*)* – data manually extracted from each site overview page.

Figure 1.2 Condition of SPA Designated Features

Source: NatureScot – [*https://sitelink.nature.scot/home*](https://sitelink.nature.scot/home) - data manually extracted from each site overview page.

**SACs**

SACs were designated under the EC Directive 92/43/EEC on the Conservation of Natural Habitats and of Wild Fauna and Flora, known as the Habitats Directive. In the UK, sites are protected under The Conservation (Natural Habitats, &c.) Regulations 1994, due to the presence of one or more habitats or species listed in the Directive and management plans are written to ensure ‘favourable conservation status.’ Article 3 of the Directive requires the establishment of a European network of important high-quality conservation sites that will make a significant contribution to conserving the 189 habitat types and 788 species identified in Annexes I and II of the Directive (as amended). The listed habitat types and species are those considered to be most in need of conservation at a European level (excluding birds). As set out above the Habitats Regulations commit the UK to the delivery of Article 3.

There are 13 SACs in Shetland, the location of which can be viewed in Figure 1.1. The SACs, their name, qualifying feature and condition are listed in Table 1.3. SACs in Shetland are mainly designated for upland habitat or marine interest and over 70% of designated features are in favourable condition **and 7% are recovering. The most commonly identified pressure on the interest feature is** over-grazing.

Table 1.3 – Special Areas of Conservation in Shetland

| **Site Code** | **Name** | **Qualifying Feature** | **Feature Category** | **Total Area (ha)** | **Summary Condition** | **Pressures** | **Last Visit Date** |
| --- | --- | --- | --- | --- | --- | --- | --- |
| 8249 | [East Mires and Lumbister](http://gateway.snh.gov.uk/sitelink/siteinfo.jsp?pa_code=8249) | Blanket bog | Upland habitat | 619.54 | Favourable | None identified | 20/09/2012 |
| 8253 | [Fair Isle](http://gateway.snh.gov.uk/sitelink/siteinfo.jsp?pa_code=8253) | Dry heaths | Upland habitat | 561.05 | Favourable | Over-grazing | 30/07/2014 |
| Vegetated sea cliffs | Coast | Favourable | 30/07/2014 |
| 8270 | [Hascosay](http://gateway.snh.gov.uk/sitelink/siteinfo.jsp?pa_code=8270) | Blanket bog | Upland habitat | 164.67 | Favourable | Dumping/ storage of materials | 02/09/2009 |
| Otter (*Lutra lutra*) | Mammals (except marine) | Unfavourable | 07/06/2012 |
| 8279 | [Keen of Hamar](http://gateway.snh.gov.uk/sitelink/siteinfo.jsp?pa_code=8279) | Base-rich scree | Upland habitat | 39.87 | Favourable | None identified | 24/07/2014 |
| Dry heaths | Upland habitat | Favourable | 07/10/2010 |
| Grasslands on soils rich in heavy metals | Upland habitat | Favourable | 24/07/2014 |
| 8333 | [Mousa](http://gateway.snh.gov.uk/sitelink/siteinfo.jsp?pa_code=8333) | Harbour seal (*Phoca vitulina*) | Marine (including marine mammals) | 529.74 | Unfavourable | None identified | 18/08/2009 |
| Reefs | Marine (including marine mammals) | Favourable | 20/08/2008 |
| Sea caves | Marine (including marine mammals) | Favourable | 11/08/2017 |
| 8338 | [North Fetlar](http://gateway.snh.gov.uk/sitelink/siteinfo.jsp?pa_code=8338) | Base-rich fens | Upland habitat | 1585.18 | Favourable | None identified | 04/10/2012 |
| Dry heaths | Upland habitat | Favourable | 02/09/2005 |
| 8345 | [Papa Stour](http://gateway.snh.gov.uk/sitelink/siteinfo.jsp?pa_code=8345) | Reefs | Marine (including marine mammals) | 2072.9 | Favourable | None identified | 15/08/2003 |
| Sea caves | Marine (including marine mammals) | Favourable | 07/08/2003 |
| 8370 | [Ronas Hill - North Roe](http://gateway.snh.gov.uk/sitelink/siteinfo.jsp?pa_code=8370) | Acid peat-stained lakes and ponds | Freshwater habitats | 4903.57 | Favourable | Trampling, Natural Event, Over-grazing | 23/08/2016 |
| Acidic scree | Upland habitat | Favourable | 27/07/2015 |
| Alpine and subalpine heaths | Upland habitat | Recovering | 27/07/2015 |
| Blanket bog | Upland habitat | Unfavourable | 12/09/2012 |
| Clear-water lakes or lochs with aquatic vegetation and poor to moderate nutrient levels | Freshwater habitats | Favourable | 03/08/2004 |
| Dry heaths | Upland habitat | Unfavourable[[7]](#footnote-7) | 21/08/2006 |
| Wet heathland with cross-leaved heath | Upland habitat | Recovering | 21/08/2006 |
| 8388 | [Sullom Voe](http://gateway.snh.gov.uk/sitelink/siteinfo.jsp?pa_code=8388) | Lagoons | Marine (including marine mammals) | 2691.43 | Favourable | None identified | 17/09/2004 |
| Reefs | Marine (including marine mammals) | Favourable | 19/09/2004 |
| Shallow inlets and bays | Marine (including marine mammals) | Favourable | 19/09/2004 |
| 8393 | [The Vadills](http://gateway.snh.gov.uk/sitelink/siteinfo.jsp?pa_code=8393) | Lagoons | Marine (including marine mammals) | 62.42 | Favourable | None identified | 14/08/2003 |
| 8395 | [Tingon](http://gateway.snh.gov.uk/sitelink/siteinfo.jsp?pa_code=8395) | Acid peat-stained lakes and ponds | Freshwater habitats | 570.78 | Favourable | None identified | 08/08/2010 |
| Blanket bog | Upland habitat | Favourable | 25/07/2001 |
| 8409 | [Yell Sound Coast](http://gateway.snh.gov.uk/sitelink/siteinfo.jsp?pa_code=8409) | Harbour seal (*Phoca vitulina*) | Marine (including marine mammals) | 1544.44 | Unfavourable | Other | 18/08/2009 |
| Otter (*Lutra lutra*) | Mammals (except marine) | Unfavourable | 05/06/2012 |
| [10258](https://sitelink.nature.scot/site/10258) | Pobie Bank Reef | Offshore Reefs | Marine (including marine mammals) | 96575 | Condition not assessed |  |  |

Source: NatureScot – ([*https://sitelink.nature.scot/home*](https://sitelink.nature.scot/home)*)* - data manually extracted from each site overview page.

Figure 1.3 Condition of SAC Designated Features

Source: NatureScot – ([*https://sitelink.nature.scot/home*](https://sitelink.nature.scot/home)*)* - data manually extracted from each site overview page.

**Ramsar Convention**

Shetland is home to one site that has been designated under the ‘*Convention on Wetlands and Waders of International Importance*’ signed in 1971 in Ramsar, Iran. The designation recognises the fundamental ecological functions of this area as well as its economic, cultural, scientific, and recreational value. Under the Convention wetland is defined as:

“areas of marsh, fen, peatland or water, whether natural or artificial, permanent or temporary, with water that is static or flowing, fresh, or brackish or salt, including areas of marine water the depth of which as low tide does not exceed six metres. [wetlands] may incorporate riparian and coastal zones adjacent to wetlands, and islands or bodies of marine water deeper than six metres at low tide lying within the wetlands”

Table 1.4 – Shetland Ramsar Site

|  |  |
| --- | --- |
| **Site Code** | 8453 |
| **Name** | Ronas Hill – North Roe and Tingon |
| **Qualifying Feature** | Criterion 1 - Blanket Bog, |
| Criterion 2 – Common or Harbour Seal (*Phoca vitulina*), otter (*Lutra lutra*) and the arctic water flea (*Eurycercus glacialis*) |
| **Total Area (ha)** | 5474.35 |
| **Summary Condition** | Unfavourable |
| **Pressures** | Natural Event, Over-grazing and Trampling |
| **Last Visit Date** | 12/09/2012 |

Source: NatureScot – ([*https://sitelink.nature.scot/home*](https://sitelink.nature.scot/home)*)* - data manually extracted from each site overview page.

The location of the site can be viewed in ***Figure 1.1***and details can be found in ***Table 1.4***.

* National Designations

National designations cover a range of different types of protected area, including Natural Nature Reserves (NNR) and Sites of Special Scientific Interest (SSSI), both of which are located within the Shetland. Shetland is also home to a number of non-statutory protected sites, such as Local Nature Conservation Sites.

**National Nature Reserves (NNRs)**

NNRs are statutory nature reserves designed under Part III of the National Parks and Access to the Countryside Act 1949 and the Wildlife and Countryside Act 1981. They are managed to conserve their habitats or to provide special opportunities for scientific study of the habitats, communities and species represented within them. People are encouraged to enjoy NNRs and so many have some form of visitor facilities that are designed to ensure recreational activities are not pursued without heed for the wildlife and habitat that exists there. There are 2 NNRs in Shetland holding two of Britain’s largest seabird colonies.

Noss NNR covers the entire island of Noss to the east of Bressay, an area of 344 hectares. It is accessed by boat and has a visitor centre which is normally open seasonally. Hermaness NNR lies in the north-west of the Island of Unst, including the stacks around Muckle Flugga the most northerly point in the UK. Covering an area of 965 hectares Hermaness is managed for cliff and moorland nesting bird species. The location of the NNRs can be viewed in ***Figure 1.1***. Both these sites are also designated as SPAs and SSSIs.

**Sites of Special Scientific Interest (SSSI)**

SSSIs are designated under the Wildlife and Countryside Act (1981) as amended by the Nature Conservation (Scotland) Act 2004. Sites are designated due to the presence of important flora, fauna, geological or geomorphological features (or a combination of these features), many are also designated as European sites.

There are 78 SSSIs in Shetland covering nearly 14% of the land area, with site details set in ***Table 1.5*** below. The location of these can be viewed in ***Figure 1.1.*** Just over half of the sites are designated for geological or geomorphological reasons. There are various pressures on SSSIs including invasive species, water management and inter specific competition but the most common is over grazing. Overall just over 60% of SSSIs are in favourable or recovering condition while just over a third are in unfavourable condition. The remainder have at least one interest feature in unfavourable condition. Of the features in unfavourable condition the vast majority (> 75%) are birds, the bulk of which are seabird interest features.

Table 1.5 – Sites of Special Scientific Interest in Shetland

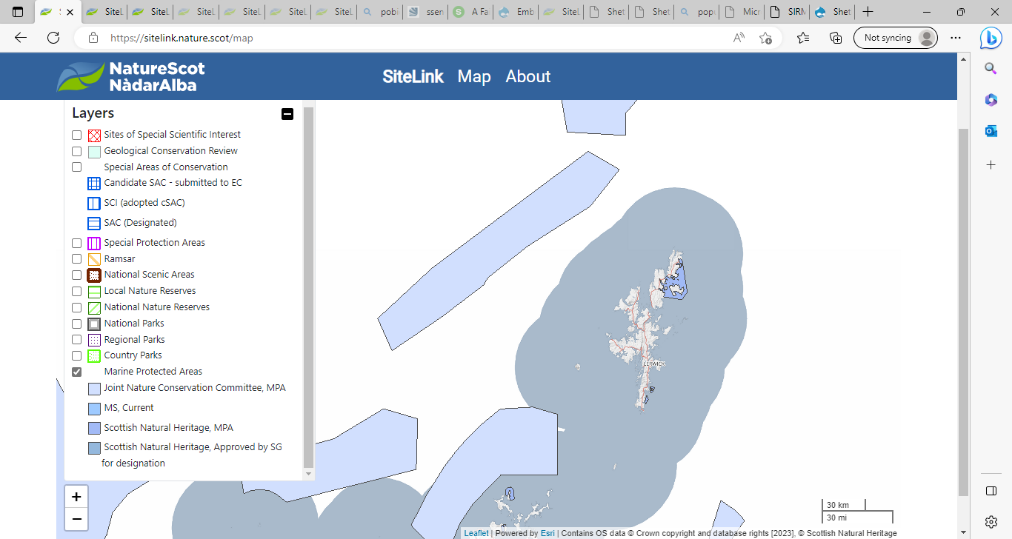
| **Site Code** | **Name** | **Feature** | **Total Area (ha)** | **Interest** | **Summary Condition** | **Pressures** | **Visit Date** |
| --- | --- | --- | --- | --- | --- | --- | --- |
| 10240 | [Aith Meadows and Burn of Aith](http://gateway.snh.gov.uk/sitelink/siteinfo.jsp?pa_code=10240) | Fen Meadow | 25.17 | Lowland grassland | Favourable Declining | No pro-active management | 01/07/2009 |
| Lowland neutral grassland | Lowland grassland | Favourable Declining | No pro-active management | 25/06/2014 |
| Quaternary of Scotland | Earth sciences | Favourable Maintained | Flood defence/coastal defence works | 05/09/2007 |
| 144 | [Balta](http://gateway.snh.gov.uk/sitelink/siteinfo.jsp?pa_code=144) | Coastal Geomorphology | 16.23 | Earth sciences | Favourable Maintained | No negative pressures | 17/13/2017 |
| 256 | [Breckon](http://gateway.snh.gov.uk/sitelink/siteinfo.jsp?pa_code=256) | Bog orchid (Hammarbya paludosa) | 58.75 | Vascular plants | Favourable Maintained | No negative pressures | 15/08/2014 |
| Eutrophic loch | Freshwater habitats | Favourable Maintained | No negative pressures | 10/08/2010 |
| Machair | Coast | Favourable Maintained | No negative pressures | 19/07/2016 |
| Maritime cliff | Coast | Favourable Recovered | No negative pressures | 19/07/2016 |
| Sand dunes | Coast | Favourable Maintained | No negative pressures | 19/07/2016 |
| 276 | [Burn of Lunklet](http://gateway.snh.gov.uk/sitelink/siteinfo.jsp?pa_code=276) | Vascular Plant Assemblage | 1.42 | Vascular plants | Favourable Maintained | Over-grazing | 05/08/2002 |
| 277 | [Burn of Valayre](http://gateway.snh.gov.uk/sitelink/siteinfo.jsp?pa_code=277) | Scrub | 5.49 | Woodland | Unfavourable No change | Over-grazing | 26/09/2013 |
| 347 | [Catfirth](http://gateway.snh.gov.uk/sitelink/siteinfo.jsp?pa_code=347) | Scrub | 0.13 | Woodland | Favourable Recovered | No negative pressures | 15/08/2022 |
| 367 | [Clothister Hill Quarry](http://gateway.snh.gov.uk/sitelink/siteinfo.jsp?pa_code=367) | Mineralogy of Scotland | 6.84 | Earth Sciences | Favourable Maintained | No negative pressures | 11/02/2003 |
| 475 | [Crussa Field and the Heogs](http://gateway.snh.gov.uk/sitelink/siteinfo.jsp?pa_code=475) | Arctic skua (*Stercorarius parasiticus*), breeding | 468.97 | Birds | Unfavourable Declining | No negative pressures | 31/07/2012 |
| Breeding bird assemblage | Birds | Favourable Maintained | No negative pressures | 31/07/2012 |
| Calaminarian grassland and serpentine heath | Upland Habitat | Partially Destroyed | Mineral Extraction | 05/08/2014 |
| Mineralogy of Scotland | Earth Sciences | Favourable Maintained | Water Management | 03/02/2004 |
| Vascular plant assemblage | Vascular Plants | Unfavourable Declining | No negative pressures | 15/09/2014 |
| Whimbrel (*Numenius phaeopus*), breeding | Birds | Unfavourable Declining | No negative pressures | 31/07/2012 |
| 481 | [Culswick Marsh](http://gateway.snh.gov.uk/sitelink/siteinfo.jsp?pa_code=481) | Valley Fen | 6.45 | Wetlands | Favourable Maintained | No negative pressures | 13/07/2017 |
| 486 | [Dales Voe](http://gateway.snh.gov.uk/sitelink/siteinfo.jsp?pa_code=486) | Saltmarsh | 5.63 | Coast | Favourable Maintained | Under Grazing | 11/09/2012 |
| 492 | [Dalsetter](http://gateway.snh.gov.uk/sitelink/siteinfo.jsp?pa_code=492) | Arctic Tern, (*Sterna paradisaea*) breeding | 33.88 | Birds | Unfavourable Declining | No negative pressures | 19/06/2012 |
| Subalpine dry heath | Upland Habitat | Favourable Maintained | No negative pressures | 19/06/2012 |
| 587 | [East Mires and Lumbister](http://gateway.snh.gov.uk/sitelink/siteinfo.jsp?pa_code=587) | Blanket Bog | 620.32 | Upland Habitat | Favourable Maintained | No negative pressures | 20/09/2012 |
| Breeding bird assemblage | Birds | Favourable Maintained | No negative pressures | 24/07/2009 |
| 590 | [Easter Loch](http://gateway.snh.gov.uk/sitelink/siteinfo.jsp?pa_code=590) | Whooper Swan (*Cygnus cygnus*), non-breeding | 5.82 | Birds | Unfavourable Declining | No negative pressures | 02/12/2012 |
| 592 | [Easter Rova Head](http://gateway.snh.gov.uk/sitelink/siteinfo.jsp?pa_code=592) | Non-marine Devonian | 3.35 | Earth Sciences | Favourable Maintained | No negative pressures | 16/08/2002 |
| 615 | [Eshaness Coast](http://gateway.snh.gov.uk/sitelink/siteinfo.jsp?pa_code=615) | Old Red Sandstone Igneous | 43.08 | Earth Sciences | Favourable Maintained | No negative pressures | 31/08/2000 |
| 620 | [Fair Isle](http://gateway.snh.gov.uk/sitelink/siteinfo.jsp?pa_code=620) | Arctic skua (*Stercorarius parasiticus*), breeding | 561.34 | Birds | Unfavourable Declining | Invasive Species | 01/06/2016 |
| Fulmar (*Fulmarus glacialis*), breeding | Birds | Favourable Maintained | No negative pressures | 01/06/2016 |
| Great skua (*Stercorarius skua*), breeding | Birds | Favourable Maintained | Game / fisheries management | 01/06/2016 |
| Guillemot (*Uria aalge*), breeding | Birds | Unfavourable Declining | No negative pressures | 01/06/2016 |
| Kittiwake (*Rissa tridactyla*), breeding | Birds | Unfavourable Declining | Invasive Species | 01/06/2016 |
| Moorland juniper | Upland habitat | Favourable Maintained | No negative pressures | 25/09/2007 |
| Palaeozoic Palaeobotany | Earth sciences | Favourable Maintained | Other | 05/04/2004 |
| Razorbill (*Alca torda*), breeding | Birds | Unfavourable Declining | No negative pressures | 01/06/2015 |
| Seabird colony, breeding | Birds | Unfavourable Declining | No negative pressures | 01/06/2016 |
| Shag (*Phalacrocorax aristotelis*), breeding | Birds | Unfavourable Declining | No negative pressures | 01/06/2013 |
| 633 | [Fidlar Geo to Watsness](http://gateway.snh.gov.uk/sitelink/siteinfo.jsp?pa_code=633) | Non-marine Devonian | 18.42 | Earth sciences | Favourable Maintained | No negative pressures | 22/06/2004 |
| 655 | [Foula](http://gateway.snh.gov.uk/sitelink/siteinfo.jsp?pa_code=655) | Arctic skua (*Stercorarius parasiticus*), breeding | 1322.3 | Birds | Unfavourable Declining | Overgrazing, trampling | 01/06/2015 |
| Blanket bog | Upland habitat | Unfavourable Declining | No negative pressures | 16/09/2012 |
| Fulmar (*Fulmarus glacialis*), breeding | Birds | Unfavourable Declining | No negative pressures | 24/06/2015 |
| Great skua (*Stercorarius skua*), breeding | Birds | Favourable Recovered | No negative pressures | 05/06/2015 |
| Guillemot (*Uria aalge*), breeding | Birds | Unfavourable Declining | No negative pressures | 24/06/2015 |
| Kittiwake (*Rissa tridactyla*), breeding | Birds | Unfavourable Declining | No negative pressures | 24/06/2015 |
| Leach's petrel (*Oceanodroma leucorhoa*), breeding | Birds | Unfavourable Declining | No negative pressures | 23/06/2003 |
| Puffin (*Fratercula arctica*), breeding | Birds | Unfavourable No change | No negative pressures | 06/05/2016 |
| Razorbill (*Alca torda*), breeding | Birds | Unfavourable Declining | No negative pressures | 24/06/2015 |
| Seabird colony, breeding | Birds | Unfavourable Declining | No negative pressures | 01/06/2016 |
| Shag (*Phalacrocorax aristotelis*), breeding | Birds | Unfavourable Declining | No negative pressures | 24/06/2015 |
| Storm petrel (*Hydrobates pelagicus*), breeding | Birds | Unfavourable Declining | Other | 23/09/2001 |
| 656 | [Foula Coast](http://gateway.snh.gov.uk/sitelink/siteinfo.jsp?pa_code=656) | Coastal Geomorphology of Scotland | 223.32 | Earth Sciences | Favourable Maintained | No negative pressures | 07/04/2004 |
| 661 | [Fugla Ness - North Roe](http://gateway.snh.gov.uk/sitelink/siteinfo.jsp?pa_code=661) | Quaternary of Scotland | 0.56 | Earth Sciences | Favourable Maintained | Natural Event | 11/03/2008 |
| 663 | [Funzie](http://gateway.snh.gov.uk/sitelink/siteinfo.jsp?pa_code=663) | Caledonian Structures of Shetland | 6.02 | Earth Sciences | Favourable Maintained | No negative pressures | 31/08/2000 |
| 8110 | [Graveland](http://gateway.snh.gov.uk/sitelink/siteinfo.jsp?pa_code=8110) | Red-throated diver (Gavia stellata), breeding | 853.09 | Birds | Unfavourable Declining | No negative pressures | 08/06/2018 |
| 755 | [Gutcher](http://gateway.snh.gov.uk/sitelink/siteinfo.jsp?pa_code=755) | Moine | 1.53 | Earth Sciences | Favourable Maintained | Development with planning permission, other activity | 08/01/2003 |
| 759 | [Ham Ness](http://gateway.snh.gov.uk/sitelink/siteinfo.jsp?pa_code=759) | Ordovician Igneous | 30.66 | Earth Sciences | Favourable Maintained | No negative pressures | 19/05/2015 |
| 767 | [Hascosay](http://gateway.snh.gov.uk/sitelink/siteinfo.jsp?pa_code=767) | Blanket bog | 164.92 | Upland habitat | Favourable Maintained | Dumping / storage of materials | 02/09/2009 |
| Dunlin (*Calidris alpina schinzii*), breeding | Birds | Favourable Maintained | No negative pressures | 29/06/2002 |
| Moine | Earth sciences | Favourable Maintained | No negative pressures | 02/09/2009 |
| 776 | [Hermaness](http://gateway.snh.gov.uk/sitelink/siteinfo.jsp?pa_code=776) | Fulmar (*Fulmarus glacialis*), breeding | 978.3 | Birds | Favourable Recovered | No negative pressures | 25/06/2016 |
| Gannet (*Morus bassanus*), breeding | Birds | Favourable Maintained | No negative pressures | 24/07/2014 |
| Great skua (*Stercorarius skua*), breeding | Birds | Favourable Maintained | No negative pressures | 25/06/2013 |
| Guillemot (*Uria aalge*), breeding | Birds | Unfavourable Declining | No negative pressures | 15/06/2015 |
| Mineralogy of Scotland | Earth sciences | Favourable Maintained | No negative pressures | 18/07/2012 |
| Puffin (*Fratercula arctica*), breeding | Birds | Unfavourable Declining | Inter-specific competition / Invasive species (feral cats) | 28/06/2017 |
| Seabird colony, breeding | Birds | Unfavourable Declining | Inter-specific competition / Invasive species (feral cats) | 24/05/2017 |
| 782 | [Hill of Colvadale and Sobul](http://gateway.snh.gov.uk/sitelink/siteinfo.jsp?pa_code=782) | Arctic sandwort (*Arenaria norvegica*) | 809.18 | Vascular plants | Favourable Maintained | No negative pressures | 17/10/2014 |
| Arctic skua (*Stercorarius parasiticus*), breeding | Birds | Unfavourable Declining | No negative pressures | 26/06/2015 |
| Breeding bird assemblage | Birds | Favourable Maintained | No negative pressures | 30/06/2007 |
| Calaminarian grassland and serpentine heath | Upland habitat | Favourable Maintained | Development | 19/08/2006 |
| Whimbrel (*Numenius phaeopus*), breeding | Birds | Unfavourable Declining | No negative pressures | 30/06/2007 |
| 827 | [Keen of Hamar](http://gateway.snh.gov.uk/sitelink/siteinfo.jsp?pa_code=827) | Calaminarian grassland and serpentine heath | 49.65 | Upland habitat | Favourable Maintained | No proactive management | 24/07/2014 |
| Mineralogy of Scotland | Earth sciences | Favourable Maintained | No negative pressures | 29/07/2003 |
| Vascular plant assemblage | Vascular plants | Unfavourable Recovering | To be identified | 05/08/2014 |
| 901 | [Lamb Hoga](http://gateway.snh.gov.uk/sitelink/siteinfo.jsp?pa_code=901) | Arctic skua (*Stercorarius parasiticus*), breeding | 800.93 | Birds | Unfavourable Declining | Inter-specific competition | 21/06/2017 |
| Breeding bird assemblage | Birds | Favourable Maintained | No negative pressures | 11/07/2013 |
| Great skua (*Stercorarius skua*), breeding | Birds | Favourable Maintained | No negative pressures | 21/06/2017 |
| Manx shearwater (*Puffinus puffinus*), breeding | Birds | Unfavourable Declining | No negative pressures | 25/05/2018 |
| Storm petrel (*Hydrobates pelagicus*), breeding | Birds | Favourable Maintained | No negative pressures | 08/08/2003 |
| 913 | [Laxo Burn](http://gateway.snh.gov.uk/sitelink/siteinfo.jsp?pa_code=913) | Vascular plant assemblage | 0.57 | Vascular plants | Favourable Maintained | Invasive Species | 27/06/2012 |
| 1028 | [Loch of Clousta](http://gateway.snh.gov.uk/sitelink/siteinfo.jsp?pa_code=1028) | Tall herb ledge | 47.25 | Upland habitat | Favourable Maintained | Over-grazing | 07/08/2012 |
| 1030 | [Loch of Girlsta](http://gateway.snh.gov.uk/sitelink/siteinfo.jsp?pa_code=1030) | Arctic charr (*Salvelinus alpinus*) | 99.23 | Fish | Unfavourable Declining | No negative pressures | 17/07/2017 |
| Mesotrophic loch | Freshwater habitats | Unfavourable Recovering | Water Management | 25/10/2007 |
| 1084 | [Lochs of Kirkigarth and Bardister](http://gateway.snh.gov.uk/sitelink/siteinfo.jsp?pa_code=1084) | Mesotrophic loch | 16.42 | Freshwater habitats | Favourable Maintained | Trampling and water management | 21/08/2016 |
| 1085 | [Lochs of Spiggie and Brow](http://gateway.snh.gov.uk/sitelink/siteinfo.jsp?pa_code=1085) | Basin fen | 141.49 | Wetlands | Unfavourable No change | Invasive Species and under-grazing | 05/09/2013 |
| Eutrophic loch | Freshwater habitats | Favourable Maintained | No negative pressures | 20/08/2012 |
| Whooper swan (*Cygnus cygnus*), non-breeding | Birds | Unfavourable Declining | No negative pressures | 04/02/2016 |
| 1086 | [Lochs of Tingwall and Asta](http://gateway.snh.gov.uk/sitelink/siteinfo.jsp?pa_code=1086) | Mesotrophic loch | 65.27 | Freshwater habitats | Favourable Declining | Water Quality | 21/08/2016 |
| 1111 | [Lunda Wick](http://gateway.snh.gov.uk/sitelink/siteinfo.jsp?pa_code=1111) | Mineralogy of Scotland | 1.13 | Earth sciences | Favourable Maintained | No negative pressures | 11/03/2014 |
| 1146 | [Melby](http://gateway.snh.gov.uk/sitelink/siteinfo.jsp?pa_code=1146) | Non-marine Devonian | 6.81 | Earth sciences | Favourable Maintained | No negative pressures | 18/04/2014 |
| Silurian - Devonian Chordata | Favourable Maintained | No negative pressures | 18/04/2014 |
| 1204 | [Mousa](http://gateway.snh.gov.uk/sitelink/siteinfo.jsp?pa_code=1204) | Arctic tern (*Sterna paradisaea*), breeding | 197.97 | Birds | Unfavourable Declining | Recreation / disturbance | 01/06/2015 |
| Black guillemot (*Cepphus grylle*), breeding | Birds | Unfavourable No change | Climate Change, Natural Event, Other | 01/05/2017 |
| Harbour seal (*Phoca vitulina*) | Marine (including marine mammals) | Unfavourable Declining | No negative pressures | 18/08/2009 |
| Storm petrel (*Hydrobates pelagicus*), breeding | Birds | Favourable Maintained | Natural event | 31/07/2015 |
| 1208 | [Muckle Roe Meadows](http://gateway.snh.gov.uk/sitelink/siteinfo.jsp?pa_code=1208) | Lowland neutral grassland | 2.36 | Lowland grassland | Favourable Recovered | Under-grazing | 15/08/2022 |
| Vascular plant assemblage | Vascular plants | Favourable Maintained | No negative pressures | 28/07/2004 |
| 1216 | [Ness of Clousta - The Brigs](http://gateway.snh.gov.uk/sitelink/siteinfo.jsp?pa_code=1216) | Old Red Sandstone Igneous | 69.37 | Earth sciences | Favourable Maintained | No negative pressures | 13/12/2012 |
| 1217 | [Ness of Cullivoe](http://gateway.snh.gov.uk/sitelink/siteinfo.jsp?pa_code=1217) | Moine | 11.07 | Earth sciences | Favourable Maintained | No negative pressures | 15/01/2013 |
| 1234 | [North Fetlar](http://gateway.snh.gov.uk/sitelink/siteinfo.jsp?pa_code=1234) | Arctic skua (*Stercorarius parasiticus*), breeding | 1637.04 | Birds | Unfavourable Declining | Inter-specific competition | 21/06/2017 |
| Arctic tern (*Sterna paradisaea*), breeding | Birds | Unfavourable Declining | No negative pressures | 21/06/2017 |
| Breeding bird assemblage | Birds | Favourable Maintained | No negative pressures | 24/07/2009 |
| Calaminarian grassland and serpentine heath | Upland habitat | Favourable Maintained | No negative pressures | 04/10/2012 |
| Great skua (*Stercorarius skua*), breeding | Birds | Favourable Maintained | No negative pressures | 21/06/2017 |
| Grey seal (*Halichoerus grypus*) | Marine (including marine mammals) | Unfavourable No change | No negative pressures | 10/11/2010 |
| Harbour seal (*Phoca vitulina*) | Marine (including marine mammals) | Unfavourable Declining | No negative pressures | 13/08/2009 |
| Red-necked phalarope (*Phalaropus lobatus*), breeding | Birds | Favourable Maintained | No negative pressures | 31/07/2014 |
| Whimbrel (*Numenius phaeopus*), breeding | Birds | Unfavourable Declining | Inter-specific competition | 12/06/2007 |
| 1239 | [North Roe Meadow](http://gateway.snh.gov.uk/sitelink/siteinfo.jsp?pa_code=1239) | Vascular plant assemblage | 1.24 | Vascular plants | Unfavourable Recovering[[8]](#footnote-8) | Agricultural Operations, over-grazing, under-grazing | 13/08/2013 |
| 1242 | [North Sandwick](http://gateway.snh.gov.uk/sitelink/siteinfo.jsp?pa_code=1242) | Moine | 6.07 | Earth sciences | Favourable Maintained | No negative pressures | 15/01/2013 |
| 1247 | [Norwick](http://gateway.snh.gov.uk/sitelink/siteinfo.jsp?pa_code=1247) | Caledonian Structures of Shetland | 5.8 | Earth sciences | Favourable Maintained | No negative pressures | 23/03/2017 |
| 1248 | [Norwick Meadows](http://gateway.snh.gov.uk/sitelink/siteinfo.jsp?pa_code=1248) | Sand dunes | 24.72 | Coast | Unfavourable Recovering | Invasive species, under-grazing | 29/07/2016 |
| Valley fen | Wetlands | Unfavourable no change | Invasive species, over-grazing | 27/07/2017 |
| 1249 | [Noss](http://gateway.snh.gov.uk/sitelink/siteinfo.jsp?pa_code=1249) | Arctic skua (*Stercorarius parasiticus*), breeding | 343.83 | Birds | Unfavourable Declining | Game / fisheries management, inter-specific competition, natural event | 02/09/2014 |
| Gannet (*Morus bassanus*), breeding | Birds | Favourable Maintained | No negative pressures | 30/06/2014 |
| Great skua (*Stercorarius skua*), breeding | Birds | Favourable Maintained | No negative pressures | 13/08/2013 |
| Guillemot (*Uria aalge*), breeding | Birds | Unfavourable No change | No negative pressures | 23/06/2015 |
| Kittiwake (*Rissa tridactyla*), breeding | Birds | Unfavourable Declining | Climate Change | 23/06/2015 |
| Seabird colony, breeding | Birds | Unfavourable Declining | No negative pressures | 01/05/2017 |
| 8109 | [Otterswick](http://gateway.snh.gov.uk/sitelink/siteinfo.jsp?pa_code=8109) | Red-throated diver (*Gavia stellata*), breeding | 1388.32 | Birds | Unfavourable Declining | No negative pressures | 12/06/2018 |
| 1267 | [Papa Stour](http://gateway.snh.gov.uk/sitelink/siteinfo.jsp?pa_code=1267) | Arctic skua (*Stercorarius parasiticus*), breeding | 629.48 | Birds | Unfavourable No change | No negative pressures | 19/06/2015 |
| Arctic tern (*Sterna paradisaea*), breeding | Birds | Unfavourable No change | No negative pressures | 19/06/2015 |
| Coastal Geomorphology of Scotland | Earth sciences | Favourable Maintained | No negative pressures | 26/06/2013 |
| Maritime cliff | Coast | Unfavourable Recovering[[9]](#footnote-9) | Over-grazing | 01/08/2002 |
| Ringed plover (*Charadrius hiaticula*), breeding | Birds | Favourable Maintained | No negative pressures | 30/05/2007 |
| Rocky shore | Marine (including marine mammals) | Favourable Maintained | Other | 15/08/2003 |
| Silurian - Devonian Chordata | Earth sciences | Favourable Maintained | No negative pressures | 26/06/2013 |
| 1302 | [Pool of Virkie](http://gateway.snh.gov.uk/sitelink/siteinfo.jsp?pa_code=1302) | Mudflats | 22.96 | Marine (including marine mammals) | Favourable Maintained | Water Quality | 05/10/2006 |
| 1318 | [Quendale](http://gateway.snh.gov.uk/sitelink/siteinfo.jsp?pa_code=1318) | Machair | 142.76 | Coast | Unfavourable No change | Invasive species, over-grazing, under grazing | 30/08/2018 |
| Machair loch | Freshwater habitats | Unfavourable Declining | Water Quality | 12/08/2010 |
| Sand dunes | Coast | Unfavourable No change | Invasive species, over-grazing, under grazing | 30/08/2018 |
| 1319 | [Qui Ness to Pund Stacks](http://gateway.snh.gov.uk/sitelink/siteinfo.jsp?pa_code=1319) | Ordovician Igneous | 2.12 | Earth sciences | Favourable Maintained | No negative pressures | 27/10/2004 |
| 1323 | [Quoys of Garth](http://gateway.snh.gov.uk/sitelink/siteinfo.jsp?pa_code=1323) | Quaternary of Scotland | 0.04 | Earth sciences | Favourable Maintained | Water management | 27/10/2004 |
| 1328 | [Ramna Stacks and Gruney](http://gateway.snh.gov.uk/sitelink/siteinfo.jsp?pa_code=1328) | Guillemot (*Uria aalge*), breeding | 11.67 | Birds | Unfavourable Declining | No negative pressures | 29/06/2018 |
| Leach's petrel (*Oceanodroma leucorhoa*), breeding | Birds | Unfavourable Declining | No negative pressures | 29/06/2018 |
| Seabird colony, breeding | Birds | Unfavourable Declining | No negative pressures | 29/06/2018 |
| 1370 | [Ronas Hill - North Roe](http://gateway.snh.gov.uk/sitelink/siteinfo.jsp?pa_code=1370) | Arctic water flea (*Eurycercus glacialis*) | 4900.94 | Invertebrates | Favourable Maintained | No negative pressures | 16/08/2016 |
| Blanket bog | Upland habitat | Unfavourable Recovering | Over-grazing | 06/09/2007 |
| Breeding bird assemblage | Birds | Favourable Maintained | Grazing - other | 05/09/2002 |
| Montane assemblage | Upland habitat | Favourable Maintained | No negative pressures | 21/08/2006 |
| Quaternary of Scotland | Earth sciences | Favourable Maintained | Recreation / disturbance | 13/05/2015 |
| Red-throated diver (*Gavia stellata*), breeding | Birds | Favourable Declining | Over-grazing | 05/06/2014 |
| Scrub | Woodland | Favourable Maintained | No negative pressures | 28/09/2016 |
| 1684 | [Sandness Coast](http://gateway.snh.gov.uk/sitelink/siteinfo.jsp?pa_code=1684) | Rocky shore | 11.1 | Marine (including marine mammals) | Favourable Maintained | No negative pressures | 13/08/2003 |
| 1406 | [Sandwater](http://gateway.snh.gov.uk/sitelink/siteinfo.jsp?pa_code=1406) | Mesotrophic loch | 36.8 | Freshwater Habitats | Favourable Maintained | Over-grazing | 04/08/2004 |
| Open water transition fen | Wetlands | Favourable Maintained | No negative pressures | 26/07/2004 |
| 1408 | [Saxa Vord](http://gateway.snh.gov.uk/sitelink/siteinfo.jsp?pa_code=1408) | Fulmar (*Fulmarus glacialis*), breeding | 55.47 | Birds | Favourable Recovered | No negative pressures | 20/07/2016 |
| Guillemot (*Uria aalge*), breeding | Birds | Unfavourable Declining | No negative pressures | 11/06/2017 |
| Seabird colony, breeding | Birds | Favourable Maintained | No negative pressures | 11/06/2017 |
| 1415 | [Sel Ayre](http://gateway.snh.gov.uk/sitelink/siteinfo.jsp?pa_code=1415) | Quaternary of Scotland | 0.94 | Earth sciences | Favourable Maintained | No negative pressures | 22/06/2004 |
| 1434 | [Skelda Ness](http://gateway.snh.gov.uk/sitelink/siteinfo.jsp?pa_code=1434) | Mineralogy of Scotland | 2.93 | Earth sciences | Favourable Maintained | Extraction | 27/02/2007 |
| 1437 | [Skeo Taing to Clugan](http://gateway.snh.gov.uk/sitelink/siteinfo.jsp?pa_code=1437) | Ordovician Igneous | 12.97 | Earth sciences | Favourable Maintained | No negative pressures | 17/03/2017 |
| 1458 | [South Whiteness](http://gateway.snh.gov.uk/sitelink/siteinfo.jsp?pa_code=1458) | Saltmarsh | 81.87 | Coast | Favourable Maintained | No negative pressures | 08/10/2013 |
| Shetland mouse-ear-hawkweed (*Pilosella flagellaris* ssp *bicapitata*) | Vascular plants | Favourable Maintained | Over-grazing | 05/07/2004 |
| 1475 | [St Ninian's Tombolo](http://gateway.snh.gov.uk/sitelink/siteinfo.jsp?pa_code=1475) | Coastal Geomorphology of Scotland | 12.36 | Earth sciences | Favourable Maintained | Agricultural Operations, over-grazing, other | 22/07/2002 |
| 1508 | [Sumburgh Head](http://gateway.snh.gov.uk/sitelink/siteinfo.jsp?pa_code=1508) | Guillemot (*Uria aalge*), breeding | 39.03 | Birds | Unfavourable Declining | No negative pressures | 14/06/2017 |
| Puffin (*Fratercula arctica*), breeding | Birds | Unfavourable Declining | Climate change | 04/05/2017 |
| Seabird colony, breeding | Birds | Unfavourable Declining | Other | 11/06/2018 |
| Shag (*Phalacrocorax aristotelis*), breeding | Birds | Unfavourable Declining | Natural event | 14/06/2017 |
| Silurian - Devonian Chordata | Earth sciences | Favourable Maintained | No negative pressures | 16/07/2006 |
| 1528 | [The Ayres of Swinister](http://gateway.snh.gov.uk/sitelink/siteinfo.jsp?pa_code=1528) | Coastal Geomorphology of Scotland | 27.08 | Earth sciences | Favourable Maintained | Dumping / storage of materials | 12/12/2006 |
| 1530 | [The Cletts, Exnaboe](http://gateway.snh.gov.uk/sitelink/siteinfo.jsp?pa_code=1530) | Non-marine Devonian | 13.27 | Earth sciences | Favourable Maintained | Other | 05/09/2007 |
| Silurian - Devonian Chordata | Earth sciences | Favourable Maintained | Other | 05/09/2007 |
| 1315 | [The Punds to Wick of Hagdale](http://gateway.snh.gov.uk/sitelink/siteinfo.jsp?pa_code=1315) | Ordovician Igneous | 8.27 | Earth sciences | Favourable Maintained | No negative pressures | 26/06/2003 |
| 1679 | [The Vadills](http://gateway.snh.gov.uk/sitelink/siteinfo.jsp?pa_code=1679) | Egg wrack (*Ascophyllum nodosum ecad mackaii*) | 19.69 | Non-vascular plants | Favourable Maintained | No negative pressures | 14/08/2003 |
| Saline lagoon | Marine (including marine mammals) | Favourable Maintained | No negative pressures | 14/08/2003 |
| Tidal rapids | Marine (including marine mammals) | Favourable Maintained | No negative pressures | 14/08/2003 |
| 1539 | [Tingon](http://gateway.snh.gov.uk/sitelink/siteinfo.jsp?pa_code=1539) | Blanket bog | 569.3 | Upland habitat | Favourable Maintained | No negative pressures | 25/07/2001 |
| Breeding bird assemblage | Birds | Favourable Maintained | No negative pressures | 20/05/2009 |
| Red-throated diver (*Gavia stellata*), breeding | Birds | Favourable Recovered | Other | 09/06/2014 |
| Whimbrel (*Numenius phaeopus*), breeding | Birds | Unfavourable Declining | No negative pressures | 24/05/2013 |
| 1563 | [Tressa Ness to Colbinstoft](http://gateway.snh.gov.uk/sitelink/siteinfo.jsp?pa_code=1563) | Ordovician Igneous | 13.41 | Earth sciences | Favourable Maintained | No negative pressures | 23/11/2006 |
| 1564 | [Trona Mires](http://gateway.snh.gov.uk/sitelink/siteinfo.jsp?pa_code=1564) | Arctic tern (*Sterna paradisaea*), breeding | 151.94 | Birds | Unfavourable Declining | No negative pressures | 10/06/2016 |
| Basin fen | Wetlands | Favourable Maintained | No negative pressures | 05/09/2012 |
| Breeding bird assemblage | Birds | Favourable Maintained | No negative pressures | 09/07/2015 |
| Maritime cliff | Coast | Favourable Maintained | No negative pressures | 05/09/2012 |
| Red-necked phalarope (*Phalaropus lobatus*), breeding | Birds | Favourable Recovered | No negative pressures | 31/07/2014 |
| 1586 | [Uyea - North Roe Coast](http://gateway.snh.gov.uk/sitelink/siteinfo.jsp?pa_code=1586) | Moine | 247.77 | Earth sciences | Favourable Maintained | Other | 13/12/2006 |
| 8108 | [Valla Field](http://gateway.snh.gov.uk/sitelink/siteinfo.jsp?pa_code=8108) | Great skua (*Stercorarius skua*), breeding | 629.2 | Birds | Favourable Maintained | No negative pressures | 11/06/2013 |
| Mineralogy of Scotland | Earth sciences | Favourable Maintained | No negative pressures | 21/01/2007 |
| Red-throated diver (*Gavia stellata*), breeding | Birds | Favourable Maintained | No negative pressures | 02/07/2013 |
| 1589 | [Villians of Hamnavoe](http://gateway.snh.gov.uk/sitelink/siteinfo.jsp?pa_code=1589) | Coastal Geomorphology of Scotland | 54.4 | Earth sciences | Favourable Maintained | No negative pressures | 23/01/2013 |
| 1590 | [Virva](http://gateway.snh.gov.uk/sitelink/siteinfo.jsp?pa_code=1590) | Ordovician Igneous | 1.17 | Earth sciences | Favourable Maintained | No negative pressures | 31/08/2000 |
| 1591 | [Voxter Voe and Valayre Quarry](http://gateway.snh.gov.uk/sitelink/siteinfo.jsp?pa_code=1591) | Moine | 23.67 | Earth sciences | Favourable Maintained | No negative pressures | 11/02/2002 |
| 1594 | [Ward of Culswick](http://gateway.snh.gov.uk/sitelink/siteinfo.jsp?pa_code=1594) | Arctic skua (*Stercorarius parasiticus*), breeding | 151.39 | Birds | Unfavourable Declining | No negative pressures | 03/06/2016 |
| Whimbrel (*Numenius phaeopus*), breeding | Birds | Unfavourable Declining | No pro-active management | 02/06/2004 |
| 1686 | [Yell Sound Coast](http://gateway.snh.gov.uk/sitelink/siteinfo.jsp?pa_code=1686) | Otter (Lutra lutra) | 868.79 | Mammals (except marine) | Unfavourable No change | Game / fisheries management | 05/06/2012 |

Source: NatureScot – ([*https://sitelink.nature.scot/home*](https://sitelink.nature.scot/home)*)* - data manually extracted from site overview page

.

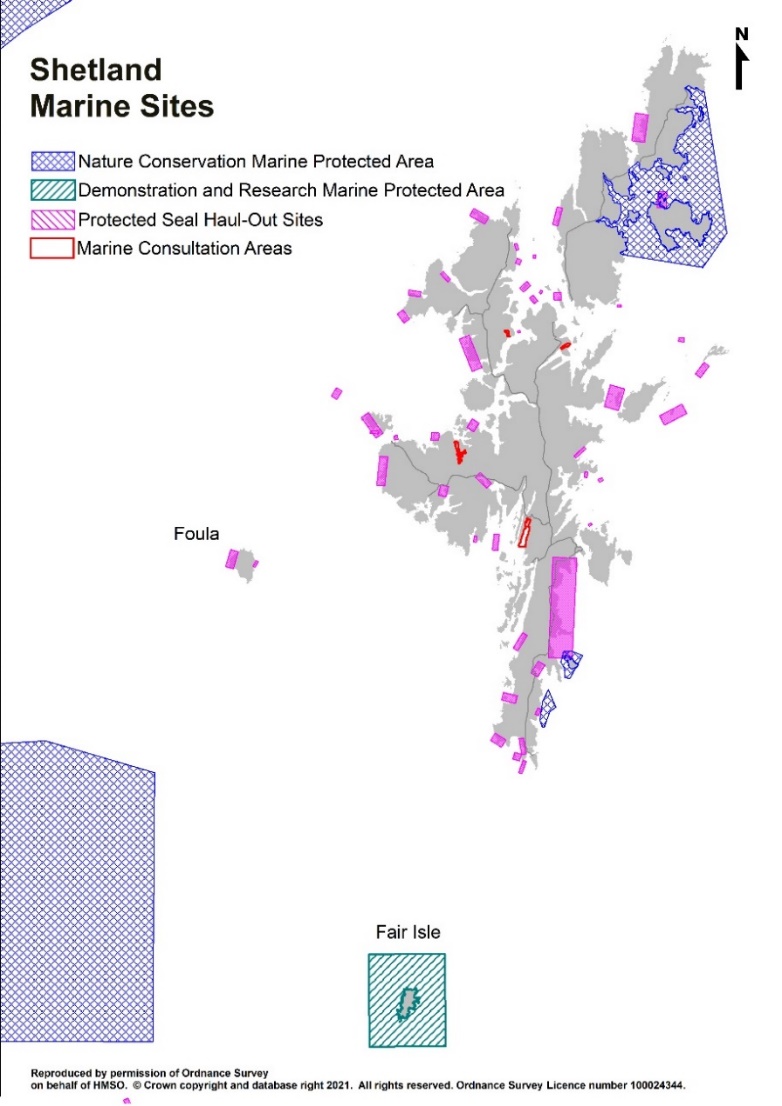
Figure 1.6 Condition of SSSI Interest Features

Source: NatureScot – ([*https://sitelink.nature.scot/home*](https://sitelink.nature.scot/home)*)* - data manually extracted from site overview page.

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**Figure 1https://sitelink.nature.scot/map**

Figure 1.7 Nature Conservation Marine Sites in Shetland (not including SACs or SPAs)

**

Source: Marine Scotland – ([*https://marine.gov.scot/*](https://marine.gov.scot/)).

**Marine Protected Areas (MPAs)**

MPAs are recognised globally as one way to support our marine environment. A well-managed network of MPAs will protect important marine habitats and species, deliver benefits for our marine environments, support coastal communities, help sustain marine industries, and provide for recreational uses. Developing a network of MPAs in Scotland is part of a wider strategy to achieve the Government's commitment to a 'clean, healthy, safe, productive and biologically diverse marine and coastal environment that meets the long term needs of people and nature'. MPAs include marine SACs and the marine parts of SPAs and SSSIs.

In addition there are areas designated as MPAs under the Marine (Scotland) Act 2010. There are two Nature Conservation MPAs (NCMPAs) in Shetland designated to conserve important marine, wildlife, habitats and geodiversity and a Demonstration and Research MPA (DRMPAs) around Fair Isle designated for the purposes of both demonstration of sustainable methods of marine management or exploitation and research into such matters. At the current time this is the only Demonstration and Research MPA in Scottish waters. The location of these can be viewed in ***Figure 1.7****.* The MPAs, their name and features are listed in ***Table 1.6.*** There are also two Historic MPAs (HMPAs) and these are included under Topic 8.

Table 1.6 – Nature Conservation and Demonstration and Research Marine Protected Areas in Shetland

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Site Code** | **Name** | **Type** | **Feature Category** | **Feature / Objectives** | **Total Area (ha)** |
| 10409 | [Fetlar to Haroldswick](https://sitelink.nature.scot/site/10409) | Nature Conservation MPA | Biodiversity | Black guillemot (*Cepphus grille*) | 21600 |
| Circalittoral sand and coarse sediment communities |
| Horse mussel (*Modiolus modiolus*) beds |
| Kelp and seaweed communities on sublittoral sediment |
| Maerl beds |
| Shallow tide-swept coarse sands with burrowing bivalves |
| Geodiversity | Marine Geomorphology of the Scottish Shelf Seabed |
| 10410 | [Mousa to Boddam](https://sitelink.nature.scot/site/10410) | Nature Conservation MPA | Biodiversity | Sand eels (*Ammodytes marinus / Ammodytes tobianus*) | 1300 |
| Geodiversity | Marine Geomorphology of the Scottish Shelf Seabed |
| 10499 | [Fair Isle](https://sitelink.nature.scot/site/10499) | Demonstration & Research MPA | Objective | To conduct robust research on population decline of seabirds | 15,684.01 |
| Objective | To demonstrate the social and economic value of a healthy marine environment to the Fair Isle community and others |
| [10451](https://sitelink.nature.scot/site/10451) | North West Orkney | Nature Conservation MPA | Geomorphology | Marine Geomorphology of the Scottish Shelf Seabed | 436,500 |
| Fish | Sand eels (*Ammodytes marinus / Ammodytes tobianus)* |
| [10446](https://sitelink.nature.scot/site/10446) | Faroe-Shetland Sponge Belt | Nature Conservation MPA | Large-scale feature | Continental Slope | 527,800 |
| Offshore sublittoral sediment (marine) | Deep Sea sponge aggregations |
| [10450](https://sitelink.nature.scot/site/10450) | North-east Faroe Shetland Channel | Nature Conservation MPA | Structural and metamorphic geology | Cenozoic Structures of the Atlantic Margin | 236,800 |
| Large-scale feature (Marine) | Continental slope |

Source: NatureScot – ([*https://sitelink.nature.scot/home*](https://sitelink.nature.scot/home)*)* – data manually extracted from site overview page.

**Seal Haul-Out Sites**

The protection of Seals (Designated Seal Haul-out Sites) (Scotland) Order 2014 under section 117 of Marine (Scotland) Act 2010 introduces additional protection for seals at designated haul-out sites. These are locations on land where seals come ashore to rest, moult or breed. Harassing a seal (intentionally or recklessly) at a haul-out site is an offence. This offers protection to seals on land, where they are at their most vulnerable.

There are 46 designated seal haul out sites around the coast of Shetland. The majority of the sites are designated as general haul out sites for both grey (*Halichoerus grypus*) and common / harbour seals (*Phoca vitulina*) but four sites; Uyea, Ronas Voe, Papa Stour and Dale are identified specifically as breeding colony seal haul outs for grey seals (*Halichoerus grypus*).

* Non-Statutory Designations

**Marine Consultation Areas**

Shetland also has 4 Marine Consultation Areas (MCAs) again shown in ***Figure 1.7***. These Areas are identified by NatureScot as deserving particular distinction in respect of the quality and sensitivity of the marine environment within them. Their selection encourages coastal communities and management bodies to be aware of marine conservation issues in the area. MCAs are listed in ***Table 1.7***. Two of these sites are fully within areas which have been designated as SACs, SPAs and / or SSSIs however, Whiteness Voe and the northern section of Brindister Voe and the Vadills are not covered by any other designation.

Table 1.7 – Marine Consultation Areas in Shetland

|  |  |
| --- | --- |
| **Site** | **Description** |
| Brindister Voe and the Vadills | Brindister Voe includes communities representative of Shetland voes in general. The Vadills comprises the most complex and least disturbed lagoon system in Shetland, unique in the British Isles |
| Swinister Voe and the Houb of Fora Ness | Swinister Voe is included because of its rich lower shore fauna and flora. The Houb contains communities characteristic of shallow, submerged, extremely sheltered conditions. The gravel rapids community is probably the best such example in Shetland |
| The Houb, Fugla Ness | The site contains extensive areas of sediment shores, (unusual in Shetland), as well as more widespread boulder/shingle shores |
| Whiteness Voe | The bay at the head of the Voe is of high scientific interest because it contains the best-developed bed of eel grass in Shetland and because the rich sediments include both widely occurring and rare communities and species |
| Source: *Marine Scotland – (*<https://marine.gov.scot/>*)* – data manually extracted. | |

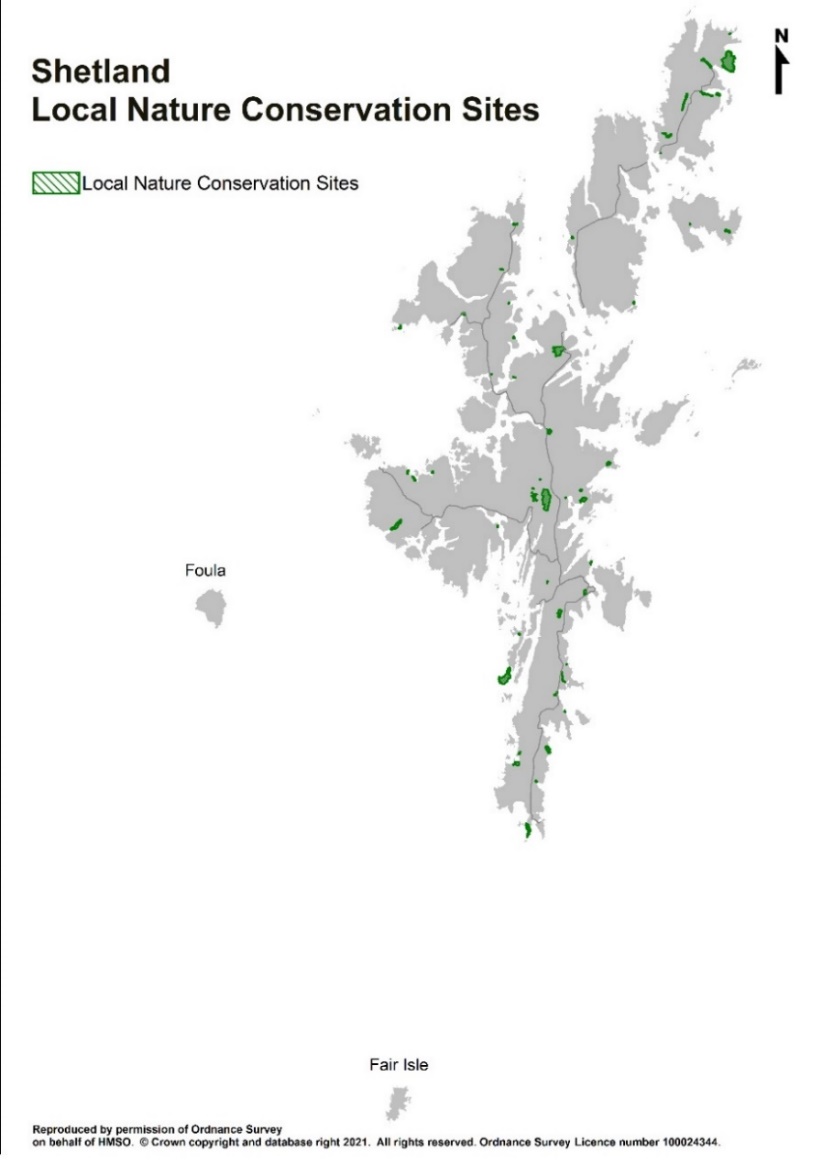
**Local Nature Conservation Sites (LNCS)**

LNCS are non-statutory sites, identified by Shetlands Islands Council as having biodiversity and / or geodiversity features of interest significant at a Shetland level. LNCS are not statutory designations but receive protection through planning policy. They help to highlight sites with important natural heritage to developers and the Council. There are currently 49 LNCS in Shetland they were adopted as Supplementary Guidance to the first LDP in 2015, with another 4 sites that have been surveyed and recorded as important but not yet formally adopted. The location of the LNCS is shown in ***Figure 1.8*** and information on the individual sites is in ***Table 1.8***.

Although not strictly designated sites there are a number of RSPB Scotland Nature Reserves in Shetland including 4 public sites; Sumburgh Head, Mousa, Fetlar and Loch of Spiggie. These all encompass areas of statutory designation, with Sumburgh Head designated as a SPA and SSSI, Mousa a SPA, SAC and SSSI, Fetlar a SPA and SSSI and the Loch of Spiggie a SPA and SSSI.

All of the reserves are known for their outstanding bird life, specifically; Sumburgh Head for its seabird colonies, Mousa for its Storm Petrels, Fetlar for the Red necked phalarope and Loch of Spiggie for Whooper Swans. RSPB Scotland also has a number of private management agreements on undesignated sites for conservation management of the land.

Figure 1.8 Local Nature Conservation Sites in Shetland

**

*Source: SIC*

Table 1.8 Local Nature Conservation Sites in Shetland

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Site Name** | **Primary Interest** | **Summary Condition** | **Comment** | **Visit Date** |
| Scousburgh Beach | Habitat | Favourable |  | 2019 |
| Scatness | Geology\* | Favourable | some fly-tipping | 2019 |
| Burn of Laxdale | Species | Favourable | meadow ploughed | 2017 |
| Loch of Voe | Species | **Unfavourable** | Key interest feature*, Potamogeton alpinus* not found in 2014, 2016 or 2017. Possibly extinct? No clear reason why. | 2017 |
| Boddam Voe | Species | Favourable following recent management | Illegal fly-tipping resulting in eutrophication and increase in competitive vegetation. Now cleared. | 2017 |
| Burn of Ukinsetter | Species | Favourable | but the endemic hawkweed, *Hieracium difficile* is in decline | 2017 |
| Levenwick Marshes | Species | Favourable |  | 2016 |
| Burn of Northdale | Species | Favourable |  | 2016 |
| Long Ayre & The Wadill | Species | Favourable |  | 2019 |
| Ollaberry Meadow | Habitat | **Unfavourable** | Over-grazing | 2017 |
| Semblister | Species | Favourable | but the endemic hawkweed *Hieracium amaurostictum* is in decline | 2017 |
| Baltasound | Species | Favourable |  | 2016 |
| Burn of Mailand | Species | Favourable |  | 2016 |
| Haroldwick Mires | Species | Favourable | Recovered after drainage | 2018 |
| Lochs of Bordastubble & Stourhoull | Species | Favourable |  | 2019 |
| Skeo Taing | Habitat | Favourable | some parts of site under-grazed and possible eutrophication | 2018 |
| Burn of Setter | Species | Favourable |  | 2019 |
| Voe of Snarraness | Species | Favourable | Two of the endemic hawkweeds (*Hieracium northroense* & *Hieracium zetlandicum*) in decline | 2017 |
| West Burrafirth | Species | Favourable |  | 2018 |
| Clickimin Loch | Habitat | **Unfavourable** | poor water quality | 2018 |
| Loch of Kirkabister | Species | Favourable | water levels still low following drainage | 2019 |
| Leebitten Intertidal | Habitat | Favourable |  | 2016 |
| Kettlaness | Species | Favourable |  | 2019 |
| Ladies Hole | Species | Favourable |  | 2016 |
| Stenness | Geology\* | Favourable |  | 2018 |
| Wick of Skaw | Geology | Favourable |  | 2016 |
| Belmont Quarry | Geology | Favourable |  | 2016 |
| West Sandwick | Habitat | Favourable | silage being fed on site | 2018 |
| Haggrister quarry | Geology | Favourable |  | 2016 |
| Meal Beach | Species | **Unfavourable** | part of site requires grazing | 2019 |
| Rerwick Reed Bed | Habitat | Favourable |  | 2019 |
| Lang Lochs | Habitat | Favourable | peatland restoration site | 2019 |
| Loch of Benston | Species | **Unfavourable** | Wildfowl numbers have decreased since housing erected close to loch in 2014. Further housing proposed. | 2018 |
| Burn of Twa Roes | Species | Favourable |  | 2018 |
| Glums Meadow | Habitat | Favourable |  | 2018 |
| Bousta Cliffs | Species | Favourable | Two of the endemic hawkweeds (*Hieracium* species) in decline | 2017 |
| Loch & Mires of Funzie | Species | Favourable |  | 2019 |
| Kergord | Habitat | Favourable |  | 2019 |
| Voxter Wood | Habitat | Favourable | low conservation value | 2016 |
| Tingwall Meadow | Habitat | Favourable | Requires grazing management | 2018 |
| Bordigarth | Species | Favourable | Whimbrel (*Numenius phaeopus*) population declining | 2017 |
| Skuron | Species | Favourable | Whimbrel (*Numenius phaeopus*) population declining | 2017 |
| Catfirth | Species | **Unfavourable** | under-grazing, no fruiting fungi for 4 years. | 2017 |
| Grunna Water | Species | Favourable |  | 2019 |
| Catpund | Geology\* | Favourable |  | 2016 |
| Maggie Kettle’s Loch | Geology | Favourable |  | 2016 |
| South Bight Rova Head | Geology | Favourable |  | 2016 |
| Clibberswick Cross Geo | Geology | Favourable |  | 2016 |
| Hill of Clibberswick | Species | Favourable |  | 2016 |

*Source: SIC*

At the time of selection all sites were considered to be in favourable condition. When site documentation was completed in 2016 part of this process included an updated assessment of site condition – either favourable or unfavourable. Monitoring of sites commenced in 2017 and continued through 2018 and 2019; it is proposed to monitor the majority of sites on a five-yearly cycle, although a different monitoring cycle has been agreed for some sites.

It should be noted that the decision as to whether to assess an LNCS as favourable or unfavourable is made based on whether the site is capable of maintaining the features of key interest, rather than whether those key interests themselves are assessed as being in favourable condition or not. Therefore a site where the agricultural management was having an adverse impact on the key interest(s) of the site would result in an assessment of unfavourable. Conversely, a site where the management was appropriate to maintain the key interest(s), but, those key interest(s) were in decline because of factors operating outwith the site, may still be assessed as being in favourable condition. This is an important point as it explains what might otherwise appear to be inconsistencies between the use of the terms favourable and unfavourable in the ***Table 1.8*** above.

Six (12.2%) of the 49 LNCS are in unfavourable condition, while the rest are in favourable condition key features at 8 of them are in unfavourable condition. Although there are no obvious signs of negative management having adverse impacts of any of these (three endemic hawkweed sites, one invertebrate site and four sites with Schedule 1 breeding birds.

* Important Species and Habitats

**Protected Species**

It will be important to consider the effects of any proposals on species that benefit from legal protection. European protected species are given a high level of protection under Council Directive 92/43/EEC on the Conservation of Natural Habitats and of Wild Fauna and Flora. This is transposed into UK law by The Conservation (Natural Habitats &c) Regulations 1994.

Species that are protected under this legislation and present in Shetland or its inshore waters include otter and cetaceans. Since 1980, eighteen species of cetacean have been recorded along the coast or in nearshore waters (within 60 km of the coast). Of these, eight species (29% of the UK cetacean fauna) are either present throughout the year or recorded annually as seasonal visitors, these include the humpback whale (*Megaptera novaeangliae*), minke whale (*Balaenoptera acutorostrata*), long-finned pilot whale (*Globicephala melas*), killer whale (*Orcinus orca*), risso’s dolphin (*Grampus griseus*), white-beaked dolphin (*Lagenorhynchus albirostris*), Atlantic white-sided dolphin (*Lagenorhynchus acutus*) and harbour porpoise (*Phocoena phocoena*).

It is illegal to disturb any of these species without a license from the Scottish Government. It order for a licence to be granted the applicant must demonstrate that the licensable purpose relates to one set out in regulation 44(2) of the Conservation (Natural Habitats &c.) Regulations 1994 (as amended), demonstrate that no reasonable alternative exists and that proposals would not be detrimental to maintaining the species at favourable conservation status. Scottish Planning Policy requires that the presence (or potential presence) of a legally protected species is factored into the planning and design of development proposals and that any impacts on protected species are fully considered prior to the determination of planning applications.

A number of animal and plant species are protected under the Wildlife and Countryside Act 1981 as amended by the Nature Conservation (Scotland) Act 2004. Species protected under the Wildlife and Countryside Act 1981 which occur in Shetland are shown in ***Table 1.9***. The birds listed under schedule 1 are those which regularly nest in Shetland, a number of species which have very infrequent recorded nesting attempts, such as common scoter (*Melenitta nigra*), ruff (*Philomachus pugnax*) and Slavonian grebe (*Podiceps auritus*) are not included. Of the species listed some are relatively rare and restricted in their distribution across Shetland, such as fresh water pearl mussel (*Margaritifera margaritifera*) while others, such as the otter (*Lutra lutra)*, are widespread and relatively common.

The EU Birds Directive also requires steps to be taken to protect birds outwith designated sites. Article 4.4 requires Member States to strive to avoid pollution or deterioration of the habitat of species listed in Annex 1 of the Directive. While EU Directives no longer have legal standing in the UK following Brexit, the Conservation (Natural Habitats, &c.) Regulations, usually referred to as the Habitats Regulations, are UK legislation and still apply and these require the UK to achieve the aims of the EU Birds Directive. ***Table 1.10*** lists the Annex 1 species which regularly nest in Shetland. Short-eared owl (*Asio flammeus*) is on Annex 1 but the only breeding record for Shetland is from 2019 so it is not included in the table. Several other Annex 1 species occur as migrant or wintering birds (e.g. brambling (*Fringilla montifringilla*) and long-tailed duck (*Clangula hyemalis*)). The SEA must therefore consider the effects of the Climate Change Strategy on the habitat of Annex 1 species outwith designated sites both for breeding and wintering habitat of the species regularly found in Shetland.

Table 1.9 – Nationally Protected Species occurring in Shetland

|  |  |
| --- | --- |
| **Wildlife & Countryside Act 1981 (as amended)** | **Species** |
| Schedule 1 – Breeding Birds | 1. Black-tailed Godwit (*Limosa limosa*)1 2. Greenshank (*Tringa nebularia*)2 3. Leach’s petrel (*Oceanodroma leucorhoa*) 4. Merlin (*Falco columbarius*) 5. Peregrine falcon (*Falco peregrinus*)3 6. Red-necked phalarope (*Phalaropus lobatus*) 7. Red-throated diver (*Gavia stellata*) 8. Whooper swan (*Cygnus cygnus*) 9. Whimbrel (*Numenius phaeopus*) |
| Schedule 5 - other animals | * Basking Shark (*Cetorhinus maximus*) * Cetaceans (all species of dolphin, porpoise and whale) * Freshwater pearl mussel (*Margaritifera margaritifera*) * Mountain Hare (*Lepus timidus*) * Otter (*Lutra lutra*) |
| Schedule 8 - plants | * North Roe hawkweed (*Hieracium northroense*) * Norwegian sandwort (*Arenaria norvegica*) * Shetland Hawkweed (*Hieracium zetlandicum*) * Weak-leaved hawkweed (*Hieracium attenuatifolium*) |

*1 Used to breed regularly and still seen annually in breeding areas and could easily start breeding again. (SRBC, Pers Comm)*

*2Believed to breed annually on North Roe plateau but this has not been confirmed. (SRBC, Pers Comm)*

*3Bred annually until the recently. Still regularly recorded summering and could start to breed again. (SRBC, Pers Comm)*

Table 1.10 – Birds Directive Annex 1 Species nesting in Shetland

|  |
| --- |
| **Annex 1 Species nesting in Shetland** |
| * Arctic Tern (*Sterna paradisaea*) * Common tern (*Sterna hirundo*) * Dunlin (*Calidris alpine schinzii*) * Golden Plover (*Pluvialis apricaria*) * Leach’s petrel (*Oceanodroma leucorhoa*) * Merlin (*Falco columbarius*) * Peregrine falcon (*Falco peregrinus*) * Red-necked phalarope (*Phalaropus lobatus*) * Red-throated diver (*Gavia stellata*) * Storm petrel (*Hydrobates pelagicus*) * Whooper swan (*Cygnus cygnus*) * Wren (Fair Isle subspecies) (*Troglodytes troglodytes fridariensis*) |

**Priority Habitats and Species**

The Nature Conservation (Scotland) Act 2004 places an obligation on all public bodies to further the conservation of biodiversity, particularly in respect of habitats and species listed in the Scottish Biodiversity List (SBL). The SBL is a list of flora, fauna and habitats considered by the Scottish Ministers to be of principal importance for biodiversity conservation in Scotland. The list includes many species and habitats, both terrestrial and marine, which occur in Shetland. More information on the list and the various categories for action can be found at <https://www.nature.scot/scotlands-biodiversity/scottish-biodiversity-strategy/scottish-biodiversity-list>.

As part of the ‘*Living Shetland draft Local Biodiversity Action Plan’*, priority habitats and species have been identified. Priority habitats include roadside verges, machair, herb-rich meadows, wet meadows and arable crops. In some cases, habitat action plans have been developed. ***Table 1.11*** lists the priority species for which specific action plans have been developed.

Table 1.11 – Species Action Plans for Shetland

|  |  |
| --- | --- |
| **Species Action Plans** | **Species/Habitats Action Plans** |
| Arable Birds | Arable Plants |
| Arctic Char (*Salvelinus alpinus*) | Breeding waders |
| Bumblebees | Eider Duck (*Somateria mollissima*) |
| Freshwater | Harbour Porpoise (*Phocoena phocoena*) |
| Hawkweeds | Merlin (*Falco columbarius*) |
| Oysterplant (*Mertensia maritima*) | Red-necked phalarope (*Phalaropus lobatus*) |
| Red-throated diver (*Gavia stellata*) | Skylark (*Alauda arvensis*) |
| Strandline | Ungrazed Areas |
| Woodlands | Source: SIC |

* Current Monitoring

Since 2008 SIC have contracted the Shetland Amenity Trust (SAT) to undertake monitoring of various biodiversity indicators. The selection of appropriate biodiversity indicators was selected on the basis of existing monitoring programmes determined due to funding restrictions. It is important to note that the trends identified have not been subject to rigorous statistical analyses.

These biodiversity indicators currently cover rare plants, seabirds, waders, birds, songbirds, Otters and Grey Seals. The species selected are either rare in a national context (plants) or present in Shetland in nationally important numbers (all others).

**Rare Plants** – A total of 60 species of rare plant have been identified and are monitored on a rolling, five-year schedule, with approximately 12 species covered each year. Each species is rated as ‘favourable’ (increasing or stable) or ‘unfavourable’ (in decline). Where a species is judged to be in decline, or a site holding a key species is at risk, discussions may be undertaken with relevant bodies to try to resolve the issues in order to safeguard that plant/site’s future.

Table 1.12 Rare Plant Status in 2019

|  |  |  |  |
| --- | --- | --- | --- |
| **Species** | **Status** | **Last Survey** | **Comment** |
| *Hammarbya paludosa* | Favourable | 2016 | Stable, four new colonies found. |
| *Carex aquatilis* | Favourable | 2015 | Stable |
| *Sparganium natans* | **unfavourable** | 2018 | Not located 2017 or 2018 |
| *Salicornia europaea* | Favourable | 2015 | Stable |
| *Suaeda maritima* | Favourable | 2015 | Stable |
| *Asplenium viride* | Favourable | 2015 | Stable |
| *Arenaria norvegica ssp. Norvegica* | Favourable | 2015 | Stable |
| *Cerastium nigrescens* | Favourable | 2015 | Stable after decline |
| *Arabis petraea* | Favourable | 2015 | Stable, increase in places |
| *Juncus triglumis* | **Unfavourable** | 2018 | Possible decrease and then not located in 2018 |
| *Gymnadenia conopsea* | Favourable | 2017 | Lower count in 2017 after high counts in 2015 & 2016 |
| *Carex diandra* | Favourable | 2015 | Stable |
| *Hieracium lissolepium* | **Unfavourable** | 2017 | Searched for in 2017 and 2018 Probably extinct |
| *Gentianella amarella ssp. septentrionalis* | Favourable | 2016 | Stable, mixed fortunes at key colonies |
| *Odonitites vernus ssp. littoralis* | Favourable | 2016 | Doing well at most sites. New sub-colonies found but some small colonies lost |
| *Carex maritima* | Favourable | 2018 | Stable. |
| *Pilosella flagellaris ssp. bicapitata* | Favourable | 2016 | Stable |
| *Sedum anglicum* | Favourable | 2016 | Stable |
| *Briza media* | Favourable | 2018 | Stable |
| *Orchis mascula* | Favourable | 2016 | Stable, a good year |
| *Papaver dubium* | **Unfavourable** | 2016 | Decline |
| *Viola arvensis* | **Unfavourable** | 2016 | No recent records |
| *Arctium nemorosum* | Favourable | 2018 | Recent decline but located at two new sites in 2018 |
| *Euphorbia helioscopia* | Favourable | 2016 | Stable |
| *Gnaphalium sylvaticum* | **Unfavourable** | 2016 | Decline, but hanging on |
| *Osmunda regalis* | Favourable | 2018 | Stable. Located at 6 of 7 sites checked in 2018 and doing well at 5 of these. |
| *Betula pubescens ssp. carp* | Favourable | 2018 | Stable |
| *Corylus avellana* | Favourable | 2018 | Only one specimen left |
| *Malus sylvestris* | Favourable | 2017 | Remaining specimen flourishing |
| *Salix lapponum* | Favourable | 2018 | Doing well at only site |
| *Populus tremula* | Favourable | 2018 | Flourishing at some sites |
| *Hieracium difficile* | **Unfavourable** | 2018 | Declining |
| *H. attenuatifolium* | Favourable | 2016 | Stable |
| *H. amaurostictum* | Favourable | 2017 | Recovery after decline |
| *H. scottii* | Favourable | 2017 | Decline |
| *H. northroense* | **Unfavourable** | 2010 | Decline |
| *Loiseleuria procumbens* | Favourable | 2019 | Stable |
| *Alchemilla alpina* | Favourable | 2019 | Stable |
| *Saussurea alpina* | Favourable | 2018 | Present at all three sites |
| *Juncus trifidus* | Favourable | 2016 | Stable |
| *Luzula spicata* | Favourable | 2016 | Stable, new site found |
| *Melampyrum pratense* | Favourable | 2019 | Stable, doing well |
| *Drosera anglica* | Favourable | 2018 | Stable |
| *Cornus suecica* | Favourable | 2018 | Stable at its three sites, new sub colony found on Foula. |
| *Lycopodium clavatum* | Favourable | 2018 | Stable. Present at 6 of 8 sites checked, refound at another and 3 new sites. |
| *Atriplex littoralis* | Favourable | 2017 | Slight decrease in extent |
| *Geranium robertianum* | Favourable | 2018 | Recovery following management and translocation |
| *Mertensia maritima* | Favourable | 2018 | Stable. Located at 10 sites in 2018. |
| *Nymphaea alba ssp. occidenatlis* | Favourable | 2019 | Stable, doing well at native sites |
| *Elatine hexandra* | Favourable? | 2016 | Assumed stable |
| *Subularia aquatica* | Favourable? | 2016 | Assumed stable |
| *Myriophyllum spicatum* | Favourable? | 2014 | possible decline |
| *Potomageton rutilus* | Favourable | 2016 | Stable |
| *Potamogeton alpinus* | **Unfavourable** | 2017 | Not found 2014, 16 or 17 |
| *Potamogeton freisii* | Favourable | 2015 | Possibly increasing, new sites |
| *Berula erecta* | Favourable | 2019 | Stable |
| *Eleocharis acicularis* | Favourable? | 2017 | Stable |
| *Bolboschoenus maritimus* | Favourable | 2019 | Stable, doing well |
| *Catabrosa aquatica* | Favourable | 2015 | Stable |
| *Sparganium erectum* | **Unfavourable** | 2019 | Increasing at translocated site, extinct at native site. |

Of the 60 species monitored, 50 (83.3%) are assessed as being in favourable condition and 10 as in unfavourable condition; five of these have not been recorded during recent searches. One species extinct at its native sites is doing well at a site to which it was translocated.

**Sea Birds** – Nine species of seabird were selected as Shetland holds nationally important breeding populations (> 1% UK total) and they are currently subject to existing monitoring schemes. Monitoring of these species is generally undertaken at selected monitoring (sample) sites on an annual basis, with occasional Shetland-wide surveys for some species. Monitoring sites include Special Protection Areas (SPAs) or sample plots at other colonies.

Each species is rated as ‘favourable’ or ‘unfavourable’. If the breeding population at monitored sites has not fallen to a level 20% below that recorded in 2010, or the most up-to-date survey prior to this date, then the species is considered to be in favourable condition. If the population drops below this mark, the species is considered to be unfavourable. In determining current population levels for these species at monitored sites, a five-year rolling mean (FYRM) is used.

Although some of seabird species are showing some signs of a recovery, at least at some colonies, it is important to note that their populations are at much lower levels than the 1980s/1990s.

Table 1.13 Seabirds in Shetland 2019

|  |  |  |
| --- | --- | --- |
| **Species** | **Status** | **Comment** |
| Fulmar (*Fulmarus glacialis*) | Favourable | 2019 was another better year and numbers now just 5% lower at monitored plots since 2010 (based on FYRM) |
| Gannet (*Morus bassanus*) | Favourable | Census on Noss indicates 16% increase since 2014 and corresponding increase of 17% on Fair isle over same period. Suggests sustained increase in population |
| Shag (*Phalacrocorax aristotelis*) | **Unfavourable** | The slight recovery at large colony on Foula noted in 2018 was also shown at several other stretches of coastline but population still ca. 40% fewer than in 2010 |
| Arctic Skua (*Stercorarius parasiticus*) | **Unfavourable** | Decline continues – over 60% decline at monitored plots since 2010. |
| Great Skua (*Stercorarius skua*) | Favourable | Large colonies appear stable with indications that smaller colonies continue to increase. |
| Kittiwake (*Rissa tridactyla*) | **Unfavourable** | Some signs that long term decrease may be arrested but population still a fraction of that present in 2010, and significant decline has been evident since the early 1980s. |
| Arctic Tern (*Sterna paradisaea*) | **Unfavourable** | 2018 and 2019 appeared to be better years, although we still await collation of data from Shetland-wide survey. Still considerably fewer than 2010 at monitored colonies. |
| Guillemot (*Uria aalge*) | Favourable | Sustained increased in attendance at monitored plots in last five years means FYRM now within 10% of that for 2006-10. Colony count at Sumburgh Head highest this decade |
| Black Guillemot (*Cepphus grille*) | Favourable | Population appears to be relatively stable |

Populations of Shetlands ‘true’ seabird species are generally being impacted by factors outwith local control. Notably an increase in sea temperature which is having knock on effects on the food chain, reducing the availability of sandeels.

Although some of seabird species are showing some signs of a recovery, at least at some colonies, it is important to note that their populations are at much lower levels than the 1980s/1990s. Populations of our ‘true’ seabird species are generally being impacted by factors outwith local control. Notably an increase in sea temperature which is having knock on effects on the food chain, reducing the availability of sandeels.

**Red-throated Diver (*Gavia stellata*)** – Shetland holds approximately one third of the UK’s breeding population of Red-throated Divers. The species’ breeding population and breeding success is monitored at a series of sample sites on an annual basis. This species will be considered ‘unfavourable’ if the breeding population decreases to 10% below the levels recorded in 2010, across all monitored sites. Scored as favourable at the 2019 monitoring after a poor year previously.

**Common Eider (*Somateria mollissima*)** – Shetland holds approximately 5% of the UK’s breeding population of Eiders. Eiders in Shetland are however, recognised as being a genetically distinct and separate from the rest of the UK population. The species is best monitored by undertaking counts of moulting birds around Shetland in late summer. The species will be considered unfavourable if the moulting population recorded in the 2009 Shetland-wide census decreases by 20%.

Although 2019 count was not quite complete it suggested a further decrease in the Shetland-wide population. The 2019 count was around 37% lower than that in 2009 and therefore remains unfavourable.

**Wading Birds** – Eight species of wader, were selected, as with seabirds, Shetland holds nationally important breeding populations (> 1% UK total) of these species. Six of the species are covered by Shetland Breeding Bird Survey (BBS) and are rated as ‘favourable’ or ‘unfavourable’. If the FYRM number of pairs per square does not decrease by more than 20% from the mean number of breeding pairs per monitored square for the period 2002 – 2006, then the species is considered to be in favourable condition. If this index does drop by more than 20%, the species is considered to be unfavourable. Two species are monitored differently, the number of male Red-necked Phalaropes (*Phalaropus lobatus*) is monitored annually at all breeding sites by the RSPB. The species will be considered to be in unfavourable status if the number of males recorded decreases from 2008 levels by more than 20%. While whimbrel (*Numenius phaeopus*) are currently monitored on an ad hoc basis at sample sites. The species is currently in unfavourable status, having declined from 480 pairs in the early 1990s to approximately 300 in 2010. To gain favourable conservation status, the population at monitored sites should increase to 10% above the levels in 2010-2013.

The survey results suggest a recovery in some wader populations in the last 3-5 years. Although more detailed statistical analysis would be required to confirm the significance of this.

Table 1.14 Wading Birds in Shetland 2019

|  |  |  |
| --- | --- | --- |
| **Species** | **Status** | **Comment (comments based on FYRM)** |
| Oystercatcher (*Haematopus ostralegus*) | Favourable | Seems stable after possible decline in 2000s; 11% below 2002-2006 baseline. |
| Golden Plover (*Pluvialis apricaria*) | **Unfavourable** | BBS suggests decline since early 2000s, although apparently stable in last few years. Still over 35% lower than 2002-2006 baseline. Note though, species not well represented in survey due to limited sampling of favoured habitat |
| Lapwing (Vanellus vanellus) | **Unfavourable** | The fourth better year in succession but still 23% less than 2002-2006 baseline |
| Snipe (*Gallinago gallinago*) | Favourable | Suggestion of recovery in last five years bringing total close to 2002-2006 baseline |
| Curlew (*Numenius arquata*) | Favourable | BBS suggests stable after decline, now less than 10% lower than 2002-2006 baseline |
| Redshank (*Tringa totanus*) | Favourable | BBS suggests population recovering, after decline, now just 7.5% lower than 2002-2006 baseline |
| Whimbrel (*Numenius phaeopus*) | **Unfavourable** | BBS suggests 80% decline since 2002-2006 but sample size very small. Significant decreases at two LNCS in last 5 years also suggests decline. |
| Red-necked Phalarope (*Phalaropus lobatus*) | Favourable | Although 2019 was not as good as recent years the number of breeding males was still well above levels in the 2000s. |

**Song Birds** – The seven species of songbird were selected because Shetland holds nationally important breeding populations (> 1% UK total), with the exception of Blackbird (*Turdus merula*), which was chosen because it is used as a national indicator. In addition, the Fair Isle subspecies of Wren is monitored annually by Fair Isle Bird Observatory (FIBO).

These species are monitored annually through Shetland’s Breeding Bird Survey. Each of the six species covered by BBS is rated as ‘favourable’ or ‘unfavourable’. If the FYRM number of breeding pairs per square does not decrease by more than 20% from the mean number of breeding pairs per monitored square for the period 2002 – 2006, then the species will be considered to be in favourable condition. This same system applies to the Fair Isle Wren (*Troglodytes troglodytes fridariensis*), but the whole population is monitored every year.

Table 1.15 Songbirds in Shetland 2019

|  |  |  |
| --- | --- | --- |
| **Species** | **Status** | **Comment** |
| Skylark ((*Alauda arvensis*)) | Favourable | Seems stable after suggested decline in mid 2000s; now 18% below 2002-2006 baseline |
| Rock Pipit (*Anthus petrosus*) | **Unfavourable** | Suggestion of slight recovery in last 4-5 years, but BBS indices still 40% lower than 2002-2006 baseline. |
| Fair Isle Wren (*Troglodytes troglodytes fridariensis*) | Favourable | Population continues to fare well. |
| Shetland Wren (*Troglodytes troglodytes zetlandicus*) | Favourable | Recovery complete after severe winter in 2009/10 and highest number of pairs per square recorded in 2019; now nearly 30% higher than 2002-2006 baseline. |
| Wheatear (*Oenanthe oenanthe*) | **Unfavourable** | Appears to be in decline, BBS suggests around 30% decline since 2002-2006 baseline |
| Twite (*Carduelis flavirostris*) | Favourable | BBS suggests population stable, but sample size too small to draw meaningful conclusions |
| Starling (*Sturnus vulgaris*) | Favourable | BBS suggests population higher than 2002-2006 baseline |
| Blackbird (*Turdus merula*) | Favourable | Increase continues and population over 50% higher than 2002-2006 baseline, probably due to increase in gardens. |

The majority of songbirds (6 out of 8) are in a favourable status.

**European Otter (*Lutra lutra*)** – Six stretches of coast are surveyed for active holts on an annual basis. The species is considered to be in favourable conservation status if the FYRM number of active holts at monitored sites does not drop by more than 20% from the mean number recorded between 2010-2014. The most recent data (SAT, 2020) suggests that the population is likely to be stable.

**Grey Seal (*Halichoerus grypus*)** – Shetland holds approximately 2% of the UK grey seal population and around 10% of the UK common/harbour seal population.

Pupping productivity of Grey Seals is monitored annually (usually involving 3 visits) along selected stretches of coastline by Scottish Natural Heritage, with assistance from other organisations. Grey seals are assumed to be in favourable conservation status if the FYRM number of pups, along monitored coastlines, does not fall by more than 20% from the mean 2004-2008 levels. The number of pups recorded is either stable or showing a slight decline, however, there is a suggestion that there is a general decline in the number of pups at some monitored sites.

Common Seals (*Phoca vitulina*) are monitored periodically by the Sea Mammal Research Unit (SMRU). This involves counts of moulting animals.

* Key Messages

There are a number of designated sites across Shetland, from local to national and international importance. Unfortunately a significant number of the designated sites (or at least one of their interest features) are in unfavourable condition due to variety of pressures. For land based sites the most common of these is over-grazing. For SPAs (sites designated for protection of birds) the most common pressures include natural events, game and fisheries management and climate change, with the impact of avian influenza currently unclear. Given the importance of Shetland for seabird populations this is a key concern.

The presence of some species in Shetland is highly significant in a national context, for example over 90% of the UK population of breeding red-necked phalaropes and whimbrel is present in Shetland. While coastal cliffs provide important nesting sites for breeding seabirds. Shetland was home to one tenth of the total seabird population of Britain; in excess of 750,000 birds from 22 species. However, Shetland was affected by the avian influenza outbreak in 2022, with gannets and great skua significantly impacted, although the impact on the population size is still being assessed. Although as the current seabird census is currently ongoing and as there is evidence that a number of species may be being impacted by climate change and other factors the current number of seabirds may be significantly less than this. As identified earlier a lot of the seabird interest features for the SSSIs are in unfavourable condition.

The varied coastline of Shetland supports diverse habitats and species. Voes (inlets/sea lochs) provide shelter and muddy conditions exist at the heads of some of the longer voes, which are inhabited by species such as cockles and lugworms. In deep water, reefs are formed from large horse mussels. There is a range of priority marine features present. Sandeels, which are an important food source for Shetland’s many seabirds, mammals, and commercial fish stocks are supported by finite offshore supplies of sand. There is potential for additional pressure on both species and habitats in the future from climate change.

Shetland’s coastal waters support diverse marine ecosystems and the land is dominated by moorland, upland heaths and freshwater. Large areas of both land and sea are designated including internationally important sites, particularly for birds.

Although not generally a problem at this time globally invasive non-native species have been identified as being a key driver of biodiversity loss. Islands can be particularly susceptible to the impacts of invasive species. Therefore it is important that biosecurity measures are in place to prevent the introduction of these species and measures are in place to prevent further movement of those species already present, especially to remote offshore islands where they can have significant impacts on ground nesting birds.

The biodiversity monitoring shows that overall half the indicators (Rare Plants, Songbirds and Sea Mammals) are scored as green while the other three (LNCS, Waders, Seabirds – inc. red-throated diver and eider) are scored as red which is the same as 2017 and 2018 but a negative change from 2016 when four of the indicators were rated green. This suggests that there is an ongoing decline of biodiversity across Shetland which is likely to be similar to the situation across much of Scotland.

The SIC Climate Change Strategy may have a direct immediate impact on natural heritage. Given the ambition to grow the population as well as growing key industries such as energy, aquaculture, fisheries and tourism, it may also have a long term impact. It is critical that the Strategy enables truly sustainable development and contributes to the restoration of our natural environment.

* Topic 2: Population and Human Health

This topic relates to the demographics and generic socio-economic issues. In terms of area Shetland is the 11th largest of the 32 Local Authorities in Scotland, however, it has the second smallest population[[10]](#footnote-10). It is also the most geographically distant Local Authority and this along with the low overall population, its age class structure and distribution can lead to various issues.

* Population

The population of Shetland increased sharply between the census years of 1971 and 1981. A population which had been in decline, and was recorded in 1971 at 17,327, increased to 22,768 by 1981, in response to much increased economic activity generated from North Sea oil activity. Population figures have been relatively stable in the last twenty years, from the census figure of 21,988 in 2001 to the latest Mid-Year Population Estimate of 22,940 in 2021[[11]](#footnote-11), an increase of 0.3% since 2020.

Although the population is predicted to remain fairly stable and be around 22,824 in 2028, Shetland is also predicted to continue to have the 2nd lowest population of any Local Authority in Scotland. There are slightly more males than females in Shetland which is the opposite of the national situation and for every other Local Authority***.***

There is a trend towards centralisation of the population towards the capital, Lerwick and 30% of the population now live in and around Lerwick, although this has slowed in recent years. Depopulation is most pronounced in the more remote islands. The rest of Shetland’s population is concentrated small towns and villages and hamlets, both on the mainland and across the inhabited islands although there are large rural and coastal areas that are sparsely populated. Overall Shetland has a low population density of 16[[12]](#footnote-12) people per km2, well below the national average of 70 people per km2.

The structure of the population is also changing, with the proportion of working age residents standing at 60.6% in 2021[[13]](#footnote-13) a decrease of 1%. Table 1 highlights how the change varies by age, with the 65-74 age group increasing the most.

**Table 1 Population change 2001-2021**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Age Group | 2001 | 2021 | % change | Scotland % change |
| All People | 21,960 | 22,940 | 4.5 | 8.2 |
| 0-15 | 4,784 | 4,104 | -14.2 | -6.1 |
| 16-24 | 2,196 | 2,083 | -5.1 | -1.7 |
| 25-44 | 6,204 | 5,364 | -13.5 | -2.1 |
| 45-64 | 5,690 | 6,465 | 13.6 | 20.1 |
| 65-74 | 1,613 | 2,740 | 69.9 | 33.3 |
| 75 and over | 1,473 | 2,184 | 46.3 | 32.7 |

Net migration for the period 2020-21 was positive following a period of negative migration.

Respondents to the employment survey reported considerable difficulties with local recruitment, with 22% stating that employability of candidates for vacancies is a concern, and 20% stating that they are unable to fill vacancies due to a lack of local labour[[14]](#footnote-14).

With deaths currently slightly exceeding births and net migration currently positive, the main driver of population change is currently natural change.

The latest population trends from the National Records of Scotland (<https://www.nrscotland.gov.uk/files/statistics/council-area-data-sheets/shetland-islands-council-profile.html#population_estimates>) is for the population to continue to decrease slightly to 22,824 by 2028, this contrasts with a projected population increase of 1.8% for Scotland.

**Table 2 population change 2018-2028**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Age group** | **2018** | **2028** | **% change** | **Scotland % change** |
| **All people** | 22,990 | 22,824 | -0.7 | 1.8 |
| **0 to 15** | 4,205 | 3,820 | -9.2 | -6 |
| **16 to 24** | 2,183 | 2,073 | -5 | -0.9 |
| **25 to 44** | 5,456 | 5,297 | -2.9 | 3.1 |
| **45 to 64** | 6,591 | 6,140 | -6.8 | -5.5 |
| **65 to 74** | 2,589 | 2,837 | 9.6 | 14.4 |
| **75 and over** | 1,966 | 2,657 | 35.1 | 25.4 |

The population dynamics are also expected to change with the 0 to 15 year age group projected to see the largest percentage decrease (-9.2%) and the 75 and over age group the largest percentage increase (+35.1%).

* Housing Deprivation and Health

The relationship between the availability of good quality housing and the health and well-being of people is now well recognised (National Housing Federation, 2014; Parliamentary Office of Science and Technology, 2011).

Children growing up in poor quality housing or insecure accommodation are more likely to be exposed to avoidable health risks such as damp, cold, accidents, community safety concerns etc. Growing older in poor quality, unaffordable or inappropriate housing has a negative impact on quality of life and the maintenance of independence in retirement (The Housing and Ageing Alliance, 2013).

According to the Scottish House Condition Survey: 2017 – 2019[[15]](#footnote-15) Shetland, like many other island and rural local authorities has high levels of the least energy efficient dwellings and low levels of the most efficient. This poor energy efficiency coupled with the inclement weather and high cost of fuel means that a large proportion of households are in fuel poverty. Around 22% of households in Shetland are in extreme Fuel Poverty, significantly above the Scottish average is 12%. A household is determined to be in extreme fuel poverty if a household is in fuel poverty if, in order to maintain a satisfactory heating regime, total fuel costs necessary for the home are more than 20% of the household’s adjusted net income (after housing costs), and if after deducting fuel costs, benefits received for a care need or disability and childcare costs, the household’s remaining adjusted net income is insufficient to maintain an acceptable standard of living. The remaining adjusted net income must be at least 90% of the UK Minimum Income Standard to be considered an acceptable standard of living, with an additional amount added for households in remote rural, remote small town and island areas. While the percentage of households in Shetland identified as being in fuel poverty (the definition is as above except that a household would have to spend 10% of its adjusted net income on total fuel costs to maintain a satisfactory heating regime is also above the national average of 25% at 31%. The (adjusted median) fuel poverty gap – the annual amount required to move the household out of fuel poverty - in Shetland is the 2nd largest in Scotland at £1,400 and over twice the national average. Nationally fuel poverty is recognised as being a more significant issue in island and rural communities. This would indicate that many houses are not adequately heated. These figures predate the recent energy price increases which saw the energy price cap increase from £1,042[[16]](#footnote-16) in October 2020 to £4,279 in January 2023. This has subsequently reduced to £3,280 for April 2023[[17]](#footnote-17). As a result of the recent high energy prices various support mechanisms have been introduced including the Energy Price Guarantee.

Research shows that housing deprivation and poverty can have an impact on health and the incidence of chronic Illness. Shetland has the highest rate of failure (65%) to meet the Scottish Housing Quality Standard of any Local Authority in Scotland, the national average is 41%.

* Deprivation, Cost of Living, Income and Employment

Unemployment is generally low in Shetland with a claimant rate of 1.8% of 16-64 year olds in February 2023[[18]](#footnote-18) compared to Scotland at 3.2%. In 2022 the average median income in Shetland is £671 compared to a Scottish average of £640, although there is variation across the islands[[19]](#footnote-19).

Although there is low levels of deprivation with no areas among the 20% most deprived in Scotland this does not mean that there are not issues ([SIMD, 2020](https://www.gov.scot/publications/scottish-index-multiple-deprivation-2020/)).

The cost of living is 20-65% higher in Shetland than the UK mainland (Minimum Income standard 2016)

Drivers for a higher cost of living:

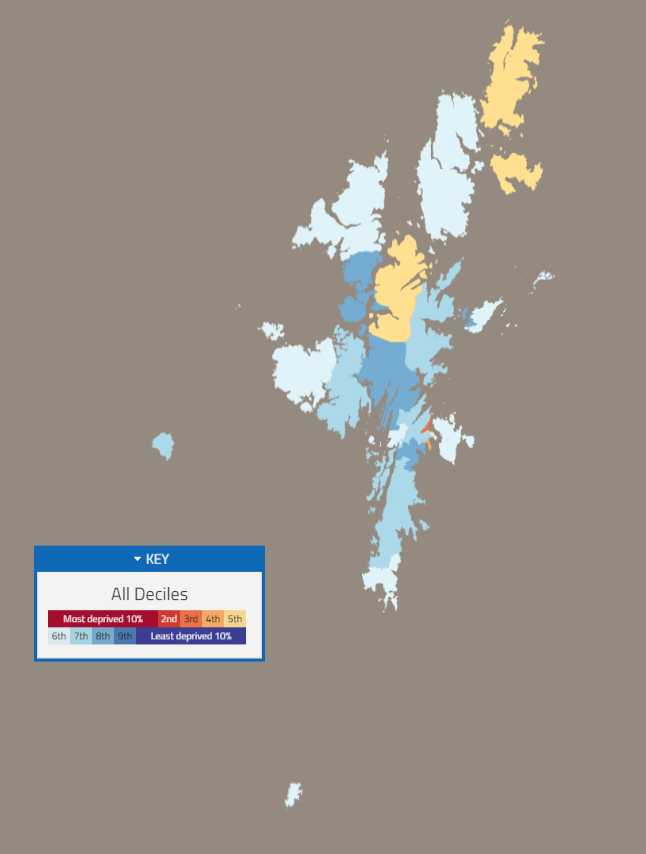
* household energy bills over twice the national average.
* Travel and freight to and from the island

CACI paycheck data (2020) suggests that 47% of households in Shetland do not earn enough to live well, based on the income standard for remote and rural areas[[20]](#footnote-20). While poverty rates in Scotland continue to improve rates in Shetland remain static or are worsening as highlighted by increased reliance on emergency food bank provision. This is likely to be exacerbated by the high cost of energy. In Shetland, where costs are high and employment relatively buoyant, most household have work, if only small amounts, just to get by. This means that most poverty is “work poverty”.

In Shetland the percentage of children living in relative poverty (<http://www.healthscotland.scot/media/2607/child-poverty-scales-and-trends.pdf>), after housing costs is the lowest for any local authority in Scotland at 11%. While the percentage of children living in families with limited material resources is the sixth lowest at 13%. This figure is based on the national average cost of living and the national average income, after housing i.e. relative poverty is classified as living in a household with an equivalised (adjusted to take into account household need (based on size and composition)) income below 60% of the median income in that year. The real rate of child poverty may be masked by this and could in fact be higher than the rate shows.

More recent figures by the end poverty campaign state after housing costs are considered, child poverty in Shetland was 18.7%[[21]](#footnote-21) 2020/21 an increase of 5.4% since 2015, the largest increase of an Scottish Local Authority Area.

Figure 2.1 Levels of deprivation in Shetland in SIMD 2020 by quintile



*Source: Scottish Government (*[*https://www.gov.scot/collections/scottish-index-of-multiple-deprivation-2020/*](https://www.gov.scot/collections/scottish-index-of-multiple-deprivation-2020/)*)*

Table 2.1 Gross Weekly Wage

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Gross Weekly Pay – Full Time Workers (£)(MEDIAN)** | | | | | |
|  | **2014** | **2016** | **2018** | **2020** | **2022[[22]](#footnote-22)** |
| Shetland | 519.4 | 649.6 | 647.6 | 636.0 | 671.6 |
| Highland | 487.9 | 529.0 | 548.6 | 562.0 | 634.7 |
| Scotland | 518.2 | 536.6 | 563.2 | 591.4 | 640.5 |
| Great Britain | 520.8 | 541.0 | 569.0 | 586.0 | 642.0 |

Source: Office for National Statistics – Annual Survey of Hours and Earnings (<https://www.ons.gov.uk/employmentandlabourmarket/peopleinwork/earningsandworkinghours/>).

The Shetland Islands Council Economic Development Strategy 2018 – 2022 identifies that while economic activity is very strong, with high employment and a productive business base there are challenges including:

* The high cost of living
* Continued reduction in public service budgets
* An aging population
* Lack of available labour, with a number of sectors already reporting problems in recruiting and retaining staff.
* Decline in full-time equivalent employment of 4.8% between 2011 and 2017.
* Uncertainty over the UK exit from the EU.

Economic performance has historically been strong and Shetland had the fifth highest Gross Value Added per head of Scottish local authorities, behind only Aberdeenshire and the country’s three main cities. Employment in Shetland is generally well paid, which helps counter the additional cost of living, however, the median value does not mean that there is not an issue with low wages.

In 2021 Shetland had a job density of 1.12 compared to a Scotland 0.81[[23]](#footnote-23). Economic activity in Shetland was 76.8% in Sept 22, compared to 90% in Sept 2019 and 65.4% in June 21.[[24]](#footnote-24)

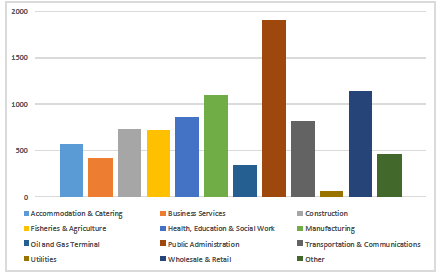
Table 2.2 Unemployment Levels in Shetland, Scotland and Great Britain

|  |  |  |  |
| --- | --- | --- | --- |
| **Unemployment (%)** | | | |
|  | **Shetland** | **Scotland** | **Great Britain** |
| 20061 | 1.5 | 2.7 | 2.4 |
| 20101 | 1.4 | 4.0 | 3.6 |
| 20141 | 0.7 | 2.8 | 2.5 |
| 20171 | 2.3 | 4.2 | 4.3 |
| 20202 | 1.9 | 3.4 | 3.9 |
| 20222 | 2.1 | 3.4 | 3.7 |

1Source – Shetland in Statistics 2017

2Source – Office for National Statistics – (<https://www.nomisweb.co.uk/>)

Figure 2.2 Employment by Sector



Source: Shetland Employment Survey 2017

This shows that the largest sector in terms of Full Time Equivalent (FTEs) employment is Public Administration which accounts for 21% of all FTE jobs (1,901 FTEs) followed by Wholesale and Retail with 12.5% or 1,129 FTEs followed by Construction, engineering and health.

* Health and Healthy Lifestyles

Shetland has one of the highest healthy life rates in Scotland, although as it is a smaller health board area the confidence interval is also wide[[25]](#footnote-25). The Healthy Life Expectancy of a person (how long they can expect to live in good health) in Shetland is higher than the Scottish average for men but it is the lowest of any local authority in Scotland for women.

Table 2.3 – Life Expectancy and Healthy Life Expectancy 2019-21

|  |  |  |  |
| --- | --- | --- | --- |
| **Life Expectancy, Scotland** | | **Life Expectancy, Shetland** | |
| **Male** | **Female** | **Male** | **Female** |
| 76.6 | 80.8 | 79.7 | 83.3 |
| **Healthy Life Expectancy, Scotland** | | **Healthy Life Expectancy, Shetland** | |
| **Male** | **Female** | **Male** | **Female** |
| 60.4 | 61.1 | 61.3 | 71.6 |

*Source: National Records of Scotland - (*[*https://www.nrscotland.gov.uk/statistics-and-data/statistics/statistics-by-theme/life-expectancy*](https://www.nrscotland.gov.uk/statistics-and-data/statistics/statistics-by-theme/life-expectancy)*).*

The following data provides a wider overview of the proportions of people who are in good and poor health.

The leading cause of death for males in Shetland was heart disease which is also the situation nationally. While for females dementia and Alzheimer’s disease was the leading cause of death, again mirroring the national picture. However, it is important to note that this is based on a very limited sample size, due to the small population.

Table 2.4 – Health Statistics for Shetland

|  |  |
| --- | --- |
| **Health Issue** | **Statistics for Shetland** |
| Percentage of Adults with good or very good general health (self-assessed) | 85.6 (%) |
| Percentage of popn. with a long-term health condition | 28.2 (%) |
| Carers | 8.7 (%) |

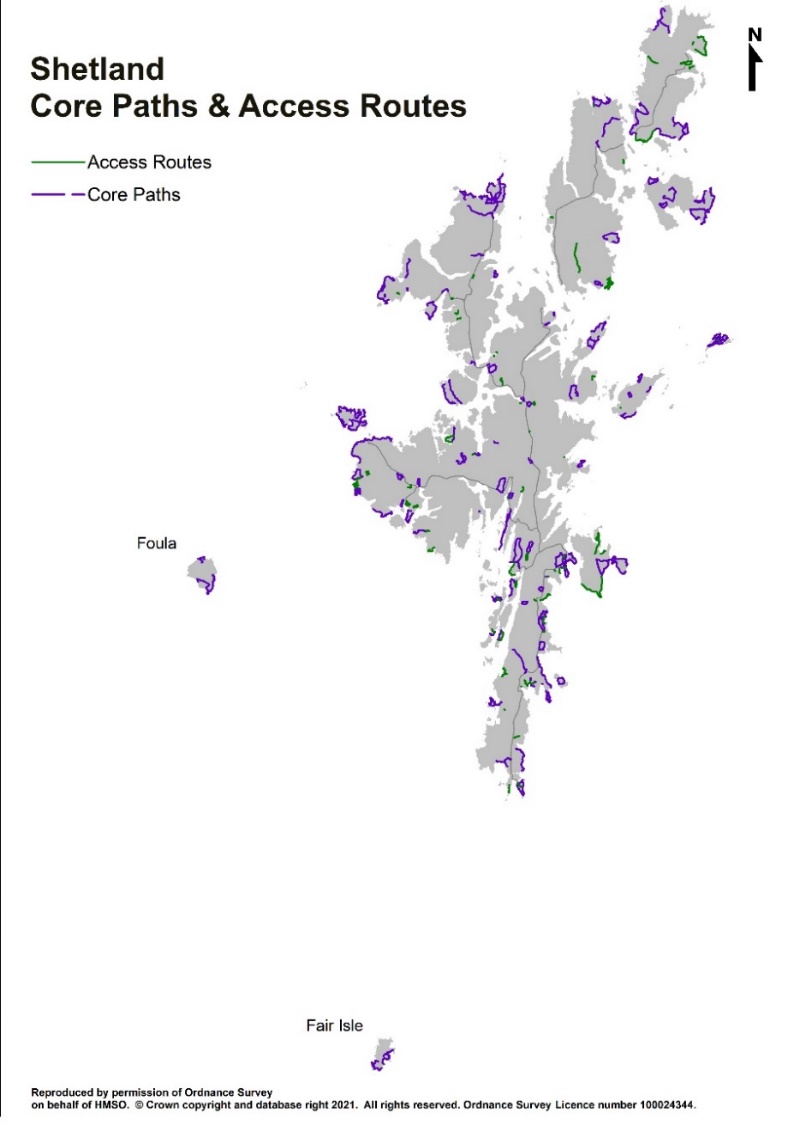
*Source: Scottish Census (2011) (*[*https://www.scotlandscensus.gov.uk/search-the-census#/*](https://www.scotlandscensus.gov.uk/search-the-census#/)*)*

* Core Paths, Open Space and Active Travel

Shetland is renowned for its magnificent open countryside, its rich moorlands, combined with its hills, landscapes and coastline, provides Shetland with a unique advantage to other parts of the country. Heritage features strongly in Shetlands character with many designated heritage sites and assets. Parks, amenity green spaces, core paths and the wider countryside and coast provide an important accessible resource for the community. At least some of this network is accessible to everyone in Shetland within a fifteen minute walk.

There is an SIC adopted core path network which is shown in ***Figure 2.2*** of 102 routes extending to approximately 460km of paths suitable for non-motorised access was adopted in 2009. There are a further 59 access routes covering another 60km. Although there are currently no long distance trails through Shetland it is the long term aim of the Shetland Outdoor Access Forum to create the Shetland Way running along the spine of Shetland from Sumburgh in the south to Hermaness in the north with links to settlements and facilities.

Figure 2.3 Core Paths and Access Routes in Shetland

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*Source: SIC*

A core paths plan is a frame work of routes that is sufficient for the purpose of giving the public reasonable access throughout Shetland and to satisfy the basic path needs of local people and visitors for recreation exercise and transit. The Shetland core paths plan was adopted in 2009 and comprises many different types of paths, ranging from natural ground to constructed paths. As a whole the core paths network caters for all types of users – walkers, cyclists, horse riders, people with disabilities etc. but not every route is suitable for all user groups. Core paths and access routes have a strong recreational focus and do not generally provide active travel routes. There is a significant amount of work required to form this into a coherent network offering transit opportunities.

Shetland covers a fairly large geographic areas, with a small number of population centres and a large number of small dispersed settlements. These are often single isolated dwellings.

As well as Shetland having some great spaces to use and enjoy, there are some areas that are under used, lay vacant or are not used to their full potential. In addition, due to the geographical nature and sparse development, accessibility can also a major issue for most when accessing types of open spaces across Shetland. There is a requirement to complete an Open Space Audit in Shetland and develop an Open Space Strategy to identify any specific issues and possible solutions.

Active travel means making a journey using a mode of transport which involves physical activity such as walking, wheeling, cycling and scooting including travel to and from places where live to where we work, learn, visit and play. However, car ownership (per household) in Shetland is one of the highest in Scotland at 74% and the dispersed population over a large area and multiple islands is a major factor in the current high level of car use. However, data from the 2011 census shows that while average commuting distances in Shetland are similar to those in Scotland and a high proportion of commutes under 2 km the majority of journeys are by car. The percentage of children walking or cycling to school is also much lower than the national average. While this in part reflects the rural remote nature of Shetland and the northern climate there is potential for more active travel in a number of localities. The vision for the Shetland Active Travel Strategy is to ensure that “walking and cycling are attractive and realistic travel choices for short journeys in Shetland”.

Public transport options within the region tend to be limited, especially in more rural areas with a limited bus service and no train lines. This means that there is a continued reliance on car ownership and use. An ongoing issue which limits the participation in Active Travel is the lack of suitable network of cycleways and footpaths.

* Community empowerment

Shetland has a high level of community engagement with 56% of people involved in volunteering compared to a national average of 27%. People want to be involved and influence decisions that affect them. With:[[26]](#footnote-26)

* 27% of people in Shetland say they feel they can influence decisions affecting their local area.
* 41% of people want to be more involved in decision making about their area, the national average is 34%.
* 88% of people in Shetland feel that they are part of their community, the national average is 77%
* Equality

Equality will be assessed in greater detail in an Equalities Impact Assessment as Energy Transition in Shetland has great potential to reduce inequalities on a wide range of fronts.

* Key Messages

The population of Shetland is predicted to remain stable with a slight decline, with this being more acute in the outer islands and rural areas as the population centralises towards the main town of Lerwick. The population is ageing at a faster rate than the rest of Scotland leaving a marked decline in the percentage of the working age population, again particularly in outer islands and more rural areas. This trend is set to continue with employment and education opportunities a key factor as well as the high cost of living and limited service availability.

The Shetland Islands Council undertook a ‘Place Standard’ exercise in 2016 where over 900 people provided feedback on what is positive about where they live and what needs the most improvement. The top 3 priorities requiring most improvement were identified as:

* public transport;
* work and local economy; and,
* housing and community. (in remote areas the 3rd highest priority for improvement was facilities and amenities).

Rural depopulation and an ageing population makes Shetland increasingly fragile with a high *Old Age Dependency Ratio*. Essential posts such as medics and teachers are increasingly difficult to fill and many other local services are delivered by volunteers as appropriate. This may become more challenging if the population continues to decline and age.

Life expectancy and health are generally positive in Shetland and levels of wellbeing are high. The high cost of living, however, may result in more people living in poverty and associated health impacts of this especially considering the longstanding issue of fuel poverty.

Community engagement is good and this is something that needs to be sustained as empowering individuals and communities to engage with climate action is an important part of the SIC Climate Change Strategy.

These factors are all key to the purpose of the SIC Climate Change Strategy which will work to address sustainable development. Opportunities for Active Travel, green corridors and access to open space need to be considered but require further investigation. It is also a stated aim of SIC to retain in, or relocate to, Shetland more young people to live, study and raise families, while older people live active, independent and healthy lives for as long as possible. The Council also plans to campaign to ensure that regulations and arrangements allow Shetland-generated green energy to be made available to Shetland customers and industries at affordable prices[[27]](#footnote-27).

* Topic 3: Soils and Geology

**Scotland’s Soils**

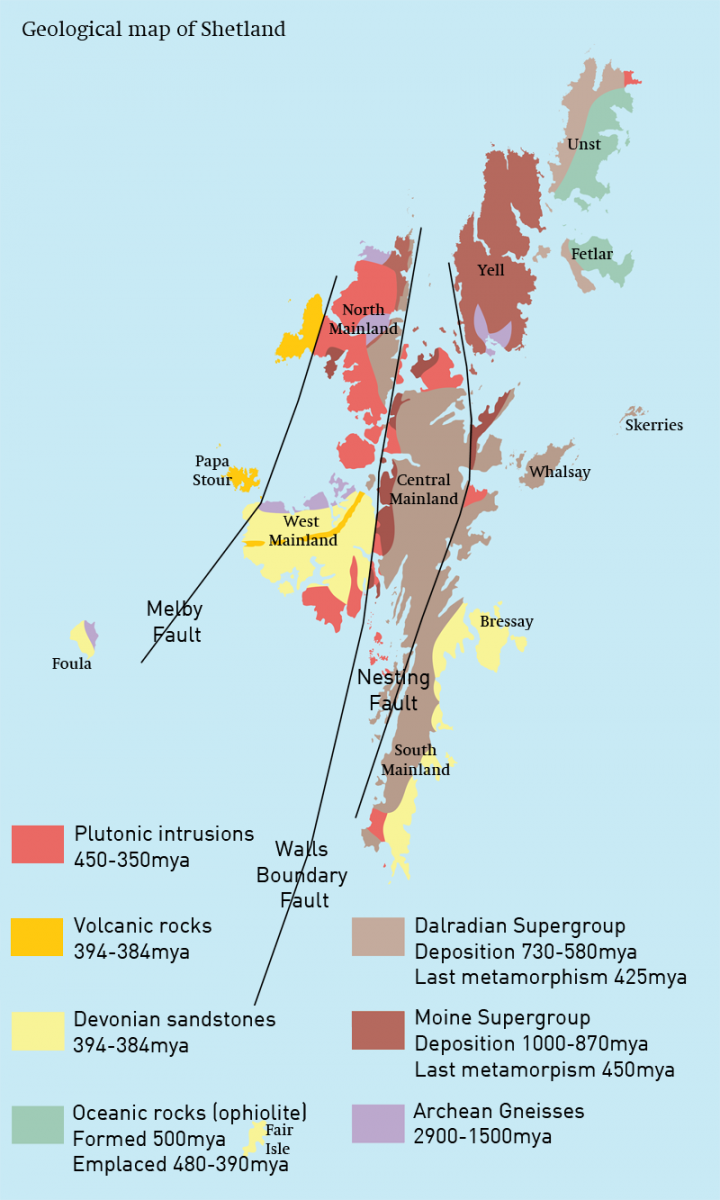
Soil is vital for growing food, protecting out water quality and as a carbon store. Soils across Scotland vary depending on their geology, make-up, climate, location and management.

Most of the soils in Scotland have formed since the end of the last ice age, so they are relatively young compared with soils in other parts of the world (Scotland’s Soils website).

Soil in Scotland contains a lot of organic matter, living and dead material from plants and animals most of which is organic carbon. This makes our soil a significant carbon store. The high level of carbon matter in our soils is due to our cold and wet climate. This slows down the process by which the organic matter breaks down. The wet climate also washes a lot of elements from the soil leaving them acid rich and nutrient poor.

* Geology of Shetland

The whole of Shetland was established as a UNESCO Geopark in 2009 due to its outstanding geological heritage. The majority of the rocks of Shetland are part of an old, deeply eroded mountain chain called the Caledonian Orogenic Belt which was raised up as a mountain block between 400 and 600 million years ago. This same mountain chain forms most of Norway, Scotland and Northern Ireland. The key geological features of Shetland can be seen in ***Figure 3.1***.

*Figure 3.1 – Geology of Shetland*

*Source: Shetland Amenity Trust*

In the south-eastern and western parts of Shetland, these rocks have been overlain by sedimentary rocks of Old Red Sandstone age. These rocks were laid down and folded during the Devonian era around 400 million years ago. Running north-south through Shetland are several tear faults where clocks of rock have been displaced by movements of the earth’s crust. The principal fault of this type is the Walls boundary fault. This fault is thought to be an extension of the Great Glen fault found on mainland Scotland.

Metamorphic schist and gneiss extends from Fitful Head and the Clift Hills of south Mainland, through central Mainland and the coastal portion of north Mainland, east to the islands of Whalsay and Out Skerries and north to the island of Yell and the western parts of Fetlar and Unst. In central Mainland, the metamorphosed-siliceous sedimentary rocks are interspersed with bands of crystalline metamorphosed limestone which have been eroded to form a series of valleys. Superficial deposits of glacial drift, boulder clay and alluvium overlie bedrock in places, particularly in low lying areas, and the higher ground is commonly blanketed with peat. The eastern parts of Unst and Fetlar are characterised by serpentine and gabbro bedrock with a surface layer of shattered rock and glacial drift.

Much of the north Mainland, west of the Walls boundary fault (from Ronas Hill and North Roe plateau to the islands of Muckle Roe), consists of red granite and other igneous rocks. These rocks are overlain with superficial deposits of peat, boulder clay and glacial drifts. The cliffs of Eshaness and the islands of Papa Stour are formed by lavas and tuffs (volcanic ash) of Devonian age. The West Mainland in characterised by folded sandstone of Devonian age, with granite in the extreme south. The area is overlain by peat and areas of boulder clay. The south eastern coastal strip of mainland (from Sumburgh Head northwards to Lerwick), and adjacent islands of Bressay, Mousa and Noss are formed of gently inclined sandstones, flagstones and conglomerates of Devonian age. In places the sandstone is interbedded with limestone and mudstone. These rocks are overlain by significant areas of boulder clay and other glacial drifts. The outlying islands of Fair Isle and Foula are formed predominantly of sandstone.

Shetland is a UNESCO European Geopark, using its exceptional geological heritage to promote sustainable development, particularly in the field of tourism and education. Shetland’s earth heritage is therefore potentially of economic importance as well as academic interest. Inappropriate development can be damaging to earth heritage if it destroys or obscures geological features, however, if development is appropriate and sympathetic to its surroundings it can also be beneficial in restoring those sites that have been damaged in the past.

* Geodiversity

Geodiversity can be defined as, “The variety of rocks, minerals, fossils, landforms, sediments and soils, together with the natural processes which form and alter them” (Bruneau et al. 2011, p.3).

Geodiversity is of scientific, cultural and economic importance as a source of energy and materials and as visitor attractions through landscape. Shetland is a designated UNESCO European Geopark in recognition of its outstanding and diverse geology and there are 33 Geological and 7 Geomorphology SSSIs. There is a strong link between the geology of Shetland and its soils and habitats and therefore its biodiversity.

**Geological Conservation Review Sites**

There are 46 Geological Conservation Review (GCR) Sites in Shetland.

Figure 3.2 – Geological Conservation Review Sites in Shetland

*Source: JNCC.* [*[ARCHIVED CONTENT] GCR Search Results (nationalarchives.gov.uk)*](https://webarchive.nationalarchives.gov.uk/20190301154244/http:/jncc.defra.gov.uk/default.aspx?page=4177&authority=UKM46)*.*

These sites contain features of national and international importance and the criteria for selection are that they are:

* the finest and/or the most representative features for illustrating a particular aspect of geology or geomorphology.
* A minimum of duplication of interests between sites and
* Sites should be possible to conserve in a practical sense.

Although the majority (43) of these sites in Shetland are designated, at least partly, as SSSIs some, there are 3 ‘unnotified GCR sites’, these have no protective SSSI designation status (either in whole or part).

There is a draft list of 96 Geosites proposed for Shetland these include the 46 GCR sites as well 50 additional sites. Of these 10 are already designated, at least partly, as SSSIs, 15 have some other form of designation, such as Scheduled Monuments while 25 have no form of statutory protective designation at all.

* Soils of Shetland

The soils of Shetland are a product of a variety of factors, the two most important of which are geology and climate.

**Peat**

A significant area of Shetland is covered in peat which has been accumulating at a rate of about 1mm a year for at least 3000 years (Shetland Amenity Trust). NatureScot produced a Carbon and Peatland map in 2016, this a predictive tool which provides an indication on the likely presence of carbon-rich soil, deep peat and priority peatland habitat. This identified that over 527 km2 (36%) of Shetland was considered to be a ‘nationally important resource’. However, only around 11% of this habitat has been formally designated. The location of these habitats in Shetland is shown in ***Figure 3.4***. They provide valuable habitat in their own right and are also important for the carbon they store and in good condition can continue to act as a net carbon sink. The requirement to protect peatland is recognised in Scottish Planning Policy.

NatureScot have identified Shetland as one of 12 priority assessment areas for peat and estimate that over 70% of Shetland’s blanket bog is damaged ( Artz, R. R. E., Donnelly, D., Andersen, R., Mitchell, R., Chapman, S. J., Smith, J., Smith, P., Cummins, R., Balana, B., & Cuthbert, A. (2014). ***Managing and restoring blanket bog to benefit biodiversity and carbon balance – a scoping study***. Nature Scot (<https://www.nature.scot/naturescot-commissioned-report-562-managing-and-restoring-blanket-bog-benefit-biodiversity-and>)). They attribute much of the erosion to sheep grazing and to a much smaller extent domestic peat cutting. Bare peat and channels within it increase the likelihood of erosion both through runoff and to a lesser extent drying out and wind erosion.

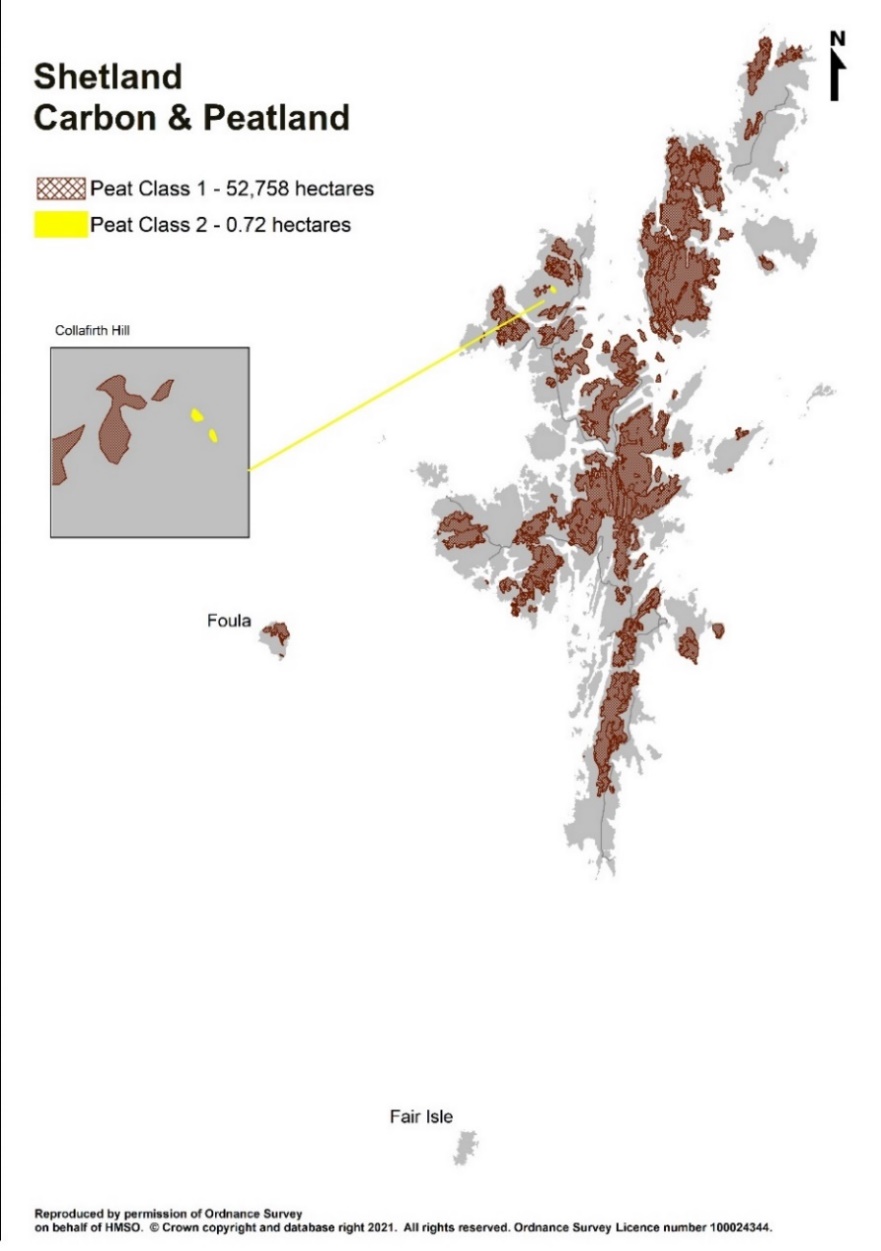
The benefits of blanket bog peat include:

* a habitat for wildlife;
* carbon sequestration and storage; and,
* regulating water flow and purifying water.

The Shetland Amenity Trust hosts the local peatland ACTION officer and a number of peatland restoration projects have been undertaken in Shetland while other opportunities for restoration arise have arisen from major construction projects. Although any development on peatland can potentially lead to a loss of peatland and release of stored carbon.

The [Shetland Net Zero Route Map](https://www.shetland.gov.uk/downloads/download/1514/shetland-net-zero-route-map) and accompanying assessment, published in 2022, also established that approximately 24,430 ha of actively eroding peat, 17% of the Shetland land area. Resultant GHG emissions meant that LULUCF is our highest emitting sector.

Figure 3.4 – Shetland Carbon and Peatland Map



*Source:* [*Scotland’s Environment*](https://www.environment.gov.scot/)

There are currently no active consents for the commercial extraction of peat in Shetland. Although peat continues to be cut for fuel in many parts of Shetland with many crofters having access to peat on their own croft or the right to a ‘peat bank’ on common grazing land. It is also possible for anyone to rent a peat bank. While widespread, this cutting of peat for domestic use is small scale and not regulated by the planning system.

**Vegetation**

Shetland’s vegetation is dominated by peatland, heather moorland and montane habitats. Improved rough grassland is concentrated along the coast, around the voes and in the valleys. The best agricultural land available in Shetland – improved, semi-improved and good rough grassland – can be found in the valleys of the central Mainland; along the south and east coasts of the southern Mainland; in eastern regions of Unst and Fetlar; and along the Walls boundary fault. These are the areas of greatest agricultural production.

Shetland’s flora is impoverished in comparison to that of mainland Britain. This is largely due to the climate and the islands’ isolation. Shetland has the highest average humidity in Britain. This, combined with its salt-laden atmosphere, limits the botanical diversity and the scope for crop growing in the Islands However, it has been identified as one of a 165 Important Plant Areas in UK by the charity Plantlife which describes Shetland as home to many different plant habitats, some of which provide wonderful floristic displays, ranging from cliffs and meadows to arctic-alpine tundra.

Shetland is predominantly treeless and there are no natural or semi-natural woodlands. There are a number plantation woodlands extending to approx. 15ha in total the largest of which are at Kergord in the Weisdale valley. Although these are the most visible trees in Shetland, they are mainly non-native species, often comprised of both coniferous and broadleaved species. The oldest and northerly plantation dates from at least the mid-nineteenth century at Halligarth on Unst and comprises only broadleaved species. There are a number of scattered ‘relict’ survivors of woodland tree species (native species include alder, aspen, downy birth, rowan and willow) which are of greater ecological importance. These are generally dwarf or stunted in appearance and occur singly or occasionally in small groups, often in exposed situations, on cliff ledges, in ravines, on exposed cliff-faces and on holms in lochs which are inaccessible to grazing animals.

Many islands, such as the Galapagos support many endemic (a plant or animal which is native and restricted to a certain place) species. While this is rare in Shetland, mainly due to the fact that Shetland has only been colonised since the end of the last ice age, around 12,000 years ago and the time required for speciation. There are, however, 22 species and one subspecies of flowering plant which are endemic to Shetland. Of these, 21 are dandelion-like plants and include 18 Hawkweeds and 3 dandelions with Shetland Mouse-ear Hawkweed (*Pilosella flagellaris bicapitata*) being recognised as an endemic subspecies. The other endemic is Shetland Mouse-ear (*Cerastium nigrescens*) – sometimes referred to as Edmondston’s Chickweed after Thomas Edmonston who discovered it in 1837 – which is only found on Unst mostly on and around the Keen of Hamar.

* Land Capability for Agriculture

It is estimated that Agriculture contributed about £672 million to the Scottish economy in 2018 (Scottish Government, 2019). It is difficult, however, to value the direct financial contribution that healthy soils make to our economy. It is now widely acknowledged that the sustainable management of soils, and the protection of soils' ability to deliver a wide range of environmental and ecological services, is essential to achieving sustainable economic growth. The importance of peat and other carbon-rich soils has also been recognised.

Land Capability Classification for Agriculture mapping provides detailed information on soil, climate and relief for those involved in the management of land use and resources. The classification ranks land from 1 to 7 on the basis of its potential productivity and cropping flexibility determined by the extent to which its physical characteristics (soil, climate and relief) impose long-term restrictions on its agricultural use. Land classified from 1 to 3.1 is considered to be prime agricultural land, while land classified as 3.2 to 7 is considered to be non-prime (Soil Survey of Scotland Staff, 1981).

Under the above classification there are no areas of prime agricultural land in Shetland. The percentage of land classified for other land use classes include:

* 3% for mixed agriculture
* 23% improved grassland
* 71% rough grazing

In recent years there has been a decline in agricultural activity. The total land used for tillage in Shetland was almost 437 hectares in 2001. This figure fell to 400 by 2003. ***Table 3.1*** provides information on Agricultural Land Use in Shetland. Intensive sheep farming has increased its dominance of the agricultural economy, particularly over the past 30 years and sheep numbers stood at 278,844 in 2019. Crofting comprises a small percentage of the farmed land on Shetland and is used mainly for rough grazing for sheep, although small scale crofting activities have been widely recognised as having an important role in the care and enhancement of the environment and wildlife habitats.

The amount of land suitable for agriculture in Shetland is limited and as such, fertilisation and reseeding of moorland has been used to increase agricultural productivity. The amount classed as improved or good grassland is also somewhat limited. Farmers have been encouraged to manage land in a more environmentally sensitive manner since Shetland was designated an Environmentally Sensitive Area (under the Agriculture Act 1986) in 1993.

Table 3.1 – Agricultural Land Use in Shetland

|  |  |
| --- | --- |
| **Agricultural Land Use Practice** | **Hectares** |
| Oats, triticale and mixed grain | **10** |
| Barley | **-** |
| Rape for oilseed and linseed | **-** |
| Potatoes | **12** |
| Stock feeding crops | **160** |
| Vegetables for human consumption | **6** |
| Orchard and soft fruit | **-** |
| All other crops | **11** |
| Fallow | **55** |
| Total crops and fallow | **314** |
| Grass | **28,159** |
| Sole right grazing | **55,680** |
| Common grazing | **67,255** |
| Total grass and rough grazing | **151,094** |
| Utilised Agricultural Area | **151,408** |

*c data suppressed to prevent disclosure of individual holdings. Source: Scottish Government – (*[*https://www.gov.scot/collections/economic-report-on-scottish-agriculture/*](https://www.gov.scot/collections/economic-report-on-scottish-agriculture/)*)*

* Contaminated, Derelict and Vacant Land

The SIC has a duty to cause its area to be inspected from time to time for the purpose of identifying Contaminated Land as defined in the Environmental Protection Act 1990.

The Environmental Health and Trading Standards Department has the responsibility for contaminated land identification and mitigation within the local authority area, these sites include former uses such as waste disposal sites and former military sites. There are approximately 260 sites in Shetland that have recorded and investigated to determine if they should be classified as contaminated as defined under the Act. The majority of sites have been shown, through the inspection and risk assessment methodology applied, to present no risk by virtue of there being no contaminated land history or there being no demonstrable mechanism for the movement of any contamination present by any defined pathway to a receptor.

The remaining sites have yielded insufficient information for the Shetland Islands Council to determine whether or not the land appears to be contaminated land. For these sites the perceived risk has been analysed and the resultant action plans ranked in order that further investigation can be carried out to provide the necessary information in order that a determination can be made whether the land falls within the contaminated land definition.

To date there has been no formal remediation of any sites identified, planning is in place to reassess the identified sites and there risk ratings, since the last ground survey in 2009. Under taking a reassessment of the sites based on the identified risk rating will enable the Environmental Health and Trading Standards Department to determine the current condition of all sites and inform the formulation of an action plan for further investigation and remediation of sites where required. The current information set is used by the local planning authority as part of the development management process. At this time it is considered that the majority of sites will pose little or no risk and therefore not need any further investigation meaning it is unlikely to be a significant issue in the future.

The Council has a duty to identify and record areas of vacant and derelict land. As part of this The Council is required to provide figures for the annual Scottish Vacant and Derelict Land Survey, the latest survey identified just 8 sites covering an area of just over 7 hectares[[28]](#footnote-28). Suggesting that this is not a significant issue in Shetland. Although there is an opportunity to assist in remediating brownfield sites to make them suitable for development.

* Erosion

There are some erosion issues in Shetland, given the rural nature and degraded condition of a lot of the peatland associated with flood and landslip events. Much of the erosion is small scale but has the potential to release large quantities of stored carbon over time. At this time there are limited impacts from coastal erosion. Although only a small proportion of Shetland’s coastline has protection or flood defences this may become more of a problem overtime with sea level rise and higher frequency storm events. The Council has updated its Flood Risk Management Plan[[29]](#footnote-29) to take into account the latest datasets on coastal erosion and potential impacts of global climate change.

* Key Messages

Shetland does not contain any mapped areas of Prime Agricultural Land. Over half of the soils are peat which perform important ecosystem services, particularly as a carbon sink. Soil erosion from grazing and natural erosion have left over 70% of blanket bog damaged in Shetland. Therefore protection and restoration of peat and other carbon-rich soils is an important objective of the SIC Climate Change Strategy.

While contaminated land issues are not a significant issue in Shetland there are a small number of sites which may require remediation. Soil erosion may become more of an issue due to the impacts of climate change.

* Topic 4: Water

“Water plays a significant role in the landscape of Orkney and Shetland. A clean water environment is important to key industries such as wildlife and heritage tourism, beef and dairy farming, fisheries, aquaculture, and production of hill lambs. In the last 30 years, the oil industry has formed a vital part of the economies of Orkney and Shetland and has been carefully monitored and regulated.

More recently, the development of wave and tidal renewable energy has grown in significance, with test sites in several coastal water areas.” *(Improving the quality of Scotland’s water environment, Orkney and Shetland area management plan 2010–2015)*

* Water Quality

‘Improving the quality of Scotland’s water environment, Orkney and Shetland area management plan 2010–2015’ is a supplementary plan to the Scotland River Basin Management Plan. The purpose of the plan is to maintain and improve the ecological status of the rivers, lochs, estuaries, coastal waters and groundwater areas in Orkney and Shetland. The plan supplements the River basin management plan for the Scotland river basin district, and helps to deliver EU Water Framework Directive requirements. It focuses on local actions for Orkney and Shetland and highlights the opportunities for partnership working to ensure that we all benefit from improvements to the water environment.

The main water quality issues for Shetland are identified in the plan as:

* diffuse source pollution linked to sewage disposal, farming and marine transport;
* point source pollution from sewage treatment, predominantly affecting coastal waters;
* alterations to beds and banks, primarily relating to agriculture; and,
* water abstraction and flow regulation for drinking water.

SEPA are the responsible authority for monitoring water quality in Scotland under the requirements set out by the Water Framework Directive. The Directive requires all water features in a category (i.e. surface water – rivers, lochs, transitional waters, coastal waters - and groundwater) above a certain size threshold to be defined as water bodies. There are 87 surface waters and 14 ground waters in Shetland. In addition, under the Water Environment and Water Services (Scotland) Act 2003, SEPA has responsibilities relating to the management and protection of river catchments (river basin districts), which includes the ground water resource within those catchments.

The conditions of Scottish rivers has improved significantly over the last 25 years and over 63% of surface water bodies and over 83% of ground water bodies are in good or high condition ([*https://www.sepa.org.uk/data-visualisation/water-classification-hub*](https://www.sepa.org.uk/data-visualisation/water-classification-hub)).

Figure 4.1 – Shetland surface waterbody classification 2007-2018

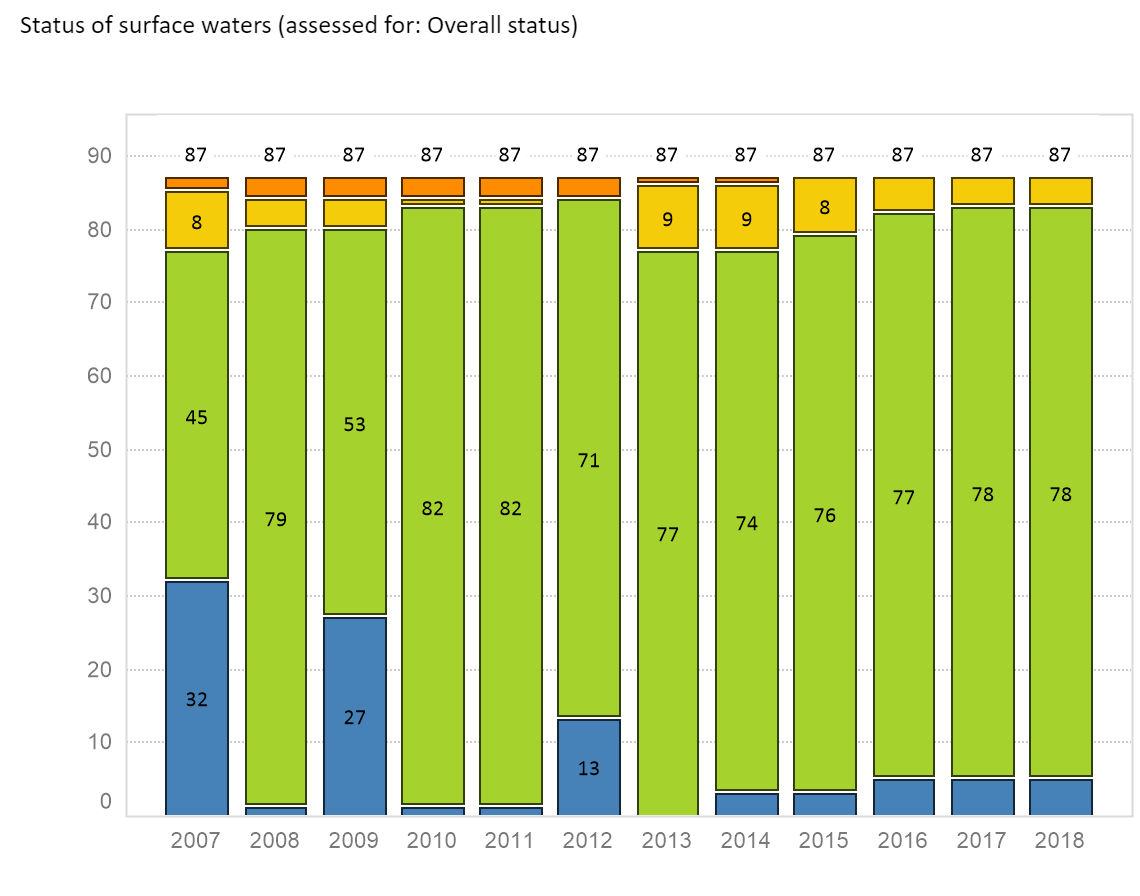
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*Source:* [*https://www.sepa.org.uk/data-visualisation/water-classification-hub/*](https://www.sepa.org.uk/data-visualisation/water-classification-hub/)*.*

While in Shetland for 2018 the most recent year for which data is available 96% of surface water bodies are in good (78) or excellent condition (5) with only 4 sites in moderate condition and no sites in the lower poor or bad condition, of the sites in moderate condition 3 are due to historical impoundments. As shown in ***Figure 4.1*** these are all on Mainland. The sites in moderate condition are;

* Burn of Roerwater (for ecology and hydrology reasons)
* Burn of Laxobigging (for ecology and fish (including barriers to movement) reasons)
* Burn of Dale / Nuigol Water (fish (including barriers to movement) reasons)
* Loch of Cliff (for overall ecology and physico-chem (specifically total phosphorus) reasons)

Figure 4.2 – Shetland surface waterbody classification 2007-2018

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*Source: SEPA -* [*https://www.sepa.org.uk/data-visualisation/water-classification-hub/*](https://www.sepa.org.uk/data-visualisation/water-classification-hub/) *.*

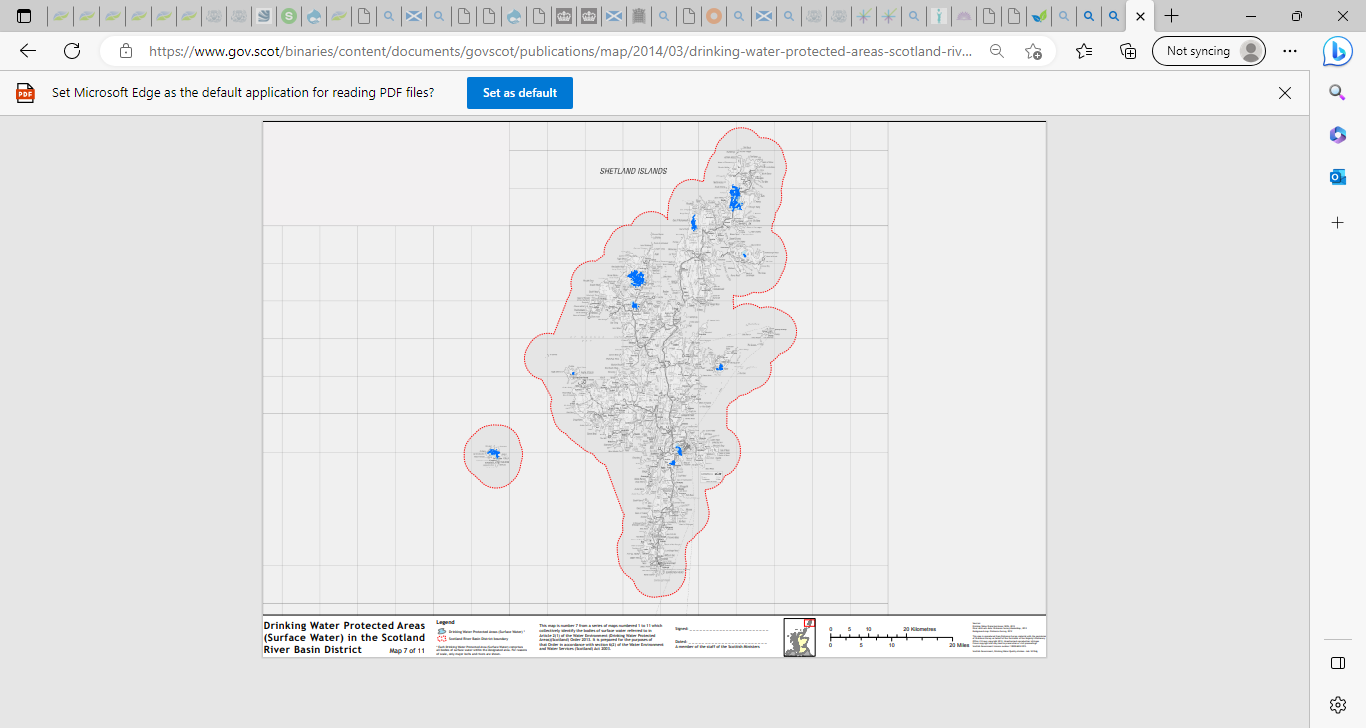
***Figure 4.2*** above shows how waterbody classification is has been fairly stable in Shetland with the majority of sites classified as good, while fewer sites have been identified as in poor or bad condition there are also fewer sites classified as excellent so it is difficult to identify any long term trends in waterbody classification.

All 14 ground water bodies in Shetland are in good condition. They have been in good condition since 2012.

Water quality has been improving in recent years, although this is lower than the rate for 2012 which saw a high of 97%. **Figure 4.2** provides an overview of these rates from 2012-2018. It is also noted that while the number of waterbodies in good condition has increased the number in high condition has decreased.

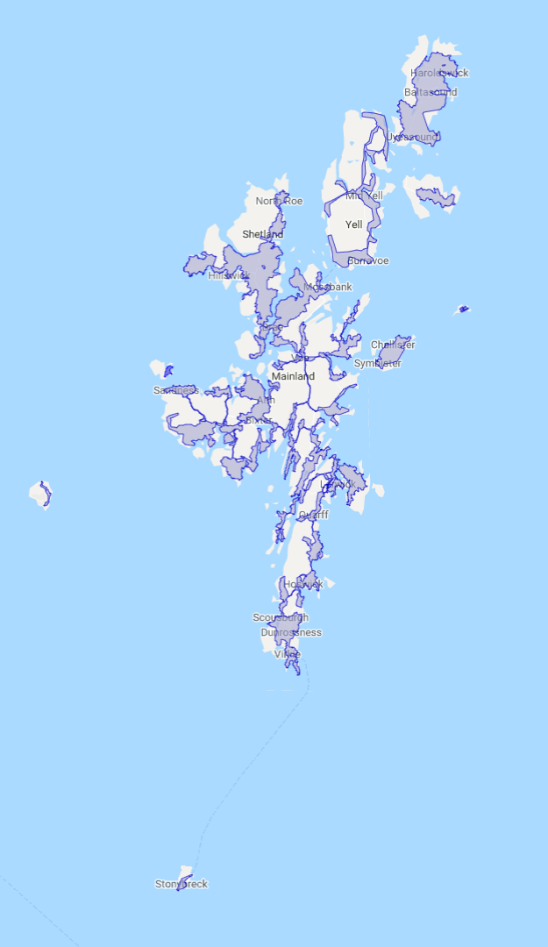
* Public Water Supply and Waste Water Treatment

The public water supply is extracted from 18 raw water sources which include springs, boreholes, lochs and burns. There are 30 Drinking Water Protected Areas in Shetland. All are meeting their current standards with none at risk of deterioration. The 18 raw water sources supply 10 Water Treatment Works and an equal number of water supply zones, with a total of 33 treated water storage assets. At present there are no capacity constraints in any of the water supply zones, although this is a consideration for potential hydrogen production.

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**Figure 2 https://www.gov.scot/binaries/content/documents/govscot/publications/map/2014/03/drinking-water-protected-areas-scotland-river-basin-district-maps/documents/surface-water-maps/eccf44f6-0f7c-495e-a6de-20769417fa28/eccf44f6-0f7c-495e-a6de-20769417fa28/go**

Figure 4.3 – Scottish Water’s Shetland Supply Area

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*Source: Scottish Water – (*[*https://www.scottishwater.co.uk/en/Your-Home/Your-Water/Water-Quality/Water-Quality*](https://www.scottishwater.co.uk/en/Your-Home/Your-Water/Water-Quality/Water-Quality)*)*

The quality of potable water is monitored annually by the Drinking Water Quality Regulator for Scotland and is generally high. There is also a low percentage of Private Water Supplies in Shetland with only 57 supplies. These not only provide potable water to domestic properties but can also be important for industry.

There are two types of private water supply, Type A supply more than 50 people, provide 10 or more cubic metres a day or are supplying premises that perform commercial or public activities whilst Type B are for all other forms of domestic service, including those serving single properties. Shetland has 56 Type B supplies and a single Type A supply. These private water supplies supply a total population of 97, which is under 0.5% of the population of Shetland.

There are 80 Waste water Treatment Works in Shetland the largest serving Lerwick has population equivalent (PE) of 15,500, however, 80% the works (64) are septic tanks designed for a PE of between 18 and 250. At this time there are no known quality issues with any of the works although this situation may change in the future.

The dispersed rural nature of the settlement pattern also means that there are a significant number of private Waste water Treatment units in Shetland often serving single dwellings. However, this means that in some areas secondary treatment is also required in order to protect coastal water quality and need to be considered as part of the Local Development Plan process.

* Flooding

The 2020 Strategic Flood Risk Assessment for Shetland identified that the most common occurrences of flooding within Shetland can be categorised as:

* coastal flooding;
* river flooding, flooding originating from a watercourse; and,
* surface water flooding, overflow and surcharging of manmade drainage systems.

Historically, flooding was most common from direct inundation from the sea. However, manmade drainage systems have become a more common source, with current flooding now more likely to involve a combination of causes, with heavy rainfall making a high load on drainage systems, and capacity issues, or outflows restricted by high tides then acting together to result in flooding.

Under the Flood Risk Management (Scotland) Act 2009, SIC has a duty to assess bodies of water and undertake clearance and / or repair as required to reduce flood risk. There are 21 sites in Shetland that receive programmed inspections to identify and address issues before they cause flooding. While programmed watercourse inspections are carried there are also reactive inspections when concerns are reported. There is a schedule of works based on risk, vulnerability and potential impacts which is used to manage clearance and repair works

The Local Flood Risk Management Plan ([LFRMP](https://www.shetland.gov.uk/downloads/file/1906/local-flood-risk-management-plan)) has been developed to detail the actions adopted to reduce the devastating and costly impact of flooding in the Shetland Local Plan District. This LFRMP supplements the National Flood Risk Management Strategy (the ‘Strategy’), which coordinates the efforts of all organisations that tackle flooding, whether it is in our towns, villages or rural areas and whether it is from rivers, the sea or from surface water. The Strategy identifies locations in Shetland where the risk of flooding and benefits of investment are greatest: the Plan also details the prioritised actions that will be delivered with this investment.

The LFRMP details how and when the actions to deliver the goals set in the Strategy are to be delivered in the first six-year planning cycle, from 2016 to 2022. The Plan therefore describes the short-term direction of flood risk management in the Shetland Local Plan District, adding local detail to the information in the Strategy. Three potentially Vulnerable Areas have been identified and 11 actions to reduce flood risk have been identified. Currently there are approximately 30 residential properties and 50 non-residential properties at risk of flooding within the Local plan District.

The Water Environment (Controlled Activities) (Scotland) Regulations 2011 Act makes SUDs drainage a legal requirement for most types of development, while the Council’s Local Development Plan policy requires the incorporation of Sustainable Urban Drainage Systems (SuDS) into all new development. SUDs drainage brings benefits in mitigating faster surface water runoff from new hard surfaces, reducing the additional load on drainage systems which may not have excess capacity, and also in controlling and treating the water quality, reducing the silt, hydrocarbon and heavy metal discharges to the wider water environment. Designing using SUDs principles also gives a more direct connection to site scale surface water flood risk as an intrinsic part of the development design, allowing risks to be designed out, rather than worked around.

* Vulnerability to the Effects of Climate Change

The [UK Climate Projections website](http://ukclimateprojections.metoffice.gov.uk/) provides the most up-to-date assessment of how the UK climate may change in the future. The site provides predictions for low, medium and high emissions scenarios. The 2018 Briefing Report (updated in 2019) states that sea level around the UK has risen by about 1 millimetre per year in the 20th century; the rate of rise in the 1990s and 2000s has been higher than this.

The UK Climate Projections report on Marine and Coastal projections 2018 identifies the following sea-level projections:

* Sea-level rise will occur for all emission scenarios and at all locations around the UK.
* UK coastal sea level rise (taking vertical land movement into account) for 2100 of approximately 21–76 cm based on a medium emissions scenario (<https://www.climatechangepost.com/united-kingdom/coastal-floods/#:~:text=By%202100%20relative%20sea%20level,the%20UK%20coast%20(4)>.);
* Global sea surface temperatures have increased through the 20th century and continues to rise. The average temperature rise over the last 100 years has been 0.13oC per decade. This trend is projected to continue, with a rise in mean global ocean temperature of between 1oC and 4oC by 2100 depending on greenhouse gas emissions. (<https://www.iucn.org/resources/issues-briefs/ocean-warming>).
* Risk of coastal flooding from storm surges and high tides will increase as sea levels rise.

Although the relative significance of rainfall-related flooding events has increased, coastal-related flooding is still a highly significant issue and again, climate change is predicted to cause further problems. Mean sea level around the UK has already risen by about 16cm since the start of the 20th century (when corrected for land movements) and this will only increase.

Increases in the frequency and severity of storms are predicted, with coastal water extreme levels forecasted to become 5 to 10 times more likely by the 2050. The combination of the above factors will extend the inward limit of storm driven water and whilst this is not a problem for many areas of Shetland’s rocky coastlines, voe heads could be significantly affected due to the funnelling of storm surges. There are no significant rivers in Shetland and therefore even under high emissions scenarios leading to large increases in peak river flows it is unlikely that there would be a significant increase in the number of residential or domestic properties at flood risk from fluvial sources.

Online Flood Maps developed by SEPA indicate that the main risk of flooding in Shetland is coastal. Existing coastal defences will need to be replaced or modified to adapt to the effects of climate change. A study entitled Climate Change: Flooding Occurrences Review (Scottish Executive Central Research Unit 2002) found that within the next century, the effects of climate change could make most of Scotland’s coasts below the 5 metre contour more vulnerable to flood risk.

Erosion of beaches from rising sea levels and increased wave action is a current problem which is predicted to become more significant in coming years. Offshore sediment supplies are finite and the potential for natural recharging of these beaches is therefore limited. Human activity such as provision of coastal defences and other physical structures can cause additional erosion.

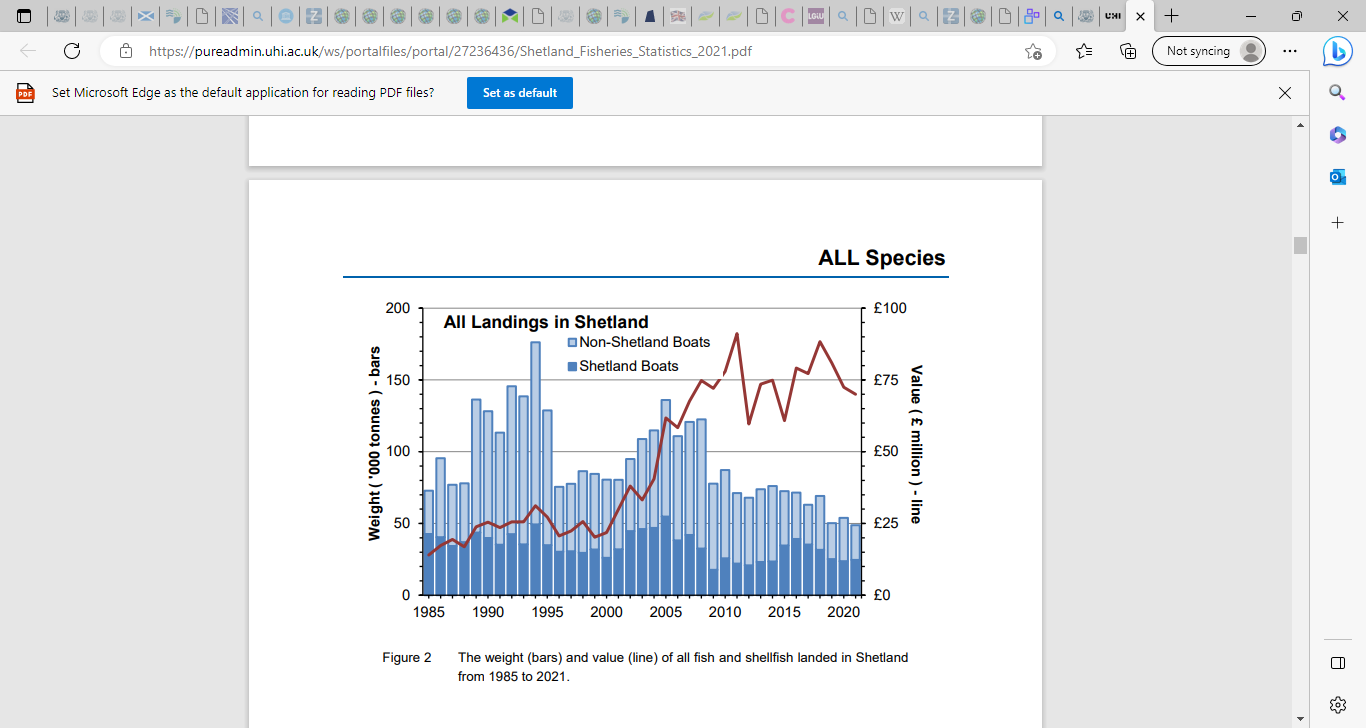
There are predicted to be changes in rainfall patterns in the future caused by climate change with drier summers and wetter winters and the impacts of this on domestic and industrial supplies are unknown at this time. The reliance of Shetland on surface water sources for raw water also means that there could be supply and quality issues.

* Fishing and Aquaculture industries

In 2021, a total of 49,000 tonnes of fish and shellfish was landed in Shetland to a value of £70 million (Source: NAFC Shetland Fisheries Statistics 2021). In a national context, about one-fifth of all the finfish landed in Scotland in 2019 and just under one-sixth of all landings in the UK were made in Shetland. More fish and shellfish were landed in Shetland than in any other UK port, except Peterhead. The fishing industry is comprised of the three sectors listed below:

* pelagic fishery – mackerel, herring, blue whiting and similar species;
* whitefish (or demersal) fishery – haddock, cod, anglerfish, some shellfish (cuttlefish, nephrops & squid); and,
* shellfish fishery – scallops, crabs, lobsters, whelks.

Figure 4.4 – The weight (bars) and value (line) of all fish and shellfish landed in Shetland from 1985 to 2019



*Source: Napier, I.R., 2022, Shetland Fisheries Statistics 2021, NAFC Marine Centre UHI* ([Shetland\_Fisheries\_Statistics\_2021.pdf (uhi.ac.uk)](https://pureadmin.uhi.ac.uk/ws/portalfiles/portal/27236436/Shetland_Fisheries_Statistics_2021.pdf))

Aquaculture is an important industry in Shetland with Mussel and Salmon farming being the most common industries. There are 230 registered aquaculture sites in Shetland;

* 64% of these sites are for shellfish, mainly mussels at 145 sites, 1 oyster and 1 whelk;
* 36% of these sites are finfish with 83 sites;
* 98% of the finfish sites are seawater rather than freshwater;

The size and success of Shetland’s aquaculture industry is due to three main reasons:

1. The Zetland County Council Act 1974 gave Shetland local control on the industry as it developed at a time in the past when other local authorities had not much control,

2. Significant investment by the Council and the Charitable Trust provided support for the industry to expand,

3. Shetland having good pier/ slipway/ infrastructure and small voes so less distance between sites and ports.

These three factors as well as the environment allowed Shetland’s aquaculture to grow to what it is now. The aquaculture industry is very important for the number of rural jobs that it supports as shown in ***Table 4.1***. Given the location of growing sites these jobs are often located in Shetland’s more rural areas providing access to employment for remote and rural communities. Salmon farming is of national importance and is Scotland’s top food export.

Table 4.1 Atlantic Farmed Salmon, Staff and Production

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Year** | **Staff**  **F/T (P/T)** | | **Annual Production** | | **% National Production in Shetland** |
|  | **Shetland** | **Scotland** | **Shetland** | **Scotland** |
| 2011 | 189 (22) | 923 (90) | 35,493 | 158,018 | 21.8 |
| 2013 | 210 (14) | 1,081 (99) | 36,694 | 163,234 | 22.5 |
| 2015 | 228 (19) | 1,256 (107) | 42,786 | 171,722 | 24.9 |
| 2017 | 207 (12) | 1,320 (69) | 38,908 | 189,707 | 20.5 |
| 2019 | 227 (6) | 1,591 (60) | 36,141 | 203,881 | 17.7 |
| 2021 | 276 (10) | 1,441 (54) | 43,770 | 205,393 | 21% |

*Source: Munro, L. 2022. Scottish Fish Farm Production Survey 2021. Marine Scotland Science (*[scottish-fish-farm-production-survey-2021.pdf (www.gov.scot)](https://www.gov.scot/binaries/content/documents/govscot/publications/statistics/2022/10/scottish-fish-farm-production-survey-2021/documents/scottish-fish-farm-production-survey-2021/scottish-fish-farm-production-survey-2021/govscot%3Adocument/scottish-fish-farm-production-survey-2021.pdf)*).*

The shellfish industry in Shetland is the biggest in Scotland as shown in ***Table 4.2***. Mussels from Shetland are mainly used for UK supermarkets and restaurants, and it is a very limited number that leave exported outside of the UK.

Table 4.2 – Mussel Production (Tonnage)

|  |  |  |  |
| --- | --- | --- | --- |
| **Year** | **Shetland** | **Scotland** | **% National Production in Shetland** |
| 2011 | 4,567 | 6,996 | 65.2 |
| 2013 | 4,337 | 6,757 | 64.2 |
| 2015 | 5,565 | 7,270 | 76.5 |
| 2017 | 6,647 | 8,232 | 80.7 |
| 2019 | 5,324 | 6,699 | 79.5 |
| 2021 | 6,850 | 8,590 | 80% |

*Source: Munro, L.A, 2021. Scottish Shellfish Farm Production Survey 2021.. Marine Scotland Science. (*[Scottish Shellfish Farm Production Survey Data | Marine Scotland Data Publications](https://data.marine.gov.scot/dataset/scottish-shellfish-farm-production-survey-data)*).*

Mussel farming is considered to be one of the least environmentally damaging ways to produce high quality animal protein, as they are natural and require no input of food or chemicals. Mussel farming is constrained by carrying capacity for water bodies to make sure they do not take too much nutrients out of the water column.

Given the long and successful history of aquaculture in Shetland there are limited options for expansion of the industry. There is an ongoing trend for consolidation as both shellfish and finfish are moving towards bigger sites, although this often includes revoking other sites so that there is often no overall increase in biomass in an area as part of this process. The reasons for this are improvements include technology, economics, fish health, environmental and amendments to SEPA modelling. Over time environmental protection has improved as new data and a greater understanding of the issues has become available. Advancements in technology have also been important. However, there are still problems such as sea lice for finfish sites, but industry is attempting to address this with natural and technological improvements. SEPA’s modelling and rules has improved over the years which should improve the issue of fish waste on the environment and be more reactive.

In the longer term the finfish aquaculture industry is likely to consider offshore sites which would be better environmentally as they will be in deeper faster flowing water. Economically it is likely that this would mean significantly bigger sites. There are presently no offshore finfish farms in Shetland water.

* Marine Designations

**Marine Region**

Under the Marine (Scotland) Act 2010, Scottish Ministers were given the power to identify the boundaries of Scottish Marine Regions (SMRs). 11 Marine Regions have been created in Scotland which cover sea areas extending out to 12 nautical miles. One of these areas covers Shetland and along with the Clyde Marine Region it is one of the first regions to be directed to take forward Marine Planning. The Shetland Islands Regional Marine Plan is the first plan to be completed and is currently with the Scottish Government for adoption.

**Shellfish Water Protected Areas**

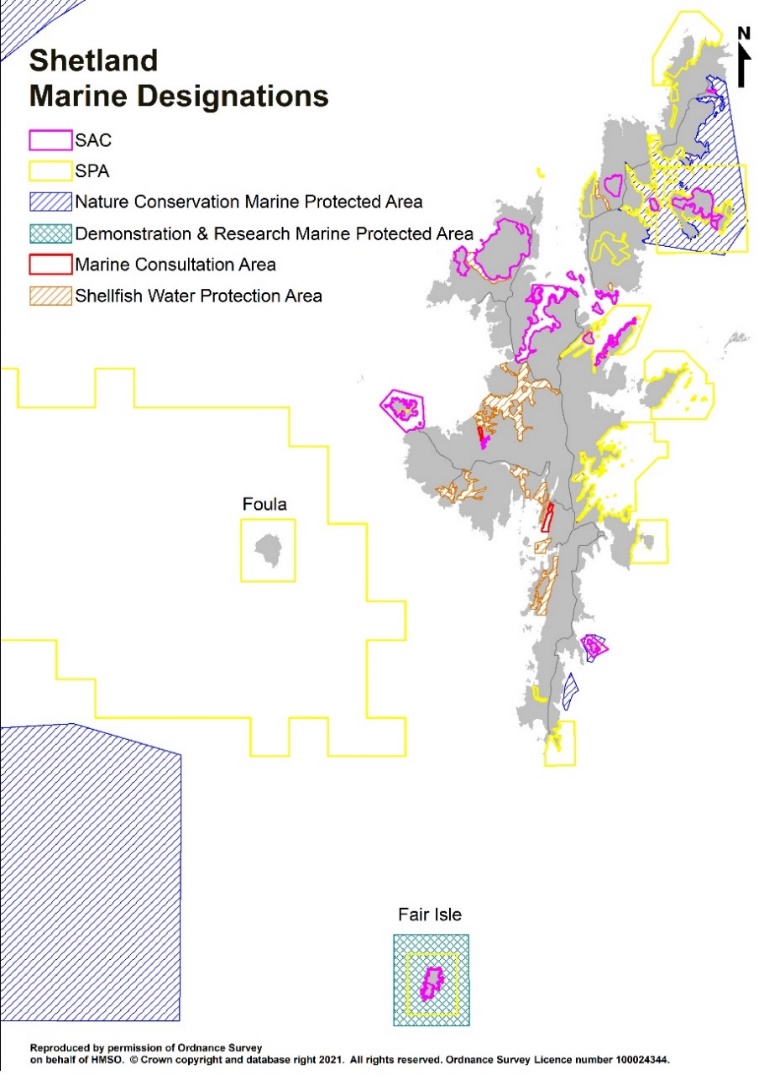
The European Community Shellfish Waters Directive 79/923/EEC, was adopted in 1979 to protect and, where necessary, improve the quality of waters where shellfish grow and to contribute to the high quality of directly edible shellfish products. In response to the requirements of the Shellfish Waters Directive SEPA has developed Pollution Reduction Plans for designated shellfish waters in Scotland. The requirements of the Directive were transcribed into Scottish law by a Designation Order (The Water Environment (Shellfish Water Protected Areas: Designation) (Scotland) Order 2013) which identified 84 waters as ‘shellfish water protected areas’. Of these sites, 22 are around Shetland, and the location shown in ***Figure 4.4*** on the following page. The setting of environmental objectives for these areas has been made under The Water Environment (Shellfish Water Protected Areas: Environmental Objectives etc) (Scotland) Regulations 2013).

There are also a number of marine and offshore sites designated for various heritage reasons including, nature conservation and sustainability. These include Marine Consultation Areas, Nature Conservation Marine Protected Areas, Demonstration and Research Marine Protected Areas, Special Areas of Conservation and Special Protected Areas, these are covered in more detail in ***Topic 1*** (Biodiversity, Flora and Fauna).

**Marine Pollution**

Marine pollution arises from various different sources including domestic sewage, industrial waste, naturally occurring nutrients and ballast discharged offshore by oil tankers. Other forms of pollution are those caused by noise and light; these are especially relevant in terms of aquaculture. Eutrophication, the enrichment of water, can be caused by high levels of pollution from, amongst other things, too many sewage outfalls and badly positioned septic tanks. Marine pollution can also occur in the event of an oil spill or marine dumping. Increasing levels of plastic and marine litter in the oceans is a global issue.

*Figure 4.4 Marine Designations in Shetland*



*Source: Marine Scotland*

* Key Messages

The quality of both freshwater and coastal waters is relatively high in Shetland. Flooding related to climate change including sea-level rise and extreme weather is an increasing issue which may have implications for Shetland both in the short and longer term.

Fishing and aquaculture is a key industry in Shetland and the SIC Climate Change Strategy will look to support the decarbonisation of this industry and recognise the different interests in our coastal waters as it seeks to create and retain wealth within the local economy.

The marine environment in Shetland has a number of designations in place to protect its special qualities. The new Marine Region Plan will be a key element in managing both the development of industry and in the protection and enhancement of the marine environment.

The quality of the public water supply is generally good and there are only a few private water supplies in the region.

The rural nature of Shetland and the dispersed settlement pattern means that there are a high number of private sewerage treatment plants and small scale Waste water Treatment Works (Septic tanks).

At this time flooding is not a significant issue in Shetland although this may change with climate change and sea level rise.

* Topic 5: Air
* Air Pollution

Air pollution results from the introduction of a range of substances into the atmosphere from a wide variety of sources, including industry, transport and power generation. Even domestic activities such as driving, heating and cooking contribute, as do natural sources like sea salt, wildfires, volcanic activity, soil erosion and farming (Scottish Government, 2015). Poor air quality poses significant risks to the environment and / or human health. However, air quality in Shetland is generally good in terms of national air quality objectives and there are no significant air quality issues. There are no Air Quality Management Areas in Shetland.

Air pollution can have short and long-term effects on:

* health, particularly for people with pre-existing health conditions;
* the environment causing acidification of soils and water, damaging plant and animal life in forests, lochs and rivers;
* biodiversity through nutrients being added to the soil; and,
* the fabric of buildings and historic monuments.

The main industrial area in the islands is the Gremista and Green Head Industrial Estate to the north of Lerwick. There is a high concentration of regulated activity in this area including a landfill site, energy recovery plant and an oil-fired power station. The Sullom Voe oil terminal handles around 25 million tonnes of oil each year and also contains a power station that supplies some of the island’s electricity. Other industrial processes include quarrying, mineral processes and fish processing activities.

Air Pollution sources in Shetland are identified in ***Table 5.1***.

Table 5.1 – Air Pollution sources in Shetland

|  |  |
| --- | --- |
| **Source** | **Description** |
| **Road Traffic** | Traffic density is very low in comparison to motorway and city traffic. There are very few roads and junctions where traffic is in excess of 5,000 and 10,000 vehicles per day. |
| **Other Transport** | There are air and seaports but no trains in Shetland. The main airport is Sumburgh and the main seaports are Lerwick, Scalloway and Sullom Voe. |
| **Industrial** | The key industry sectors in Shetland are Fisheries, Oil Production Operations and Agriculture. A (small) major fuel storage depot is located in Lerwick. |

*Source: SIC*

* Air Quality

The Air Quality Strategy for England, Scotland, Wales and Northern Ireland provides a framework for air quality control through air quality management and air quality standards. The aim of the Strategy is to set out air quality objectives and policy options to further improve air quality in the UK from today into the long term. As well as direct benefits to public health, these options are intended to provide important benefits to quality of life and help to protect our environment.

The Air Quality (Scotland) Regulations 2000 (and the 2002 and 2016 amendments) set out a series of air quality objectives for key pollutants. These include; Benzene; 1,3-Butadiene; Carbon Monoxide Lead; Nitrogen Dioxide; Particles (PM10 and PM25) &; Sulphur Dioxide.

Where air quality objectives are not being met, Local Authorities have a duty under the Environment Act 1995 to review and assess the air quality within their geographical areas. The process is designed to identify any exceedances of the UK Air Quality Strategy Objectives. Where a local authority identifies an area where these are exceeded they are required to develop and implement a plan (with stakeholders) to improve air quality within the area. These areas are called Air Quality Management Areas (AQMA).

There are no existing air quality constraints or significant areas of pollution in Shetland. At present there are no AQMAs in Shetland, the nearest being in Aberdeen and Inverness.

The Local Air Quality Management (LAQM) process requires local authorities to provide progress reports in the intervening years between the three-yearly Updating and Screening Assessment reports. The latest LAQM Progress Report for Shetland (2020) provides information on developments and air quality monitoring. The Report concludes that historic monitoring indicates no exceedances of national air quality objectives are likely to occur in Shetland. Furthermore, the decarbonisation of buildings, transport and industry will result in a decrease in pollutants being released to atmosphere. The SIC Climate Change Strategy has an important role to play in helping the Council achieve its aim of maintaining air quality.

**Air Quality Monitoring in Shetland**

The SIC does not undertake any automatic (continuous) monitoring within the authority’s area. This is due to past monitoring results indicating that concentrations were all below the national objectives, thus negating the need for further monitoring.

Nor does SIC undertake any non-automatic (passive) monitoring of NO2 within the authority’s area. This is due to past monitoring results indicating that concentrations were all below the national objectives, thus negating the need for further monitoring.

* Key Messages

Air pollution in Shetland is low with no Air Quality Management Areas at present and none anticipated in the near future. However, certain industrial developments may lead to local air quality issues and this needs to be considered as well as measures to continue to reduce emissions from travel and energy generation.

The SIC Climate Change Strategy aims to support the decarbonisation of buildings, transport and industry which should help to improve air quality, however, given that air quality is already high the SEA objective is to maintain, rather than attempt to improve it.

* Topic 6: Material Assets

Material assets in SEA covers a wide variety of assets and resources both built and natural. Many are covered under other topics (e.g. agricultural land is covered under *Topic 4: Soils, energy is covered under Topic 7: Climate Factors*). The issues covered within this section are:

* waste;
* transport infrastructure;
* telecommunications infrastructure; and,
* Minerals.

There is no longer a discrete sustainable development strategy for Scotland, rather the concept has been embedded into its overall purpose. SPP highlights the need to contribute to sustainable development and the tackling of climate change into the development plan process. Local Authorities have a legislative duty to contribute to sustainable development and this links with the aims of the Scottish Government to create a more successful country, with opportunities for all of Scotland to flourish, through increasing sustainable economic growth.

* Waste

Recycling in Shetland is limited by its remote location. A kerbside recycling scheme was introduced in 2018 with waste collection moving from weekly to fortnightly. The scheme allows residents to recycle paper, cardboard, cans, some plastics and cartons at the kerbside. Households wishing to recycle glass can do so at central recycling points, although SIC have provided storage bags to assist households achieve this.

At present much of the waste for landfill is diverted to other sources, including fuel for the District Heating system in Lerwick. Any materials for recycling in Shetland have to be transported to mainland Scotland by boat and onwards by road, the environmental and financial costs of which are high, however, these are still lower than the alternatives.

SEPA compiles annual data on household waste estimates. The proportion of household waste that is recycled, goes to landfill and is diverted from landfill is shown in ***Table 6.1*** for both Shetland and Scotland*.*

The recycling rate in Shetland has increased significantly since the introduction of kerbside recycling, however, it is still the lowest in the country. Yet there is a much lower percentage of waste going to landfill than other areas due to the District Heating Scheme. The amount of waste generated overall has increased and the proportion of the waste recycled has decreased.

Zero Waste Scotland’s recent technical report on “The climate change impacts of burning municipal waste in Scotland” notes that the Shetland Energy Recovery Plant is the only heat-only plant in Scotland, and has a considerably lower impact than the other Energy from Waste plants because it operates at a higher energy efficiency”.

Figure 6.1 – Household Waste

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Year** | **Area** | **Generated (Tonnes)** | **Recycled (%)** | **Other Diversion from landfill (%)** | **Landfilled (%)** | **Carbon Impact (TCO2e per person)** |
| 2017 | Shetland | 9,996 | 7.9 | 69.6 | 22.6 | Unknown |
|  | Scotland | 2,498,981 | 45.2 | 9.5 | 45.3 | Unknown |
| 2018 | Shetland | 9,649 | 10.5 | 67.1 | 22.3 | 1.35 |
|  | Scotland | 2,405,246 | 44.7 | 12.4 | 49.9 | 1.06 |
| 2019 | Shetland | 9,648 | 17.1 | 63.1 | 19.8 | 1.28 |
|  | Scotland | 2,421,790 | 44.9 | 23.8 | 31.3 | 1.04 |
| 2021 | Shetland | 9,625 | 16.9 | 58.1 | 24.9 | 1.27 |
|  | Scotland | 2,483,304 | 42.7 | 30.5 | 26.7 | 1.08 |

*Source:* [*https://www.sepa.org.uk/environment/waste/waste-data/waste-data-reporting/waste-data-for-scotland/*](https://www.sepa.org.uk/environment/waste/waste-data/waste-data-reporting/waste-data-for-scotland/)*.*

* Transport Infrastructure

The Scottish Index of Multiple Deprivation ([SIMD](https://www.gov.scot/collections/scottish-index-of-multiple-deprivation-2020/)) gives an indication of the accessibility faced by the whole of Shetland and more specifically on its more remote islands, with over 50% of the Shetland data zones being within the Index’s most deprived 10% in terms of geographic access to services. The Transport Service has recently undertaken a detailed SEA as part of developing the new Draft Regional Transport Strategy for Shetland[[30]](#footnote-30).

**Road**

Shetland has 723 miles of road network, the majority of which are minor roads. ***Figure 6.2*** provides a breakdown of the network by road type. As highlighted in Section 2 Shetland has a higher proportion of households with access to a car than the Scottish average and this reflects the heavy reliance on the private car in Shetland due to remote and rural nature of the island group.

Figure 6.2 – Proportion of road types in network by length

*Source: SIC*

There is a bus service in Shetland which provides a vital service to Shetland’s many rural communities and essential access to work, healthcare, retail and leisure. However, while data is only available on a regional scale for the Highlands, Islands and Shetland ([Transport for Scotland](https://www.transport.gov.scot/publication/scottish-transport-statistics-no-38-2019-edition/)) this indicates that use of public transport fell by nearly 20% between 2014 and 2019.

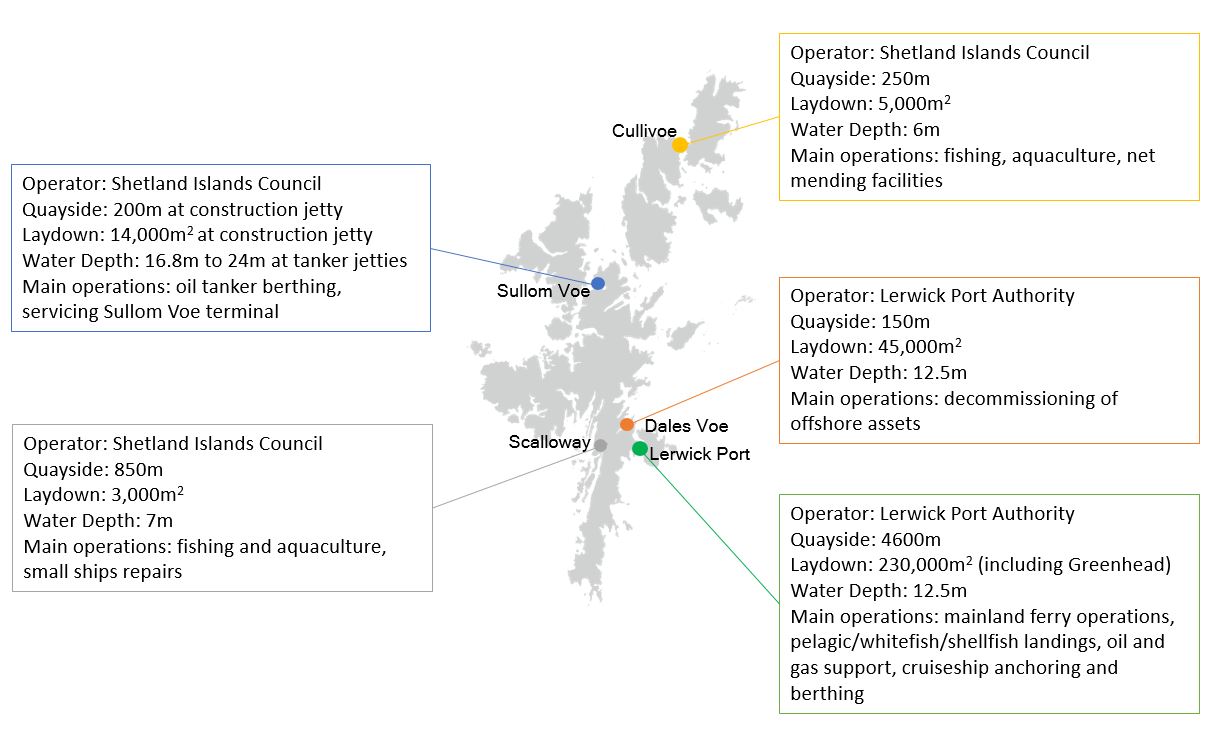
**Air**

The main airport in Shetland is at Sumburgh; in 2019 it dealt with 328,163 (HIAL) passengers. Sumburgh airport connects directly to Kirkwall, Inverness, Aberdeen, Glasgow, Edinburgh and Bergen (summer only). There has been significant investment in the airport recently years to improve facilities and services.

The Shetland Islands Council operate inter-island air services from Tingwall airport to the some outer islands of Shetland including Fair Isle and Foula. Flights to Fair Isle operate 6 days a week in the summer, 5 days in winter. Flights to these outer islands are often subject to disruption due to the weather.

**Sea**

Shetland has a network of ports, harbours and marinas, figure 6.3 below highlights the largest although there are piers or marinas in most communities. Ownership varies but they are key enablers for many industries on the island such a: fishing, aquaculture, oil and gas and tourism and provide a port for our lifeline ferry services, both within the isles and to connect to the mainland. Ports will retain their huge importance to many existing and emerging activities throughout Shetland.

Figure 6.3 – Shetland’s largest port and harbours

* Telecommunications Infrastructure

**Broadband**

Superfast and fibre coverage in Shetland is 76.6%, with 1.7% with a speed less than 2Mbps according to the Local Broadband information website. The roll out of high speed broadband will be vital to enabling people to work

The Scottish Government R100 programme aims to ensure that all homes and businesses in Scotland have access to broadband speeds of 30Mbps - this is behind schedule and at present only around 75% of Shetland has access to internet of this speed, while 17%[[31]](#footnote-31) of coverage in Shetland has access to speeds of less than 10Mbps, which is below the UK Government’s new legally binding Universal Service Obligation. Fibre broadband is available in some areas of the mainland, and the North Isles Fibre project has extended the Council’s fibre network to Yell and Unst for the use of public services, but significant areas of Shetland, including large parts of the mainland and the outer islands, have no access to fibre connectivity.

Vulnerability of the telecommunications infrastructure was highlighted in October 2022 when internet and phone services were cut following damage to two sub sea cables. The incident led police to declare a major incident.

**Mobile Voice and Broadband**

Mobile phone coverage (2G) and mobile broadband coverage (3G/4G) is patchy in Shetland. Between the main networks, most of Shetland has 2G coverage although there are key gaps and *NotSpots* in the network. Again, between the main networks, much of Shetland now has 3G coverage but with notable exceptions in the northern and outer Isles and a large number of *NotSpots*. 4G is increasingly available from some of the main networks for much of mainland Shetland.

* Mineral Extraction

Quarrying, minerals and aggregates data is poorly recorded in Shetland, with little sales data available, largely for reasons of commercial confidentiality surrounding relatively small operations and the significant variability over time due to the nature of the various construction related industries and activities.

* Key Messages

Shetland has the lowest recycling rate in Scotland, this is in part due to challenges related to its remote location. However, it also has low levels of waste going to landfill due to the Energy Recovery Plant. There will be a requirement for this to change, given the new legislation, more waste will be recycled but will require to be shipped out of Shetland and more waste will need to be imported for the energy recovery plant to operate efficiently.

Given the geography of Shetland there is a heavy reliance on the private car, air and sea transport. Mobile voice and mobile broadband capability are improving with plans for further rollout but NotSpots remain. Some areas of central, south and north mainland Shetland have access to fibre broadband, and the North Isles Fibre project has extended the Council’s fibre footprint to Yell and Unst for the use of public services, but there are considerable areas of Shetland which continue to have no access to superfast (30Mbps) broadband.

The SIC Climate Change Strategy is likely to have an impact on material assets given the ambition to Transition to clean, secure and affordable energy. This will have a direct impact on demand for infrastructure and services.

* Topic 7: Climatic Factors

**Climate change is a global issue with a strong global consensus that greenhouse gases (GHG) must be reduced in order to avoid significant adverse effects. The Scottish Government is in the process of transitioning to a net-zero emissions Scotland. The Climate Change (Emissions Reduction Targets) (Scotland) Act 2019 introduced a statutory target to reduce Scotland’s greenhouse gas emissions net-zero by 2045 at the latest. With interim targets for reduction of at least 75% lower than baseline by 2030 also set.**

**Carbon dioxide in the atmosphere is the main driver of anthropogenic climate change and the current global average of 409.8 parts per million (ppm) is significantly higher than at any point in the last 800,000 years.**

**In recent years, increasing emphasis has been placed on the role of regional bodies and local government in contributing to energy efficiency improvements, and hence reductions in carbon dioxide emissions. Scottish Ministers set year on year targets to facilitate a year on year reduction.** In January 2020, the Council recognised the global climate emergency with a new strategic programme.

Two of the key projects undertaken to date are the Shetland Islands Council Net Zero Route Map[[32]](#footnote-32) and the Shetland Net Zero Route Map[[33]](#footnote-33). These reports provide a framework and plan for how and when Shetland will reach net zero.

* Current Sources of emissions in Shetland

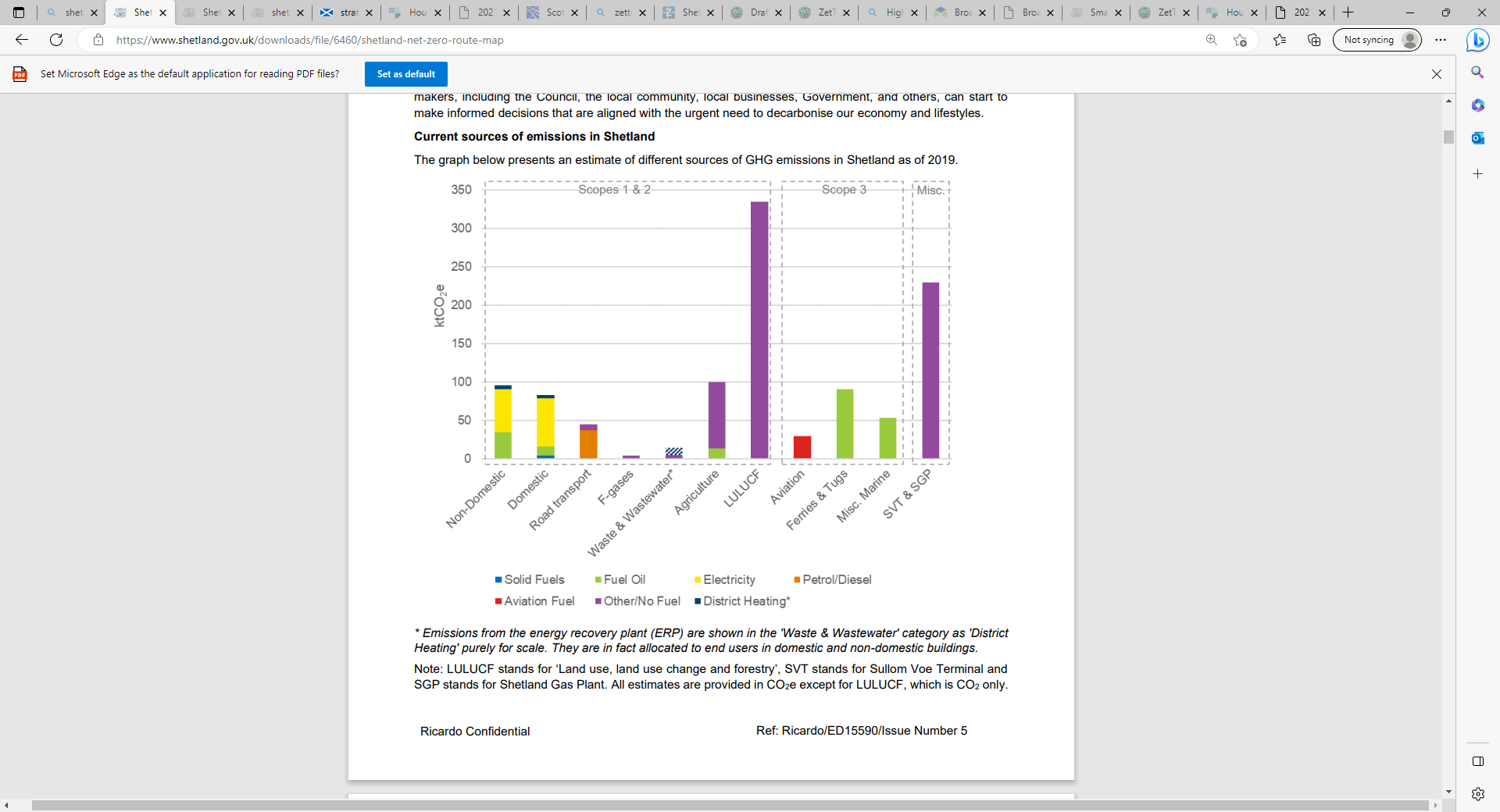


Figure 3. current emissions in shetland 2019, source shetland net zero route map https://www.shetland.gov.uk/downloads/file/6460/shetland-net-zero-route-map

**Figure 3** above highlights emissions by sector and fuel type or other emission source. The emissions profile for Shetland is highly unusual. Whereas for most Local Authorities, emissions are dominated by energy use in buildings and road transport, in Shetland some of the largest sources of emissions are from land use, energy industries, and agriculture.

The GHG emissions baseline is intended to highlight the scale of impact from different sectors and sources of emissions. It is important to understand that the relative scale of emissions does not necessarily mean that a sector is less efficient or inherently more polluting than any of the others. There are various complex factors at play, most notably:

* The rural setting and geography – emissions from buildings and road transport would be comparatively higher if the area was more densely populated, whereas emissions from marine vessels would be lower if it was in a landlocked setting
* The nature of Shetland’s economy – with oil and gas and agriculture being some of the key sectors
* The underlying geology and soil conditions – available data suggests that the single largest source of emissions is associated with the historic drainage of peat bogs, which continue to emit GHGs over long timescales

Scotland has a temperate maritime climate with generally cool summers, mild winters and rainfall spread throughout the year. There is variation between regions and seasons due to a range of factors, including latitude, distance from the sea, prevailing winds, ocean currents and altitude.

Shetland experiences weather similar to that of the Faroe Islands or Southern Norway, although, due to the Gulf Stream it is warmer than other areas on similar latitudes. Shetland experiences long cool winters and short mild summers. The general character of the climate is windy and cloudy, with an average wind speed of force 4 and with around 1,100 hours of sunshine per year. There are also big differences in day length with almost 19 hours between sunrise and sunset in summer but less than 6 in winter.

The climate is changing mainly due to anthropogenic reasons in Scotland (and globally), this is likely to continue in the future due to global emissions of greenhouse gases. Over the last 100 years it has become warmer, with drier summers, wetter winters and more frequent heavy rainfall. It is predicted that over the next few decades Scotland and the UK will in general experience milder wetter winters and hotter drier summers.

* Historic Trends and Future Predictions

The impacts of climate change are already being seen in Scotland with trends showing an increase in minimum and maximum temperatures and rainfall and a reduction in the number of days of frost and snow cover.

**Temperature**

In Northern Scotland the northern Outer Hebrides, Shetland and Orkney are warming at a similar level in all seasons, although Orkney has warmed slightly less in winter and Shetland less in summer.

The temperature in Shetland typically varies between 3oC and 15 oC with hottest temperature of the last 30 years being 23.4oC. ***Figure 7.1*** below shows the yearly average maximum temperatures for Lerwick, North Scotland, Scotland and the UK over different time periods.

Figure 7.1 – Yearly Maximum Average Temperatures

*Source: MetOffice. Contains public sector information licensed under the Open Government Licence v3.0. (Lerwick data only available for 1981-2010)*

Average yearly temperatures have increased in all areas over the time period. The highest increase is for the UK average with a rise of 0.6°C since 1961, 0.5°C in Scotland and 0.4°C in North Scotland. Although even in a high emissions scenario with 4oC rise in global temperatures, it is unlikely that the temperature in Shetland would exceed 25oC.

***Figure 7.2*** provides information on average monthly temperatures for Shetland and for North Scotland from 1981-2010. The average minimum monthly temperature in Shetland is warmer then the north of Scotland due to the maritime influence and shows less variation overall than other areas of the UK.

Figure 7.2 – Average maximum and minimum monthly temperatures 1981-2010

*Source: MetOffice. Contains public sector information licensed under the Open Government Licence v3.0. (Lerwick data only available for 1981-2010)*

**Precipitation**

The average annual rainfall for Shetland (Lerwick weather station) is 1256.8mm for the period 1981-2010; data for previous time periods is not available at the local level. This is lower than the Scottish average. ***Figure 7.3*** shows yearly average rainfall for Lerwick, North Scotland, Scotland and the UK over different time periods. Average annual rainfall has increased in all areas over the time period. Scotland and North Scotland have both experienced an increase in rainfall of 6.7% while in the rest of the UK the average increase is 4.9%.

Figure 7.3 – Yearly average rainfall

*Source: MetOffice. Contains public sector information licensed under the Open Government Licence v3.0. (Lerwick data only available for 1981-2010)*

***Figure 7.4*** provides information on average monthly rainfall for Shetland, North Scotland, Scotland and the UK from 1981-2010.

Over the past 30 years in Shetland there has been an average of 11 rainy days in the summer and 21 in the winter, even in a high emission scenario with a 4oC global temperature rise this would remain broadly the same. While the wettest summer day is projected to be 4% less than the currently high of 90mm over the last 30 years the wettest winter day could see an increase of 16% from the current 30 year high 46mm. This is in-line with current UK predictions with drier summers and wetter winters with more extreme events anticipated. In the short and medium term it is predicted that annual precipitation in Shetland by up to 10% annually.

Figure 7.4 – Average monthly rainfall 1981-2010

*Source: MetOffice. Contains public sector information licensed under the Open Government Licence v3.0. (Lerwick data only available for 1981-2010)*

**Wind**

The western and northern parts of Northern Scotland are, on average, the windiest in the UK, being fully exposed to the Atlantic and closest to the passage of areas of low pressure. It is generally windier in the winter, with an average of 14.5 days per month where the wind speed is in excess of 10 knots. The annual wind rose for Lerwick is typical of open level locations across the Northern and Western Isles, with a prevailing south-west wind direction through the year and frequent strong winds. Shetland is one of the stormiest places in Britain and can have up to five times as many storm days as mainland Scotland (<http://www.islandvulnerability.org/ShetlandCrichton.pdf>).

* Energy

The Scottish Government have produced a ‘heatmap’ to identify heat demand and potential supply across Scotland. Over 50% of energy used in Scotland goes on heating and cooling buildings and processes. The Heat in Buildings Strategy 2021, sets out the Scottish Government vision for the future of heat in buildings, and the actions the Scottish Government are taking in the buildings sector to deliver their climate change commitments. This aims to diversify our sources of heat, reducing pressure on household energy bills and maximising economic opportunity of the transition to a low carbon heat sector. Table 6.1 outlines the key findings of the heatmap for Shetland in gigawatts hours per year.

Table 7.1 – Shetland Heatmap Findings

|  |  |
| --- | --- |
| **Total Heat Demand (GWh/yr)** | **308** |
| **Public Heat Demand (GWh/yr)** | **10** |
| **Number of Energy Sources** | **22** |

*Source: Scottish Government (*[*https://www.gov.scot/publications/scotland-heat-map-documents/*](https://www.gov.scot/publications/scotland-heat-map-documents/)*)*

Shetland is not currently connected to the National Grid and there is no mains gas. It has two power stations, a diesel fuel Lerwick which is the principal source of electrical energy for Shetland, and a further gas turbine power station at the Sullom Voe Oil Terminal.

Both these power stations are high emitters of Carbon Dioxide. The Lerwick power station is coming to the end of its operational life and it is expected to cease operation no later than 2025. Ofgem has approved a 600MW HVDC link connecting Shetland to the GB mainland by the first time and this is expected to be operational by 2024. Planning permission has been granted for a number of large scale wind farms in Shetland, the 443MW, 103 turbine Viking Wind Farm has commenced construction following confirmation of the go ahead of the HVDC link and is also expected to be commissioned in 2024. As the peak electricity demand in Shetland is less than 50MW Shetland is likely to become a net exporter of renewable electricity in the near future. Shetlands energy is likely to be largely provided from local onshore wind in the future or imported via the HVDC link, however, there will be a requirement for some type of back up station in Lerwick. At present there is limited energy generation for renewables on the islands, however, this is likely to increase significantly during the life of the plan. ***Figure 6.2*** shows renewable energy generation in Shetland by type and kW installed.

Figure 6.1 – Renewable Energy generation and District Heating in Shetland by type & kW installed

*Source:* [*Shetland in Statistics 2017*](https://www.shetland.gov.uk/downloads/file/1738/shetland-in-statistics-2017)

There is currently a District Heating system in Lerwick serving approximately 1,000 properties. The system generates heat through a Waste Energy Plant which burns municipal refuse, waste material from offshore and refuse from Orkney. New legislation on waste management may impact the system in terms of materials available to burn.

**ORION Project**

The ORION (Opportunity Renewables Integration Offshore Networks) project is seen as vital to Shetland’s future. Both economically as there are significant challenges currently being faced alongside opportunity that needs to be harnessed and environmentally to deliver on its net carbon zero requirements. It is essential that Shetland develops new sectors and industries to provide a transition from the declining sectors that the Islands are faced with.  It is essential that new projects and ideas are progressed that will enable job creation, in transferrable sectors, which in turn can counteract the projected job reductions in the overall economy.  Shetland’s aspirations are to be the first Energy Hub in the UK and more specifically, to accelerate the transition of Oil & Gas – finding ways to reduce carbon footprint while delivering hydrocarbon production in existing and new developments.

The key objectives of the project are as follows:

* To supply 32TWh of low carbon hydrogen to UK consumers annually, 12% of the expected total requirement by 2050
* Produce green hydrogen, utilising wind and tidal energy, to fuel domestic heating, road, and marine transportation to Shetland
* Provide more than 3GW of wind generated electrical power to Shetland, the UK grid and electrification of the offshore oil and gas sector
* Enable all West of Shetland hydrocarbon assets to be net zero by 2030 and abate 8Mt/year CO2 by 2050
* Generate £5bn in annual revenue by 2050 and contribute significantly to the UK exchequer
* Provide sustainable employment for 1,750 people, locally and regionally, whilst maintaining a pristine environment.

With the approval in July 2020, of a 600MW interconnector between Shetland and the UK mainland and the project now underway, this results in a transformational change for Shetland and its significant wind resource.  Once operational, the link will ensure long term security of supply on Shetland whilst also allowing significant levels of low carbon generation to connect to the electricity network and that can contribute towards meeting Scotland’s Net Zero target. The interconnector creates a route to market for renewables generation. While Shetland will become a net exporter of decarbonised electricity, there remains the significant challenge of integrating large volumes of intermittent generation with ‘on island’ power requirements of people and businesses across electricity, heat & transport.

The ultimate aim of ORION is to ensure Shetland moves beyond the capacity of self-sufficiency in cleaner energy, to be capable of exporting renewable energy into the national grid and offshore, significantly contributing to the UK hydrogen demand, and helping develop offshore carbon capture and storage projects.  The ORION project is a transformational shift for Shetland and the surrounding oil and gas province, which will benefit the local community, the wider supply chain, provide long-term security of employment and energy security of significance at a regional and national scale.

**Oil & Gas**

Oil and gas extraction in the North Sea and west of Shetland remains a key industry and employer in the islands. 56% of businesses rely to a greater or lesser extent on this.

Sullom Voe Terminal is the largest oil and liquefied gas terminal in Europe. Situated 46kms north of Lerwick on the shores of Sullom Voe, it covers a site of approximately 400 hectares. Construction work started in 1974 with the first oil brought ashore in 1978.

The terminal was built to handle oil production from the Brent and Ninian oil fields in the North Sea. Oil is piped from these fields to the terminal in two 36 inch pipes. The terminal has a throughput design capacity of 1.2million barrels of crude oil per day. It reached its peak in 1984 with a total receipt of 439,434,656 barrels (53,328,785 tonnes).

Throughput has declined in recent years but the terminal remains strategically important for the UK oil and gas industry and has potential to handle output from new oilfields developing west of Shetland. Oil throughput at the terminal is shown in ***Figure 6.3***. Although oil output has been broadly stable in recent years the 333m long Very Large Crude Carrier, ‘Fort Endurance’ berthed at Sullom Voe in October 2020. The first vessel of this size for a number of years.

The future of the terminal is likely to dependent on whether BP continue to export oil from the Clair fields to Sullom Voe Terminal with a final decision expected shortly. It is possible Sullom Voe may close if another option is selected for exporting oil from the west of Shetland.

Figure 6.2 – Sullom Voe Terminal Oil Throughput in Tonnes

*Source:* [*Shetland in Statistics 2017*](https://www.shetland.gov.uk/downloads/file/1738/shetland-in-statistics-2017)

Shetland Gas Plant sits on the shores of Sullom Voe adjacent to the oil terminal on a site of 54 hectares. Gas fields west of Shetland are linked to the Plant by an 18 inch pipe and work is underway to link more gas fields to this pipe. The gas plant has a throughput design capacity of 500 million standard cubic feet of gas per day.

Construction of the plant began in October 2011 and the first gas was delivered to the plant in 2016. Processed gas is exported from the gas plant to St. Fergus on the UK mainland by pipeline.

* Transport

The Northlink ferry connecting Shetland to Orkney and mainland Scotland is estimated to serve approximately 300,000 passengers per year. There is an overnight sailing 7 days a week throughout the year. In addition there are a number of freight services operating serving industry and bringing essential supplies to Shetland. Passenger numbers for 2020 are down by over 70% due to Covid-19 whilst freight volumes have been less affected only showing a 9% year-on-year decrease.

The majority of Shetland’s food and drink is brought to the islands by sea. Lerwick Port handles around 900,000 tonnes of cargo annually. In addition, there is a major oil port at Sullom Voe which was built initially for production from North Sea oil and gas and now also handles oil from west of Shetland.

There is also a network of seven inter-island ferry services. Which provide a critical service linking the outer islands to the Mainland.

* Key Messages

Climate Change projections for the UK predict summers that are between 1°C and 6°C warmer and up to 60% drier and winters which are between 1°C and 4.5°C warmer and up to 30% wetter 2070 (<https://www.metoffice.gov.uk/weather/climate-change/effects-of-climate-change>).

The climate in Shetland is both warmer and wetter than it was 50 years ago and this trend is predicted to continue.

Shetland is estimated to have much higher Carbon Dioxide Emissions per capita than the rest of Scotland – estimates show that these emissions have been falling at a similar rate to Scotland over the last decade. This is a result of its remote locality and dispersed population. Although the proposed closure of the Lerwick Power Station could have a significant impacts on greenhouse gas emissions.

The SIC Climate Change Strategy may have an effect on greenhouse gas emissions through its ambitions for:

* Reduced emissions from SIC operations
* economic growth in key sectors (including energy);
* support for other initiatives including blue / green networks, 20 minute neighbourhoods and low carbon development.
* Supporting the development of more environmentally friendly travel options

Topic 8: Cultural Heritage

* Cultural Heritage

Shetland possesses a rich heritage and is home to many sites of historical value including Viking settlements, brochs, standing stones, ancient crofts and ruined chapels. These are all important contributors to Shetland’s strong and unique cultural identity. A number of areas and features have been designated due to their historical importance.

**Historic Inhabitants**

Shetland has been inhabited for over 6,000, the earliest date coming from a site beside the coast at West Voe. The earliest dates for Neolithic settlement were found during the recent construction of the Gas Plant, at Crooksetter and Firth’s Voe, which highlights the importance of archaeological work carried out alongside development. Shetland was farmed for about 3,000 before the brochs were built. Excavations at Old Scatness shows that these were constructed around 400-200 BC. The impressive network of brochs and the settlements around some of them, suggests that Shetland was thriving at the time.

By the time of the Viking invasions around 800AD. It is apparent that Shetland was part of a Pictish culture, similar to the North of Scotland and that Christianity had reached the islands. The Picts were accomplished crafts workers, leaving a legacy of carved stones and the intricately worked St Ninian’s Isle Treasure.

The relationship between the Picts and the Vikings is shrouded in mystery, but the Viking way of life gradually replaced that which had gone before and eventually Shetland became part of Norway itself. Norse rule in Shetland ended in 1468 when Denmark gifted Shetland (and Orkney) to Scotland as part of a marriage treaty. The Scandinavian legacy is still strongly apparent in Shetland through place names, archaeological sites, boat building techniques, Scandinavian inspired buildings, the Shetland dialect, and cultural events such as Up Helly Aa – a series of fire festivals held annually throughout the winter months. However, the fire festivals are a Victorian invention and began in the 1870s.

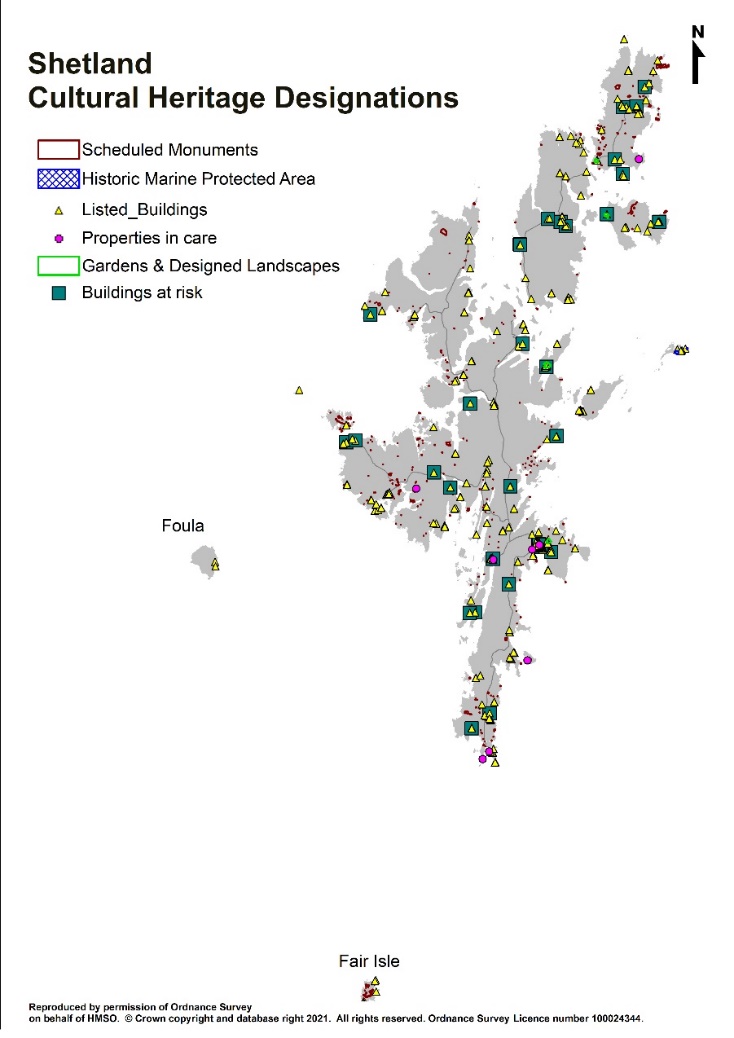
**Historic landscape**

The landscape we see today is the result of a long period of evolution, involving a complex interplay of the natural elements of climate, geology, geomorphology, soil development, habitat succession and herbivore impact. This has a rich overlay of human elements linked to its earlier inhabitants and their settlements, transport, farming, and fishing practices.

* Historic Environment Designations

There are a large number of cultural and built heritage designations in Shetland. This includes Scheduled Monuments, Listed Buildings, Conservation Areas, Historic Marine Protection Areas, and Gardens and Designed Landscapes. There are also a number of other key sites including properties in the care of Historic Environment Scotland and those owned by other bodies such as Shetland Amenity Trust. Some of the main historic environment designations in Shetland are shown on **Figure 8.1** on the following page.

Figure 8.1 - Map of Cultural Heritage Designations in Shetland

**

Source: Historic Environment Scotland. *This information is © Historic Environment Scotland and is licensed under the Open Government Licence v3.0*

**Archaeology**

Scheduled Monuments are given legal protection under the Ancient Monuments and Archaeological Areas Act 1979 as they are of national importance. National importance takes account of a wide range of factors, including artistic, archaeological, architectural, historic, traditional, aesthetic, scientific and social. The aim of Scheduling is to preserve sites and monuments as far as possible in the form in which they have come down to us today. Shetland currently has 392 scheduled ancient monuments classified in seven categories including secular, prehistoric ritual and funerary, industrial, ecclesiastical, crosses and carved stones, 20th century military and related but the majority of sites as classified as prehistoric domestic and defensive.

In addition to designated areas and buildings, Shetland Amenity Trust maintains the Sites and Monuments Record, (the Historic Environment Record). This holds records all aspects of the Shetland environment which have been impacted by human activity, ranging from pre-historic to the Cold War which are not part of the current pattern of landuse. There are currently 10,672 recorded sites; these are detailed in the ***Table 8.1*** below.

There are extensive archaeological remains in Shetland including Viking sites, brochs, wheelhouses, standing stones, ancient crofts and ruined chapels. Whilst many of these sites have been identified and are recorded within the SMR there is always the potential for unknown archaeological sites to be present and affected by development.

Table 8.1 – Shetland Sites and Monuments Record

|  |  |
| --- | --- |
| **Classification** | **No. of Sites (in Shetland)** |
| Broch / possible broch | 147 |
| Chambered Cairns | 141 |
| Souterrains | 27 |
| Fishing Stations | 38 |
| Burnt Mounds | 362 |
| Viking / Norse Houses | 102 |
| Military Remains | 657 |
| Wheelhouses | 9 |
| Other classifications | 9189 |

*Source: Shetland Historic Environment Record, Shetland Amenity Trust, Pers Comm*

**Conservation Areas**

A Conservation Area is 'an area of special architectural or historic interest, the character and appearance of which it is desirable to preserve or enhance' (Planning (Listed Buildings and Conservation Areas) Act 1990). There are three Conservation Areas in Shetland, two in Lerwick and one in Scalloway, with formal character appraisals having been undertaken for each site.

**Listed Buildings**

Listed buildings can include structures from great country houses to modest croft houses, tenements to toll houses, and post boxes to primary schools. They can date from the early medieval period up until the 1980s. They need not necessarily be ‘buildings’ but could be bridges, railings, mileposts or statues. Whether urban, rural, industrial, public or residential they all contribute to their particular area and to Scotland as a whole. They are integral to Scottish culture and provide a unique record of our economic and social history (Historic *(Environment)* Scotland, 2007).

Buildings are listed by Historic Environment Scotland for their special architectural or historic interest. They are assigned to one of three categories depending on relative importance:

* ***Category A*** - Of national or international importance either historic or architectural, or fine little-altered examples of a particular period, style or building type
* ***Category B*** - Of regional or more than local importance, or major examples of a particular period, style or building type which may have been altered
* ***Category C*** - Of local importance, lesser examples of any period, style or building type, as originally constructed or altered; and simple, traditional buildings grouped well with other in categories A and B or part of a planned group such as an estate or industrial complex

At the present time there are 519 Listed Buildings in Shetland, of those approximately 20% are in Lerwick. Table 8.2 below shows the number of buildings in each category.

Figure 8.2 – Listed Buildings in Shetland

*Source:* <https://britishlistedbuildings.co.uk/scotland/shetland-islands#.YD4LqWj7SUk>. *This information is © Historic Environment Scotland and is licensed under the Open Government Licence v3.0*

**Buildings at Risk**

The Buildings at Risk Register (BARR) for Scotland highlights properties of architectural or historic merit throughout the country that are considered to be at risk or under threat. A Building at Risk is usually a listed building, or an unlisted building within a conservation area, that meets one or several of the following criteria:

* Vacant with no identified new use
* Suffering from neglect and/or poor maintenance
* Suffering from structural problems
* Fire damaged
* Unsecured
* Open to the elements, and / or
* Threatened with demolition

To be at risk, a building does not necessarily need to be in poor condition, it may simply be standing empty with no clear future use. Many buildings at risk are in this latter category.

There are currently 35 buildings at risk in Shetland, many of which are old *Haas* (the Laird’s House), only 3 sites have been identified as having restoration in progress. ***Figure 8.3*** shows the level of risk to these buildings and ***Figure 8.4*** the current condition.

Figure 8.3 – Buildings at Risk in Shetland by category of risk

*Source: Buildings at risk register for Scotland,* <https://www.buildingsatrisk.org.uk/> *. This information is © Historic Environment Scotland and is licensed under the Open Government Licence v3.0*

Figure 8.4 – Buildings at Risk in Shetland by condition

*Source: Buildings at risk register for Scotland,* [*https://www.buildingsatrisk.org.uk/*](https://www.buildingsatrisk.org.uk/)*. This information is © Historic Environment Scotland and is licensed under the Open Government Licence v3.0.*

**Properties in Care of Historic Environment Scotland**

Properties in Care is a collection of monuments, which define significant aspects of Scotland's history, brought into care for their long term preservation and public benefit. Historic Environment Scotland manage them on behalf of the Scottish Ministers, for the benefit of people living in and visiting Scotland. These monuments range from standing stones to abbeys and castles and all provide an insight into Scottish history and the people who shaped the development of our country.

There are 8 Properties in Care in Shetland as shown in ***Table 8.3***.

Table 8.3 – Properties in Care in Shetland

|  |  |
| --- | --- |
| **Name of Property** | **Description** |
| Clickhimin Broch | A pre-historic and defensive broch in Lerwick with evidence dating from the Bronze Age |
| Fort Charlotte | A 17th Century artillery fortification in Lerwick |
| Jarlshof | A multi-period settlement site at Sumburgh including Norse settlement remains and structural remains from the Neolithic period up until the 17th Century AD. |
| Mousa Broch | Iron Age Broch on the Island of Mousa |
| Muness Castle | Castle built at the end of the 16th Century on Unst |
| Ness of Burgi | A pre-historic promontory fort south of Sumburgh |
| Scalloway Castle | A 17th Century Castle in Scalloway |
| Stanydale Temple | Prehistoric megalithic structure |

*Source: Historic Environment Scotland,* [*https://www.historicenvironment.scot/visit-a-place/explore-by-region/*](https://www.historicenvironment.scot/visit-a-place/explore-by-region/)*. This information is © Historic Environment Scotland and is licensed under the Open Government Licence v3.0.*

**Gardens and Designed Landscapes**

Gardens and designed landscapes are grounds which have been consciously laid out for artistic effect. They are an important element of Scotland’s historic environment and landscape and are a significant feature of the country’s heritage. There are four properties in Shetland that are on the register of Gardens and Designed Landscapes, shown in ***Table 8.4*** and in ***Figure 8.2***.

Table 8.4 – Gardens and Designed Landscapes in Shetland

|  |  |
| --- | --- |
| **Site Name** | **Location** |
| Belmont House | Unst |
| Brough Lodge | Fetlar |
| Gardie House | Bressay |
| Lunna House | Nesting |

*Source: Historic Environment Scotland. This information is © Historic Environment Scotland and is licensed under the Open Government Licence v3.0.*

**Historic Marine Protection Areas**

Historic marine protected areas identify marine historic assets of national importance which survive in Scottish territorial waters. These can be wrecks of boats or aircraft or more scattered remains, such as groups of artefacts on the seabed from a submerged prehistoric landscape (Historic Environment Scotland 2016).

There are 2 Historic Marine Protection Areas in Shetland. They cover two ship wrecks near Out Skerries. The *Kennemerland* and *Wrangles Palais* lie on the seabed, objects formerly contained in the vessels and deposits or artefacts which evidence previous human activity on board the vessels. There is a current consultation on the designation of another wreck, the *Queen of Sweden*, close to Twageos Point, at the southern entrance to Lerwick Harbour.

**World Heritage Status**

World Heritage sites are places that are important to everyone, irrespective of where in the world they are and to future generations (i.e. have outstanding universal value). They represent unique, or the most significant or best, examples of the world’s cultural and/or natural heritage and have been inscribed on the World Heritage List by the World Heritage Committee (UNESCO).

World Heritage status is a high accolade that brings with it responsibilities and international scrutiny. Shetland has three sites, Mousa, Old Scatness and Jarlshof on the UK Tentative List, which means that the UK Government believes that they have to potential to become World Heritage sites. Work to develop the full nomination of these sites to UNESCO for World Heritage status is ongoing.

* Key Messages

The region contains a range of diverse cultural heritage assets with a wealth of archaeological sites and monuments, supported by historic designations dating from early Neolithic times. Although, 95% of the archaeological resource is undesignated, much of it is of schedulable quality. The lack of a designation does not necessarily relate to its cultural value. For example, the remains at Old Scatness were largely unknown 25 years ago, while today they are on the UK Tentative List for World Heritage Status. While a number of the historic assets are in a poor condition and within Shetland only 8.5% of the buildings on the ‘at risk’ register having ongoing restoration.

* Topic 9: Landscape
* Landscape

“Landscape” means an area, as perceived by people, whose character is the result of the action and interaction of natural and/or human factors. This means that it includes nature and people, the past and the present, and tangible and intangible components[[34]](#footnote-34).

The NatureScot publication ‘Landscapes of Scotland’ provides the following description of the Shetland landscape:

*“An elongated group of islands, whose character is accentuated by the north-south trend of the hills and ridges. The dramatic coastlines are highly varied, with fjords, arches, stacks, beaches and tombolos (sand bars). The seas are busy with boat and ferry traffic.*

*The coast is where most of the settlement is located, including the distinctive capital of Lerwick with its narrow stone-flagged streets.*

*The islands are mostly tree-less while seabirds throng the coasts and cliffs. Frequent winds sweep over landscapes with long hours of summer light and winter darkness, and a strong sense of Nordic culture.*

*The landscape is rich in exceptionally well preserved archaeological remains. This includes a high proportion of nationally important sites, such as, at Mousa, the best preserved broch in Scotland, and extensive Norse remains in Unst.”*

* Landform Character and Use

Gillespie’s 1998 Landscape Assessment of Shetland (SNH Review No. 93) describes the landform of Shetland as having:

*“…a strong north-south linear quality to the central mainland with a landform of ridges and valleys which in the north turn north-east and south-west. The landform is generally undulating and coastal and other low lying areas, with numerous hillocks and hummocks.*

*…Broader scale hill masses are also evident, notably Ronas Hill. The north-south band of hills in the south mainland and the north-south ridge along the western edge of Unst.*

*…The topography and landform, influenced by geological forces and geomorphological processes has also been affected by changing sea level. The characteristic drowned valleys which form many of the voes and sounds are evidence of the rising sea level.”*

**Landscape Character**

Nature Scot, in conjunction with partner councils, has undertaken detailed review and classification of the various landscape areas and types in Scotland. Landscape Character is created by the way the physical components come together and can be defined as a “distinct, recognisable and consistent pattern of elements in the landscape that make one landscape different from another. The standard reference that describes landscape character in Shetland is now the “Scottish Landscape Character Types Map and Descriptions” (NatureScot, 2019) - <https://www.nature.scot/professional-advice/landscape/landscape-character-assessment/scottish-landscape-character-types-map-and-descriptions>. The Shetland landscape character assessment identifies eight primary landscape types which are further subdivided into detailed landscape character areas.

Inland landscapes are characterised by rolling hills, heather and rough grassland with historic buildings and features. Historic land use practices, particularly crofting and peat cutting, have helped to create the diverse landscapes. The primary landscape types are listed below:

* Major uplands
* Peatland and moorland
* Undulating moorland with lochs
* Inland valleys
* Farmed and settled lowlands and coast
* Farmed and settled Voes and Sounds
* Coastal edge
* Small Uninhabited Islands

The 2019 map has replaced the original standard reference “A Landscape Assessment of the Shetland Islands” (Gillespies 1998), which was one of a series of similar publications that covered Scotland.

**Land use and Land cover**

As described in Topic 4 (Soil), page 26 of this report, peat dominates the landscape and there are no areas of prime agricultural land in Shetland. The majority of land is used for rough grazing.

The principal form of agriculture on Shetland is crofting. Over the last century sheep rearing expanded leading to agricultural improvement of moorland and common grazing, a decline in hay and winter crops and an increase in silage production. Although this is not currently considered to be a significant pressure on the landscape.

Fish farming and aquaculture are key industries in Shetland (see Topic 3, Water, page 20). It is an important and appropriate development of a traditional industry for Shetland. It does have a significant visual impact which could detract from existing landscape qualities and as such must be carefully designed and sited.

Infrastructure used by the fishing industry and oil and gas also has an impact on the land and sea scape. There are no offshore renewables at present (see Topic 7, Climatic factors) but these too have the potential to impact in the future.

The landscape of Shetland is currently subject to significant change with construction on the 103 turbine Viking windfarm, one of the largest onshore wind farms in Europe having commenced. There are a number of other windfarms, albeit of a significantly smaller scale either consented or at the application stage.

The proposal to development a satellite launch facility and the associated infrastructure and industrial development could also have significant landscape impacts.

These developments means that the pace and significance of landscape change on Shetland is arguably at its greatest for thousands of years. Landscape change is considered in the development of the SIC Climate Change Strategy.

**Infrastructure and the landscape**

Shetland is generally sparsely populated with a series of small settlements and houses scattered throughout the landscape. There are a network of main roads and more minor roads throughout the landscape. Telecommunications masts are increasingly visible, especially with the role out of the AirWave telecommunication masts for the emergency services communications systems, across Shetland but coverage is still limited so this may increase in the future. There are a number of small scale airports throughout the islands, although many of these are no longer routinely operational and a large airport at Sumburgh taking advantage of areas of flat land.

There are larger ports at Lerwick and Sullom Voe with a number of smaller ports throughout the islands. There are numerous slipways, boat shelters and general evidence of marine activity throughout the islands indicating Shetland’s long connection with the sea.

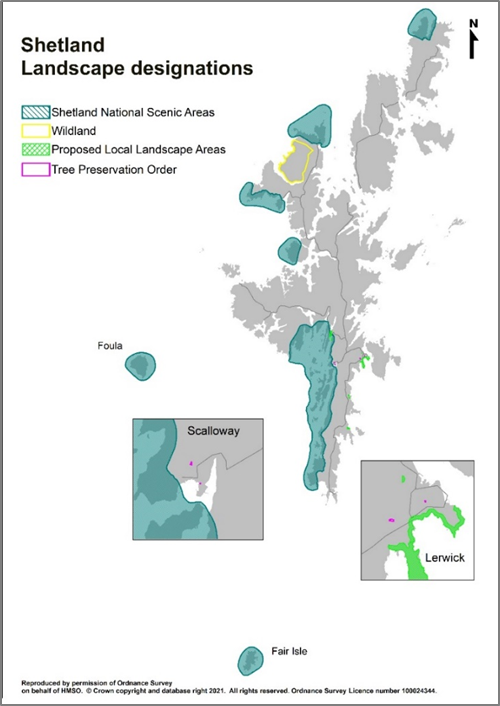
The main impact of the oil and gas industry on the Shetland landscape is the Sullom Voe Terminal (SVT) and the Total Gas Plant. SVT is the largest terminal in Europe and is responsible for extensive light pollution in the area whilst the rest of Shetland benefits from dark skies for much of the year and displays of the northern lights.

* Landscape Designations

There are a number of landscape designations in Scotland and a number of these are present in Shetland. This includes a National Scenic area, an area of Wild land and proposed Local Landscape Areas (PLLAs). The PLLAs were approved by the SIC for consultation with the public and stakeholders as part of the draft Supplementary Guidance, however this has not yet been adopted. There are no National, Country or Regional Parks in Shetland.

The landscape designations in Shetland can be viewed in ***Figure 9.1*** on the following page.

Figure 9.1 – Landscape Designations in Shetland

**

*Source: NatureScot and SIC*

**National Scenic Areas**

Scotland is renowned for its outstanding scenery, and the very best have been designated as National Scenic Areas (NSA). These are areas of exceptional scenic value and comprise some of the best examples of Scotland’s landscapes. Shetland has an outstanding coastline and the Shetland NSA comprises Shetland’s scenic highlights and epitomise the range of coastal forms varying across the island group. Some special qualities are generic to all the identified NSA areas, while others are relevant only to one or some of the NSA areas. The seven individual areas of the Shetland NSA are listed in ***Table 9.1***.

The special qualities (the characteristics that individually or combined, give rise to an area’s outstanding scenery) of the Shetland NSA are identified as:

* the stunning variety of the extensive coastline;
* coastal views both close and distant;
* coastal settlement and fertility within a large hinterland of unsettled moorland and coast;
* the hidden coasts;
* the effects and co-existence of wind and shelter;
* a sense of remoteness, solitude and tranquillity;
* the notable and memorable coastal stacks, promontories and cliffs;
* the distinctive cultural landmarks; and,
* northern light.

More details on the Special Qualities and how these relate to the individual NSA please refer to The Special Qualities of the National Scenic Areas Report ([Nature Scot Report No.374](https://www.nature.scot/sites/default/files/2017-07/Publication%202010%20-%20SNH%20Commissioned%20Report%20374%20-%20The%20Special%20Qualities%20of%20the%20National%20Scenic%20Areas.pdf)).

Table 9.1 – Shetland National Scenic Area

|  |  |  |  |
| --- | --- | --- | --- |
| **Site Code** | **Site Name** | **Area (ha)** | **Areas covered** |
| 9148 | Shetland NSA | * 15,486 land area * 26,347 marine area * 41,833 total area | * ***Fair Isle*** * ***Foula*** * ***South West Mainland*** - Fitful Head to Weisdale Voe and Skeld including Burra, Trondra and the islands to the north * **Muckle Roe** - western half of the island * **Eshaness** - including Hillswick Ness and the intervening coastline * **Fethaland** - broad coastal strip from Uyea to Burravoe in Northmavine * **Hermaness** - including Muckle Flugga and the western slopes of Saxa Vord |

*Source: Scottish Natural Heritage (2010). The Special Qualities of the National Scenic Areas. Scottish Natural Heritage Commissioned Report No.374 (iBids and Project no. 648) (*[*https://www.nature.scot/naturescot-commissioned-report-374-special-qualities-national-scenic-areas*](https://www.nature.scot/naturescot-commissioned-report-374-special-qualities-national-scenic-areas)*).*

**Wild Land Areas**

NatureScot has identified large areas of Scotland – chiefly in the north and west – which have largely semi-natural landscapes that show minimal signs of human influence. These may be mountains and moorland, undeveloped coastline or peat bog. NatureScot states that wild land is; i) a big part of Scotland’s identity; ii) brings significant economic benefits – attracting visitors and tourists; iii) offers people psychological and spiritual benefit; and, iv) provides increasingly important havens for Scotland’s wildlife.

Although capturing wildness is inherently difficult, as it is a subjective quality, NatureScot undertook work to measure relative wildness of these areas and published a map of wild land areas. These areas represent the most extensive areas of high wildness in Scotland. The Wild Land Areas identified are considered to be nationally important but are not a statutory designation. Scottish Planning Policy also states that any development proposal on wild land must “demonstrate that any significant effects on the qualities of these areas can be substantially overcome by siting, design or other mitigation”.

One small area in Shetland has been identified as a Wild Land Area. The Ronas Hill and North Roe area (shown in ***Figure 9.1****)* is of relatively limited extent. The area was identified as an area of wild land in particular due to its remote islands location and the absence of other wild land in the area. This area also has a number of natural heritage designations including and SPA, SAC, SSSI and Ramsar Site (see Topic 1, Biodiversity, Flora and Fauna).

**Local Landscape Areas**

There are 17 proposed Local Landscape Areas in Shetland (shown in ***Figure 9.2****)*. These areas were identified through the Shetland Islands Local Landscape Designation Review. The purpose of these is to ensure sympathetic siting and design of new development within these areas, it is not the intention to prevent development, but to encourage appropriate consideration of the landscape. The Draft Supplementary Guidance for the current Local Development Plan identifies these areas and provides development guidelines for each are to assist developers design appropriate proposals for these areas. The SIC Climate Change Strategy will align with these Development Guidelines. Full details are set out in ***Table 9.2***

Table 9.2 – Shetland Proposed Local Landscape Areas

| **Name** | **Area (ha)** | **Key Characteristics** | **Development Guidelines** |
| --- | --- | --- | --- |
| Ronas Hill | 4,238 | * A Shetland landmark, the highest point of the islands * Distinctive red granite geology is clearly expressed * Largely empty, uninhabited hills and moors * Rocky plateau, steep cliffs, and other rugged features | * Ronas Hill and the north shore of Ronas Voe should remain an area of very limited human influence. The further proliferation of infrastructure on Collafirth Hill may lead to visual clutter * Carefully consider the siting and design of any proposed development along the south shore of Ronas Voe * Seek to ensure that new and existing fish farms, and particularly the associated onshore components, can be assimilated into the landscape through design and ongoing maintenance Encourage sustainable and responsible recreational access into this landscape, to allow greater appreciation |
| Nibon and Mangaster | 2,508 | * Rugged landscape of rocky coastal hills interspersed with numerous lochans * Sequence of long views along voes and sudden opening of wide panoramas * Intricate coastal edge with an array of features and colours * Panoramic views across St Magnus Bay | * Seek to retain undeveloped wildness character: any development should be at the smallest scale, and should be very sensitively sited and designed * Encourage sustainable and responsible recreational access into this landscape, to allow greater appreciation * Maintain the wider setting of the NSA through control of development within this area |
| Vementry and West Burrafirth | 3,602 | * Distinctive rugged rocky terrain based on Lewisian gneiss * Complex interface between land and sea, intricate pattern of voes, sounds and islands * Isolated pockets of settlement around sheltered voes | * Seek to maintain sustainable communities which are sympathetic to the landscape * Development should be small in scale, and be sited and designed in accordance with the landscape setting * Carefully consider any proposals for new aquaculture, ensuring particularly that onshore works can be sited sensitively |
| Papa Stour and Sandness | 1,919 | * Intact settled coastal landscape with strong crofting-derived pattern * The varied coast of Papa Stour, including high stacks, dramatic caves, and vertical cliffs, as well as sandy bays * Sense of a long history of settlement within a contained and relatively remote part of the Mainland | * Seek to retain the strong land-use pattern, ensuring a continuation of the sympathetic modern development of this area which have retained its cultural and natural values * Promote responsible access and enable interpretation of the recent and distant past as well as the geological interest of the area. * Seek to conserve the historic features such as planticrubs, stone walls and noosts. |
| Walls and Vaila | 1,294 | * Contrasting landscape of gentle and sheltered inner voes and sounds, and a rugged, exposed seaward coast * An intact settled area with layers of past settlement and visible time depth * Inland, larger scale open areas of moorland provides a wild setting to the more intimate coastal edges | * Seek to retain the strong land-use pattern, ensuring a continuation of the sympathetic modern development of this area which have retained its cultural and natural values * Development should be directed away from the higher areas of moorland that enclose the coast and should be set below the skyline to retain the focus of development around the shoreline * Encourage sympathetic siting and design of new development, including restoration of traditional buildings where appropriate |
| Culswick and Westerwick | 1,404 | * Rugged, intricate coastline with tall cliffs, dramatic caves, and rocky coves expressing the granite geology * High variety of coastal features * Inland topography of gently undulating moorland interspersed with a high concentration of lochs and water courses * Intact crofting landscapes | * Development should be sympathetic to the existing pattern of settlement and located within the low-lying sheltered valleys * There is scope for small-scale development in association with existing settlements, provided that it is appropriately sited and designed * Continue to promote opportunities for responsible access to the coast |
| Weisdale | 1,125 | * Unique in Shetland as the location of the only substantial woodlands * An enclosed valley landscape, opening out to wide voe * Panoramic views across Weisdale Voe to the south, taking in an attractive composition of the islands and sea towards Fitful Head | * Seek to retain the distinctive woodland of the upper valley * Retain largely undeveloped skyline that encloses the area and forms an important back-drop to the voe * Development should be sympathetic to the existing pattern of settlement and located on the lower-lying coastal edge |
| Scat Ness and Sumburgh Head | 272 | * Dramatic headlands jutting into the open sea * Rich historical background represented by world-class archaeological sites * The distinctive approach to Sumburgh Airport across the headland * An accessible area for viewing scenery, history and wildlife | * Seek to resist the further proliferation of communications equipment on Sumburgh Head, which may give rise to visual clutter * Seek to retain the pattern of tofts in Scatness. Development within the settlement should be sympathetically sited and designed. The open, undeveloped nature of the southern part of Scat Ness should be maintained * In planning for access, the distinction between the more accessible Sumburgh Head and the less accessible Ness of Burgi should be retained to preserve their individual characters |
| No Ness and Mousa | 381 | * An undeveloped headland within the most densely settled part of Shetland * Prominent position on the south Mainland coast, with long visual links * Important cultural landmarks * Jagged rocky foreshores and sandstone strata | * Seek to protect the largely undeveloped nature of the headland, as a contrast to the settled land to the west * Promote responsible access and understanding of the area’s past * Seek to protect the setting of the important group of historic buildings and Sand Lodge |
| Aith Ness and Noss | 1,084 | * Dramatic seascapes: high cliffs; rocky headlands; sheltered bays * Landmark cliffs of the Noup of Noss * Relict landscapes both ancient and modern | * The designation focuses on the distinction between the settled west of Bressay, associated with Lerwick, and the less developed east. Planning should seek to maintain this distinction * Substantial development should be resisted, to retain the open landscape * Small-scale development should be sympathetically sited and designed, in order to maintain the character of the landscape. * Continue to promote responsible access to features of interest within the area, while protecting their landscape setting |
| Gletness and Skellister | 1,077 | * An intact, settled area, whose character has been preserved through a sympathetic approach to development * An understated beauty of intricate and generally sheltered coast, rocky islands and ayres * Rich in wildlife, a quiet tranquil area | * Development should be permitted in this area if it is at an appropriate scale, and is suitable in terms of siting and design * There is potential for careful development to contribute to this landscape, as shown by sympathetic modern buildings in the area * Seek to preserve the more open, remote character of the outer headlands, in contrast to the more settled area around Benston |
| Lunna Ness and Lunning | 2,161 | * Attractive settlements around Vidlin Voe, with a distinctive pattern and character * Long, narrow and remote headland of Lunna Ness * Rugged moorland hills around Lunning * Historic features and associations at Lunna, including the ancient kirk and Shetland Bus | * Seek to preserve the distinctive character of the settlement around Vidlin Voe * Ensure that any development is appropriate in scale, siting and design, and that it complements the landscape character of the area * Protect the undeveloped nature of Lunna Ness, while continuing to promote responsible access to sites within the area |
| Wick of Tresta | 504 | * Secluded bay, a hidden gem * Bright, broad sandy beach * Enclosed by soft green cliffs and sinuous profile of Lamb Hoga | * Any development within the area should be sympathetic to the setting of the beach within the bay; * Development should not be permitted in the area behind the beach, to preserve the setting of kirk and manse. * Development should not be permitted south and west of Papil Water and the beach, to preserve the open backdrop to the beach when viewed from Tresta |
| Colvadale and Muness | 956 | * Deserted settlement and relict patterns of croft boundaries and empty buildings * Backed by the bare, gravelly moors derived from the underlying serpentinite geology * An empty landscape, no longer settled but with extensive time depth | * Seek to retain the unsettled isolation of this area, retaining its cultural and natural values * Promote responsible access and enable interpretation of the recent and distant past, as well as the unique geological material * The area around Muness, where there is active settlement, forms part of the setting of this landscape, but is not central. Development in this area should be sympathetic to the setting of the area * Potentially, seek to conserve some of the relict stone walls and buildings |
| Haroldswick and Skaw | 1,869 | * Part of the most northerly area of Shetland and Britain * Highly visible military defence infrastructure, including active and disused elements * Rugged, exposed northern coast, with sheltered sandy bays * Rich geology visible at the surface * Actively settled area undergoing redevelopment as former military uses decline and new uses are found | * Development in and around the actively settled part of the landscape should not be unduly discouraged, though it should be appropriately sited and designed. * Restoration of traditional buildings should be further encouraged * Seek to encourage sensitive redevelopment of the former RAF buildings at Valsgarth, promoting sustainable uses which will further integrate these structures into the landscape * Seek creative reuse or interpretation of remnant military structures across the landscape |
| Gloup Voe and Bluemull Sound | 2,161 | * Layers of historic settlement apparent in the many ruined churches and buildings and standing stones * Exposed northern coast with enclosed bays and narrow voes * Rolling coastal hills and the steeply rising slopes of Valla Field that enclose the area | * Retain undeveloped skylines of the rolling coastal hills and Valla Field that form the setting to the area * Ensure new development is sympathetically and carefully integrated with the existing settlement pattern |
| West Sandwick to Gloup Holm | 1,844 | * Highly isolated, long stretches of coastline increasing in exposure to the north * Impressive wide views of great depth across Yell Sound to the rocky hills of Northmavine * An area of limited active settlement, with isolated pockets of historic settlement rich in cultural heritage | * Encourage sustainable and responsible recreational access into this landscape, to allow greater appreciation * Seek to retain the unsettled isolation of this area, retaining its cultural and natural values |

*Source: SIC*

**Trees**

Woodlands and trees are notably absent from the majority of the Shetland landscape and there are no natural or semi-natural native woodland in Shetland. Although there has been limited successful tree planting and establishment over the last 200 years. Tree planting should not be encouraged on peat and while there is land that is more suitable for tree planting this is mainly on the better agricultural land so it is unlikely to be available for tree planting. However, smaller schemes may provide environmental and landscape benefits, especially when they are included in development proposals.

Table 9.3 – Shetland Tree Preservation Orders

|  |  |  |
| --- | --- | --- |
| **Location** | **Description** | **Year** |
| Westerloch, Lerwick | 10 individual, 1 area and 8 groups of trees, comprising Sycamore, Alder and Willow | 1997 |
| Montfield, Lerwick | 18 individual trees comprising Sycamore, Hawthorn and Ash | 2001 |
| Ingaville House, Scalloway | 18 individual and 2 groups of trees comprising Sycamore, Ash, Wych Elm and Swedish Whitebeam (includes a Sycamore Avenue) | 2006 |
| Smiddy Closs, Scalloway | 14 individual Sycamore trees | 2010 |

*Source SIC*

Tree Preservation Orders (TPOs) are made to protect individual trees, or groups of trees or woodlands which have particular amenity value, make a significant contribution to the landscape or townscape.

TPOs are designated under the Town and Country Planning (Scotland) Act 1997, Shetland Islands Council must be given prior notification of intended works to protected trees. There are four Tree Preservation Orders (TPOs) in Shetland for groups of trees, with two in Lerwick and two in Scalloway.

* Key Messages

Shetland has a dramatic coastal landscape impacted by its geology and by human activity. There are areas designated at the national level for their landscape and scenic qualities with proposed sites at the local level. An area of wild land has also been identified in the administrative area. Climate change will have an increasing impact on the landscape over time.

Much of the landscape is treeless and grazed and there is evidence of the long-term impact of man all around in the buildings, structures, field systems and fishing ports.

The ambitions of SIC to grow the population and key industries - including renewables, tourism, and aquaculture - may have a long term impact on landscape and cultural heritage. The Energy Development Principles are one aspect of the SIC Climate Change Strategy that has an important role to ensure that the landscape is protected and, as far as possible enhanced, by development.

1. [Shetland Islands Council Area Profile (nrscotland.gov.uk)](https://www.nrscotland.gov.uk/files/statistics/council-area-data-sheets/shetland-islands-council-profile.html#population_projections) [↑](#footnote-ref-1)
2. <http://www.islandvulnerability.org/ShetlandCrichton.pdf> [↑](#footnote-ref-2)
3. At the time of publication of the Environmental Report NPF4 had been approved by the Scottish Parliament, with the expected adoption in February 2023. [↑](#footnote-ref-3)
4. Marine Scotland (inshore) site designated on the 3rd Dec 2020 and therefore no site condition monitoring has been undertaken [↑](#footnote-ref-4)
5. Marine Scotland (inshore) site designated on the 3rd Dec 2020 and therefore no site condition monitoring has been undertaken [↑](#footnote-ref-5)
6. this UK Offshore waters (Scotland) site was designated on the 3rd Dec 2020 and therefore no site condition monitoring has been undertaken. [↑](#footnote-ref-6)
7. Management measures are in place that should, in time, improve the feature to Favourable condition (Unfavourable Recovering Due to Management) [↑](#footnote-ref-7)
8. Management measures are in place that should, in time, improve the feature to Favourable condition (Unfavourable Recovering Due to Management) [↑](#footnote-ref-8)
9. Management measures are in place to improve the feature to Favourable condition. [↑](#footnote-ref-9)
10. [Shetland Islands Council Area Profile (nrscotland.gov.uk)](https://www.nrscotland.gov.uk/files/statistics/council-area-data-sheets/shetland-islands-council-profile.html#population_projections) [↑](#footnote-ref-10)
11. [Shetland Islands Council Area Profile (nrscotland.gov.uk)](https://www.nrscotland.gov.uk/files/statistics/council-area-data-sheets/shetland-islands-council-profile.html#population_projections) [↑](#footnote-ref-11)
12. [Microsoft Word - Shetland key statistics 2019 - draft (A3153189).docx (hie.co.uk)](https://www.hie.co.uk/media/6338/shetlandpluskeyplusstatisticsplus2019.pdf#:~:text=Shetland%20Islands%20%20%E2%80%A2%20%20Total%20population%20was,Scottish%20average%20%2870%20people%20per%20sq.%20km%20%29.) [↑](#footnote-ref-12)
13. [Shetland Islands Council Area Profile (nrscotland.gov.uk)](https://www.nrscotland.gov.uk/files/statistics/council-area-data-sheets/shetland-islands-council-profile.html#tables) [↑](#footnote-ref-13)
14. [economic-development-strategy (shetland.gov.uk)](https://www.shetland.gov.uk/downloads/file/1247/economic-development-strategy) [↑](#footnote-ref-14)
15. <https://www.gov.scot/publications/scottish-house-condition-survey-local-authority-analysis-2017-2019/> [↑](#footnote-ref-15)
16. [Energy price cap to increase in April but consumers should switch to save money | Ofgem](https://www.ofgem.gov.uk/publications/energy-price-cap-increase-april-consumers-should-switch-save-money) [↑](#footnote-ref-16)
17. [Ofgem announces latest quarterly price cap update | Ofgem](https://www.ofgem.gov.uk/publications/ofgem-announces-latest-quarterly-price-cap-update) [↑](#footnote-ref-17)
18. [Labour Market Profile - Nomis - Official Census and Labour Market Statistics (nomisweb.co.uk)](https://www.nomisweb.co.uk/reports/lmp/la/1946157431/report.aspx) [↑](#footnote-ref-18)
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21. [End Child Poverty - Campaigning for an end to child poverty](https://endchildpoverty.org.uk/homepage/) [↑](#footnote-ref-21)
22. [Labour Market Profile - Nomis - Official Census and Labour Market Statistics (nomisweb.co.uk)](https://www.nomisweb.co.uk/reports/lmp/la/1946157431/subreports/ashew_compared/report.aspx?) [↑](#footnote-ref-22)
23. [Labour Market Profile - Nomis - Official Census and Labour Market Statistics (nomisweb.co.uk)](https://www.nomisweb.co.uk/reports/lmp/la/1946157431/report.aspx) [↑](#footnote-ref-23)
24. [Labour Market Profile - Nomis - Official Census and Labour Market Statistics (nomisweb.co.uk)](https://www.nomisweb.co.uk/reports/lmp/la/1946157431/subreports/ea_time_series/report.aspx?) [↑](#footnote-ref-24)
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26. [shetland-partnership-plan](https://www.shetland.gov.uk/downloads/file/1085/shetland-partnership-plan) [↑](#footnote-ref-26)
27. [Shetland Islands Council Corporate Plan 2021-26](https://www.shetland.gov.uk/downloads/file/2586/our-ambition-corporate-plan-online-version) [↑](#footnote-ref-27)
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29. [Flooding, drainage and coastal protection – Shetland Islands Council](https://www.shetland.gov.uk/coastal-marine-planning/flooding-drainage-coastal-protection/5#:~:text=The%20Shetland%20Local%20Flood%20Risk%20Management%20Plan%20has,of%20flooding%20in%20the%20Shetland%20Local%20Plan%20District.) [↑](#footnote-ref-29)
30. [ZetTrans RTS SEA FINAL ISSUED v1.0 | ZetTrans Draft Regional Transport Strategy Consultation (arcgis.com)](https://zettrans-draft-regional-transport-strategy-consultation-stantec.hub.arcgis.com/documents/83b224503a224688a3e592330ebe67af/explore) [↑](#footnote-ref-30)
31. [Broadband Coverage and Speed Test Statistics for Shetland Islands (thinkbroadband.com)](https://labs.thinkbroadband.com/local/S12000027) [↑](#footnote-ref-31)
32. https://www.shetland.gov.uk/climate-change/what-are-we-doing/5 [↑](#footnote-ref-32)
33. https://www.shetland.gov.uk/climate-change/what-are-we-doing/5 [↑](#footnote-ref-33)
34. [People, Place and Landscape – A position statement from Scottish Natural Heritage and Historic Environment Scotland](https://www.nature.scot/sites/default/files/2019-10/Publication%202019%20-%20SNH%20and%20HES%20Landscape%20Position%20Statement%202019.pdf) [↑](#footnote-ref-34)