

## Conservation and Management Advice

### **MONACH ISLANDS SAC and MONACH ISLES MPA** *APRIL 2025*

This document provides advice to Public Authorities and stakeholders about the activities that may affect the protected features of Monach Islands (SAC) and Monach Isles (MPA). It provides advice from Scottish Natural Heritage (SNH) (operating under the name of and hereinafter referred to as NatureScot) under Regulation 33(2) of the Conservation (Natural Habitats, andc.) Regulations 1994 (as amended in Scotland) to other relevant authorities about any activities/operations which may cause deterioration of the habitats or species, or disturbance of species protected in the SAC, and the Conservation Objectives for the site. It also provides advice from NatureScot under Section 80 of the Marine (Scotland) Act to public authorities as to matters which are capable of damaging or otherwise affecting the protected features of Nature Conservation MPAs, how the Conservation Objectives of the site may be furthered or their achievement hindered, and how the effects of activities on MPAs may be mitigated. It covers a range of different activities and developments but is not exhaustive. It focuses on where there is a risk to achieving the Conservation Objectives. The paper does not attempt to cover all possible future activities or eventualities (e.g. as a result of accidents) and does not consider cumulative effects.

Further information on marine protected areas and management is available at -  
<https://www.gov.scot/policies/marine-environment/marine-protected-areas/>  
For the full range of MPA site documents and more on the fascinating range of marine life to be found in Scotland's seas, please visit -  
[www.nature.scot/mpas](http://www.nature.scot/mpas) or <https://jncc.gov.uk/advice/marine-protected-areas/>

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## 1 Overview of document

This document provides details of the conservation and management advice for Monach Islands Special Area of Conservation (SAC) and Monach Isles Nature Conservation Marine Protected Area (MPA) and it is divided into eight main sections. The introduction in section 2 gives an overview of the Monach Isles protected areas and their contribution in terms of conservation and wider benefits. Section 3 provides an overview of the roles of the various bodies involved with advising, regulating and managing the marine protected area. Section 4 describes the protected features and their condition, and section 5 introduces the Conservation Objectives for the sites. Section 6 describes the threats and pressures to which the protected features are sensitive, and section 7 provides the management advice for these activities. Section 8 identifies what further research and surveys may be required to increase our understanding of how the protected features utilise the site for which they are designated.

Throughout this document, the terms Special Areas of Conservation (SAC) and Nature Conservation Marine Protected Area (NCMPA) are used when discussing issues that are specific to that type of designation. Otherwise the term Marine Protected Area (MPA) is used when discussing the site overall or the MPA network generally. The term *qualifying features* is used in the Conservation Objectives (Annex 1) to refer to habitats and species that the Monach Islands SAC has specifically been designated to protect. The term *protected features* is used in in the Conservation Objectives (Annex 2) for the features protected by the Monach Isles MPA and in the wider document text to refer to all the features protected in the site.

## 2 Introduction

### 2.1 Purpose statement

The Monach Islands are designated as a SAC to protect grey seals, dune grassland, machair, and shifting dunes with marram and as an NCMPA to protect black guillemot, Marine Geomorphology of the Scottish Shelf Seabed and Quaternary of Scotland. By doing so it contributes to the Scottish, UK and OSPAR MPA networks, the conservation of the wider marine environment around Scotland, and progress towards Good Environmental Status within the UK. The conservation of all the protected features within the Monach Isles contributes towards the OSPAR MPA network in the North-East Atlantic. In addition, the main purpose of the Monach Islands SAC is to contribute to the favourable conservation status of the SAC protected features in the UK.

### 2.2 Conservation benefits

The Monach Isles provide marine and coastal conservation benefits by affording protection to dune grassland, machair, shifting dunes with marram, grey seals, black guillemot, Marine Geomorphology of the Scottish Shelf Seabed and Quaternary of Scotland. In summary the conservation benefits of the designations for protected features are:

- The Monach Isles support a large breeding colony of the grey seals, at designation contributing 20% of annual UK pup production.
- Protection of approximately 2% of the British breeding population of black guillemot, with important breeding sites on the islands, and foraging opportunities provided in the nearshore waters.
- Conservation of the site's geodiversity features for their functional links in providing the islands, skerries and reefs that support all the other features.
- Conservation of the Marine Geomorphology of the Scottish Shelf Seabed geodiversity feature ensures that vital processes, such as the production and supply of shell-rich sands to beaches and machair, are maintained.

- The Quaternary of Scotland feature is scientifically important for the understanding it provides of ice sheet dynamics and climate change during the last glacial period. This is relevant to understanding ice sheet dynamics in the coming decades.
- Protection of the Monach Isles' coastal habitats (and natural processes) creates a unique semi-natural laboratory (and benchmark) to assess adaptation and resilience of the coast to rising sea level and other changing climatic conditions.

### **2.3 Wider benefits of the MPA**

The protected features of the MPA provide ecosystem services locally and to the wider marine and coastal ecosystem. We describe these ecosystem services in terms of their functions (the support or provision of something to the wider ecosystem e.g. habitat, nutrient cycling, sediment stabilisation) and natural resources (e.g. fish and shellfish, aggregates, wildlife), which in turn lead to benefits for people.

Figure 1 illustrates how the protected features of Monach Isles MPA contribute to benefits for people. There can be many complex interactions and dependencies amongst the protected features, their functions, associated natural resources and the benefits we gain from them.

The functions associated with the protected features of Monach Isles MPA are described in Annex 1 and Annex 2 as part of the site's Conservation Objectives. This outlines how the protected features contribute to the functions described. The features together, especially when taken within the context of the whole MPA and/or local ecosystem, contribute to certain functions more than others, e.g. biomass production and nutrient cycling. The functions of the protected features are fundamental to the continued supply of natural resources and benefits associated with this MPA, and to the long-term health of the protected features.

The Monach Isles are a small chain of five low-lying islands situated 10 km west of North Uist. Despite being uninhabited since 1942, the island group is steeped in history and may have been inhabited for hundreds, if not thousands of years. Although no longer inhabited, the old school house is still used occasionally by the fishing community for shelter. As well as the pristine beaches scattered along the coastline, white sand tombolos currently link three of the islands, giving rise to dramatic seascapes in all directions. Thanks to these interlinked islands, rocky reefs, and skerries, a diverse marine habitat is present that supports a variety of natural resources. The fish and shellfish (including juveniles), and seaweeds living within the MPA that can be harvested by humans or utilised by other marine species, are the most obvious resource. The MPA supports wildlife including bird and mammal species, in particular high densities of grey seal and black guillemot, which are protected features of the site. The MPA is valued by the local community, as people have worked the waters and shores of the isles for thousands of years. The complexity of the shoreline and waters around the isles creates a unique seascape and a sense of place. There are few current anthropogenic pressures on the Monach Isles giving it unique conditions to observe natural processes and dynamics for habitat and species.

The Monach Isles MPA is an area that benefits people locally through tourism as a remote location home to wildlife and habitats that can be watched, enjoyed and studied. Given the islands history it is also a place of cultural significance in Gaelic culture.

The benefits that arise from the functions and natural resources of the MPA are typically small in the context of the whole of Scotland, but some are of greater importance for this MPA and the people that use it. There is potential for benefits to be enhanced. This may be achieved by improving the quantity or quality (health) of the protected features receiving adequate management and activities being compatible with the site's Conservation Objectives.



**Figure 1** Benefits to people associated with the protected features of the Monach Islands SAC and Monach Islands MPA.

## **2.4 Contribution to policy commitments**

Managing the Monach Isles to recover the black guillemot, maintain grey seals, dune grassland, machair, and shifting dunes with marram, and to conserve the Marine Geomorphology of the Scottish Shelf Seabed and Quaternary of Scotland features in favourable condition, will ensure the continued provision of the benefits above, as well as the site's contribution to:

- An ecologically coherent network of MPAs which are well managed under the OSPAR convention and national legislation.
- Achieving Favourable Conservation Status for grey seals, dune grassland, machair and shifting dunes with marram in the UK.
- Progress towards achieving Good Environmental Status particularly in relation to grey seal population size, biological diversity, seafloor integrity and introduction of energy (including underwater noise).
- Making a significant contribution to the protection, enhancement, and health of the marine area under the National Marine Plan.
- Restoring marine and coastal ecosystems and increasing the environmental status of our seas under the Scottish Biodiversity Strategy.
- The Scottish National Adaptation Plan and the Scottish Climate Change Adaption Programme. Because the Marine Geomorphology of the Scottish Shelf Seabed geodiversity feature fundamentally underpins the coastal habitats, conserving it helps those habitats adapt to sea level rise and other climate change effects. It also enables us to better understand the resilience of coastal habitats and species elsewhere to climate change.

## **3 Roles**

This document provides advice for Monach Isles MPA in relation to activities that may affect the protected features. More detailed advice can be provided to public authorities to inform their decision making as required. In doing this, our aim is to ensure the Conservation Objectives for the protected features are met.

The Conservation (Natural Habitats, andc.) Regulations 1994 (as amended in Scotland) (the "Habitats Regulations") under Regulation 33(2), make special provisions for the protection of European marine sites, requiring SNH (now referred to as NatureScot) to advise other relevant authorities of the Conservation Objectives for a site, and also of the operations which may cause deterioration of the habitats or species, or disturbance of species protected in the SAC, and the Conservation Objectives of the site.

Section 80 of the Marine Scotland Act gives NatureScot the remit to provide advice and guidance to public authorities as to the matters which are capable of damaging or otherwise affecting the protected features of Nature Conservation MPAs, how the Conservation Objectives of the site maybe furthered or their achievement hindered, and how the effects of activities on MPAs may be mitigated.

It is the role of the relevant and competent authorities<sup>1</sup> to ensure that the activities they regulate, permit or license do not risk the achievement of the Conservation Objectives of the

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<sup>1</sup> Relevant authorities are defined in Regulation 5 of the Habitats Regulations and encompass those authorities that have functions in relation to land/water within or adjacent to a European Marine Site (includes marine SACs). They are nature conservation bodies, local authorities, water undertakers,

Monach Islands SAC or hinder the achievement of the Conservation Objectives of the Monach Isles MPA. The management advice in this document is provided to assist authorities in managing the activities outlined in Table 2, undertaking Habitats Regulations Appraisals of plans and projects and carrying out their duties under Section 82 and 83 of the Marine (Scotland) Act 2010.

Stakeholders can provide additional evidence to support the development of management including local knowledge of the environment and of activities. This will contribute to the development of well-designed and effective management measures.

#### 4 Protected features and status

Monach Islands SAC and Monach Isles MPA have been selected to become part of Scotland’s MPA network, which in turn has been established to help conserve and recover a range of Scotland’s important marine habitats, wildlife, geology and landforms.

Table 1 provides a summary of all the protected features, their condition within the site, and the broader conservation status of the protected features.

The locations and extent of the marine protected features within the Monach Isles are shown on Figure 2a and 2b. This may not be the most up-to-date information on extent/distribution of features. More up-to-date distribution of the features described may be available to view at [National Marine Plan Interactive<sup>2</sup>](#).

For black guillemot feature, condition is based on the latest Seabird Counts census data (Burnell *et al.* 2023).

**Table 1.** Protected features and condition for the Monach Islands SAC and Monach Isles MPA. Feature condition refers to the condition of the protected feature assessed at a site level. Broader conservation status reflects our understanding of the wider condition of the feature.

Protected Feature	Designation	Feature condition	Assessment year	Broader conservation status*
Grey seals (Halichoerus grypus)	SAC	Favourable - maintained	2019	UK: Favourable European region: Favourable
Dune grassland	SAC	Favourable - declining	2023	UK: Unfavourable-bad European region: Unfavourable-bad
Machair	SAC	Favourable - declining	2023	UK: Favourable European region: Unfavourable-inadequate
Shifting dunes with marram	SAC	Favourable - maintained	2013	UK: Unfavourable-bad European region: Unfavourable-inadequate

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navigation authorities, harbour authorities, lighthouse authorities, SEPA, district salmon fishery board and, National Park Authorities and local fisheries committees. Competent authorities include any Minister, government department, public body, or person holding public office.

<sup>2</sup> <https://marinescotland.atkinsgeospatial.com/nmpi/>

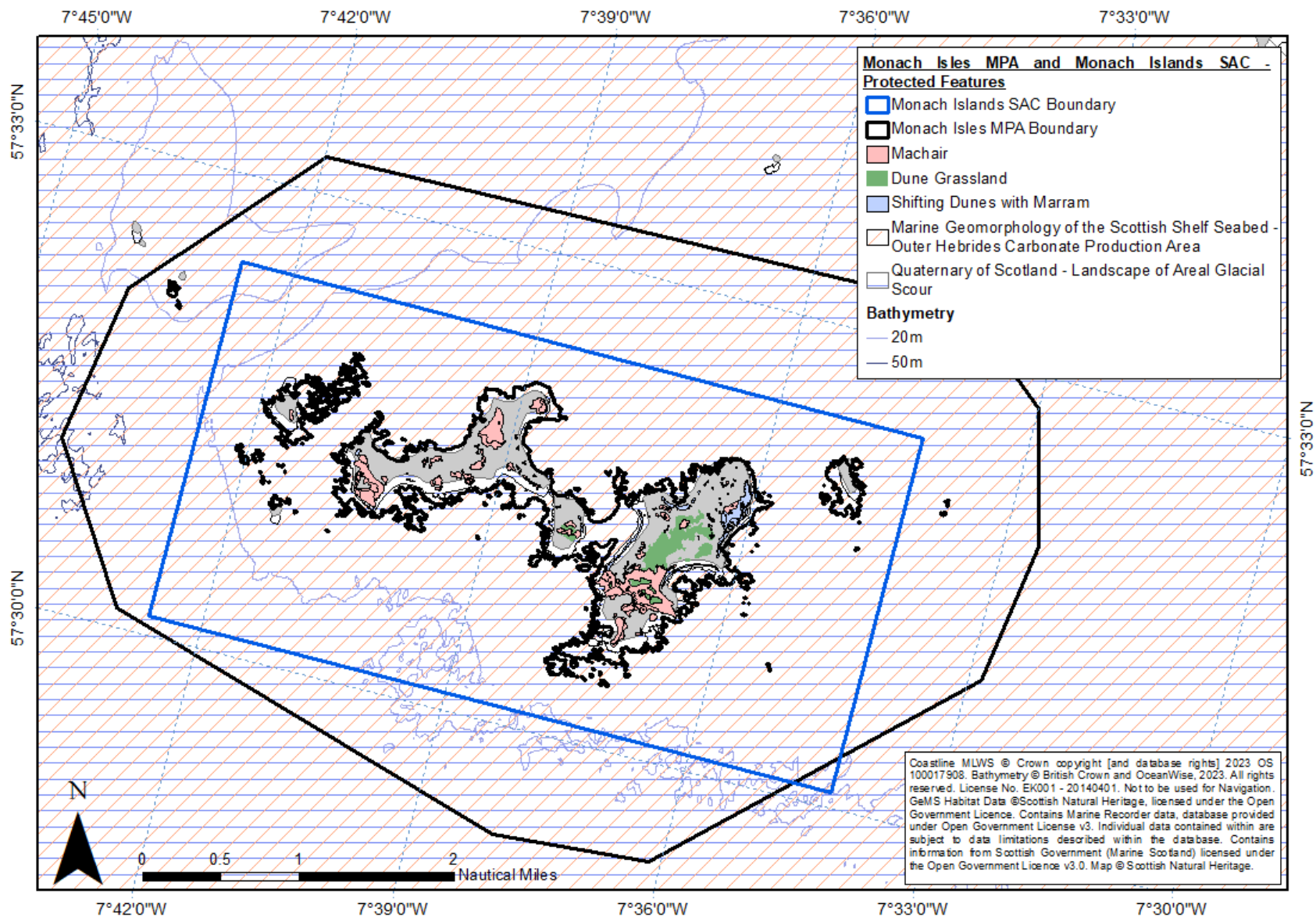
Black guillemot ( <i>Cepphus grille</i> )	MPA	Unfavourable	2021	UK: Green <sup>3</sup> European region: Least Concern <sup>4</sup>
Marine Geomorphology of the Scottish Shelf Seabed	MPA	Favourable	2013	N/A
Quaternary of Scotland	MPA	Favourable	2013	N/A

\*For grey seals, dune grassland, machair and shifting dunes with marram this is the conservation status of the protected features within the UK as reported in the Habitats Directive, Article 17 Report 2019 - <https://jncc.gov.uk/our-work/article-17-habitats-directive-report-2019> and the Marine Atlantic Biogeographic Region in Europe as reported in Article 17 Report 2013.

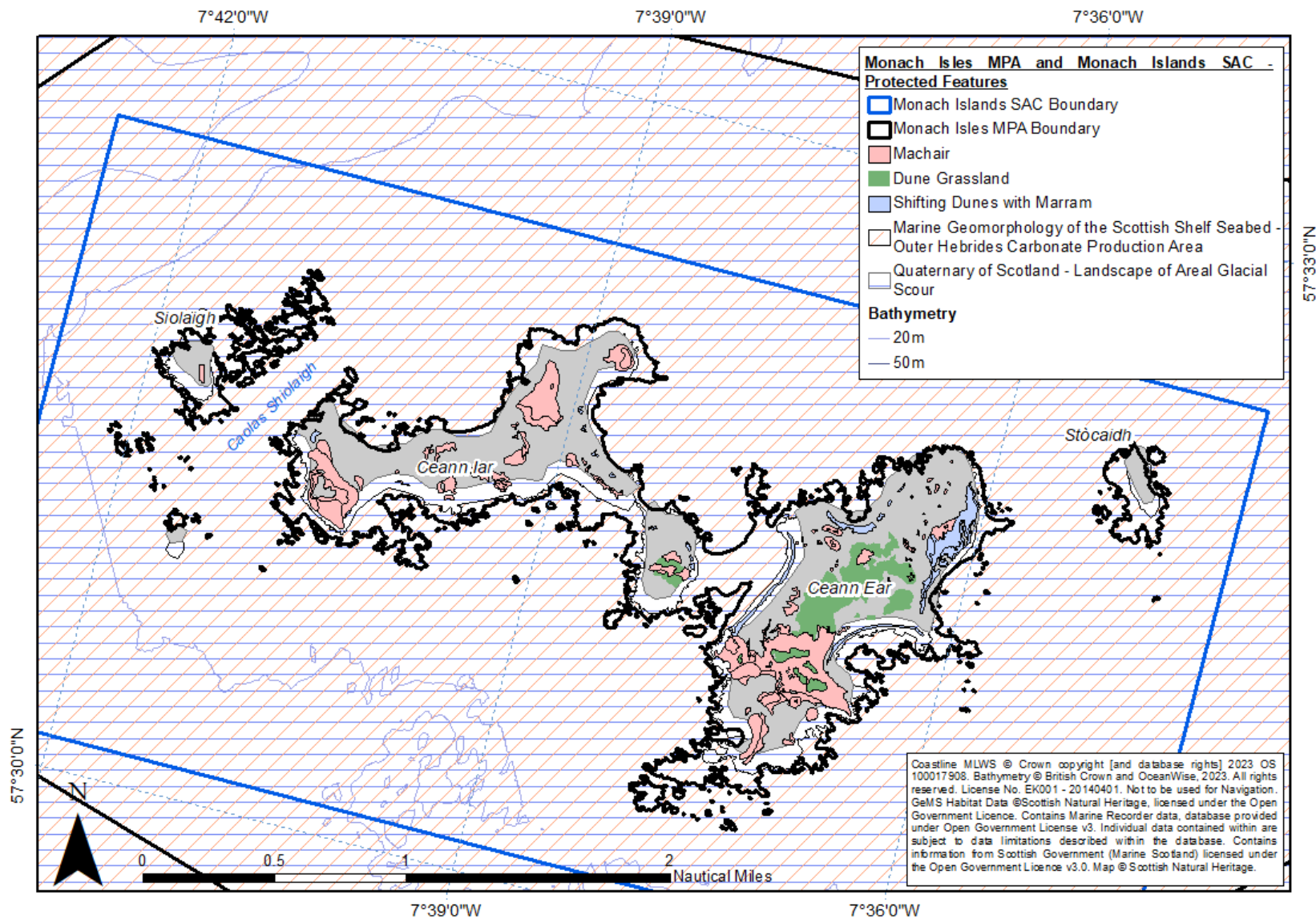
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<sup>3</sup> Based on Birds of Conservation Concern 5 (BoCC5), for further details on definitions see Stanbury *et al.* 2024.

<sup>4</sup> Based on BirdLife International, 2021



**Figure 2a** Location of the Monach Islands SAC and Monach Islands MPA and distribution of the marine protected features. \* Note the black guillemot and grey seals protected features are not shown on the map, as they will be distributed throughout the MPA.



**Figure 2b** Showing the Monach Islands and distribution of the marine protected features. The SAC and MPA boundaries can be seen in Figure 2a. \* Note the black guillemot and grey seals protected features are not shown on the map, as they will be distributed throughout the MPA.

## 5 Setting Conservation Objectives

### 5.1 Background

Under Regulation 33(2) of the Habitats Regulations Scottish Natural Heritage (now referred to as NatureScot) have responsibility for providing the Conservation Objectives for European marine sites in Scottish territorial waters. These site-level Conservation Objectives seek to define the contribution that each site should make to the attainment of Favourable Conservation Status<sup>1</sup> for the qualifying features.

The Conservation Objectives form part of the designation order for the Monach Isles MPA and are in place at the time the site is formally designated.

The Conservation Objectives provide the framework for the setting of site conservation measures (management) and form the basis of Habitats Regulations Appraisal (HRAs) of projects and plans for the Monach Islands SAC and for authorities carrying out duties under Section 82 and 83 of the Marine (Scotland) Act 2010 for the Monach Isles MPA.

The Conservation Objectives for Monach Islands SAC are provided in Annex 1 and for the Monach Isles MPA in Annex 2.

### 5.2 Relationship between feature condition and Conservation Objectives

The Conservation Objectives seek to *maintain* protected SAC features and will seek to *conserve* protected MPA features where evidence exists that it is in favourable condition in the site, or, where there is uncertainty concerning the assessed condition of a feature (see section 4) but no reason to suspect deterioration in condition since designation. Where evidence exists that a feature is declining and/or damaged and therefore not in a favourable condition in the site, the Conservation Objectives relating to the SAC will seek to *restore* the protected feature and will seek to *recover* the protected feature at the MPA.

Grey seals and shifting dunes with marram are in favourable condition at Monach Isles MPA and therefore the Conservation Objectives seek to *maintain* this condition. Marine Geomorphology of the Scottish Shelf Seabed, and Quaternary of Scotland features are also in favourable condition at Monach Isles MPA and therefore the Conservation Objectives seek to *conserve* this condition.

The dune grassland and machair are in favourable declining condition and therefore the Conservation Objectives seek to *restore* favourable condition. Black guillemot are in unfavourable condition at Monach Isles MPA and therefore Conservation Objectives seek to *recover* this condition. The paragraphs below describe the reasoning behind this.

Black guillemots have decreased by 95% at their breeding colony from 820 birds (2002 count) to 38 birds (2015-2021 Seabirds Count). Reasons for such a dramatic decline is not fully understood. Black guillemots are susceptible to mammalian predation (Burnell *et al.* 2023), but this has not been investigated at this MPA. Changes in prey availability is another possible reason for their decline.

Dune grassland and machair: The dune grassland and machair features have been condition assessed as favourable declining due to a reduction in the number/diversity of plant species associated with the features. This is a result of undergrazing; more vigorous grass species are becoming dominant and outcompeting other plant species. The conservation objective therefore seeks to restore 'favourable maintained' condition. This conservation objective is subject to change based on the practicalities of introducing grazers to this uninhabited group of islands.

### **5.3 Conservation priorities**

On the rare occasion where the need to favour the management of one protected feature of a site over another, conservation priority will be given to the most important species/habitats to take action for and/or the most important or urgent measures to be taken. For the Monach Islands SAC, there are no protected features that take precedence. If any conservation management conflicts between the protected features were to arise consideration should be given to both features equally. Appropriate grazing levels are required to maintain favourable condition of the SAC features, dune grassland and machair. The practicalities of such a management approach need to be proportionate and considered.

There are currently no apparent management conflicts between the protected features within the Monach Islands SAC and the Monach Isles MPA.

### **5.4 Overlapping Protected Areas**

The following protected areas overlap with the Monach Isles MPA and Monach Isles SAC:

- West Coast of the Outer Hebrides SPA
- Monach Isles Site of Special Scientific Interest (SSSI)
- Monach Islands SPA

Conservation measures in the overlapping protected areas need to ensure the Conservation Objectives of all the sites are met. Priority would be given to the SAC and SPAs.

There are no apparent management conflicts between the protected features of the overlapping protected areas. Site information including the Conservation Objectives for the protected areas overlapping the Monach Isles MPA and Monach Islands SAC are available on [SiteLink](#).

## **6 Feature sensitivity**

The following sections provide an overview of the pressures most relevant to the protected features. Further information on feature sensitivity (except for coastal habitats), can be found at Marine Scotland's [Feature Activity Sensitivity Tool \(FeAST\)](#)<sup>5</sup> and also for the features not covered by FeAST, [Marine Evidence based Sensitivity Assessment \(MarESA\)](#)<sup>6</sup>. The information in FeAST reflects our current understanding of the interactions between activities, pressures and features. It highlights that activities can give rise to a range of pressures which the protected features may be sensitive to. Our assessment of sensitivity is based on a feature's tolerance (response to change) and its ability to recover.

### **6.1 Grey seals**

Grey seals are sensitive to human disturbance when they are hauled out. They are particularly sensitive during the breeding (September and late-November in Scotland, August to mid-December across the UK) and moulting (December to April periods) when they spend more time hauled out than usual. Female grey seals give birth to a single white coated pup, which they nurse for up to 23 days. After weaning, the pup remains on the breeding colony for two to three weeks before going to sea. People entering the breeding haul-out sites on foot or accessing the coastal waters by boat, passing close to the haul-out sites can cause disturbance and elicit head up behaviour followed by a stampede into the water. This disturbance reduces the time grey seals are able to spend resting and can change their haul-out patterns. During the breeding season, disturbance from people can be particularly detrimental, interrupting lactation or causing the separation of mother and pup. Dogs that are not on a lead or under close control can be a particular source of disturbance.

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<sup>5</sup> <https://feature-activity-sensitivity-tool.scot/>

<sup>6</sup> [https://www.marlin.ac.uk/sensitivity/sensitivity\\_rationale](https://www.marlin.ac.uk/sensitivity/sensitivity_rationale)

In the marine environment, grey seals are also sensitive to underwater noise, entanglement and bio-accumulating toxins, notably persistent organochlorine compounds, PCBs and heavy metals.

Grey seals can habituate to some levels of disturbance (for example the same boat passing by the haul-out every day) over time. However, novel and/or prolonged events have the potential to affect the survival of pups, distribution within the SAC and abandonment of the haul-outs altogether.

Grey seals (particularly pups) are also vulnerable to exposure to oil and may be sensitive to any chemicals used to disperse an oil spill.

## **6.2 Black guillemot**

Black guillemots are vulnerable to the introduction or spread of non-native and invasive species (e.g. mink, rats, cats) (Nordstrom *et al.*, 2003; Burnell *et al.*, 2023). Black guillemots are also assessed as being vulnerable to risk of bycatch and entanglement in fishery nets (Zydelis *et al.*, 2013; Okill, 2002), which can have potentially severe impacts in part of their range (Nettleship *et al.*, 2018). Other pressures include barriers to movement and collision as a result of wave and tidal developments (Furness *et al.*, 2012). Black guillemots are sensitive to oil spill pollution as they are exclusively coastal, resident all year round, and spend a lot of time feeding at sea and resting on the sea surface (Heubeck and Richardson 1980; Heubeck *et al.*, 1993; Heubeck, 2000). Visual disturbance as a result of vessel movements may negatively impact foraging behaviour for black guillemots (Ronconi and Clair, 2002). Some auk species are very sensitive to noise e.g. marbled murrelet (inshore species) (US Navy Report, 2011). Black guillemot is probably of a similar sensitivity, therefore inshore seismic proposals are likely to be an issue for this species, especially during the breeding season when birds forage close to breeding sites. Being a predominantly inshore feeding seabird kelp forests form an important feeding habitat for black guillemots (Forrester, 2007). Any reduction in prey-supporting habitat such as kelp forests, or in prey species they rely on could result in declines in numbers of black guillemots.

## **6.3 Marine Geomorphology of the Scottish Shelf Seabed**

This feature, comprising sandy deposits actively maintained by hydrodynamic processes, is sensitive to activities causing changes in local water flow and those involving physical change/ and or removal of seabed sediment. The recovery potential of the feature is dependent on the duration and scale of the activity in question, as well as any potential permanent changes to local hydrodynamics.

## **6.4 Quaternary of Scotland**

The processes which formed the glaciated channels/troughs, landscapes of areal glacial scour and mega-scale glacial lineations no longer exist and therefore the feature has no recovery potential. However, these landforms have been eroded largely in bedrock, and as such are highly resistant and are considered not sensitive to human activities. Where any parts of these landforms may have been eroded in sediment, they may have medium sensitivity to (e.g.) sub-surface abrasion.

## **6.5 Dune Grassland**

Dune grassland areas are established systems over time and therefore have longer recovery times from human disturbance compared to the mobile foreshore and dune systems. Fixed dune grassland is sensitive to pressures from recreation, particularly excessive visitor numbers causing over-trampling and fragmentation, and over-grazing, which can expose areas of bare sand to the wind.

## **6.6 Machair**

Machair is a unique coastal grassland associated with calcareous sand blown inland by strong prevailing winds. It has a very restricted distribution worldwide, only found in northern Scotland and north-west Ireland. Shell sand is an essential component of the system and activities that result in a reduced supply of blown sand will likely reduce the resilience of the habitat. Machair grasslands are complex systems that have a long history of, and are dependent on human management, including seasonal grazing and low-input rotational cropping, which supports high biodiversity. In general, machair grasslands should be grazed in a way that allows typical species to flower and set seed. This is usually achieved with a reduction or removal of grazing over the summer months and higher grazing levels either end of the summer growing season to remove annual growth. At this site, this does not apply as the machair has not been cultivated since the 1940's. Discussions are taking place to consider the feasibility of future grazing in the Monach Isles.

Significant erosion can occur when machair sand is exposed to wind, following over-grazing by livestock and/ or surface scrapes and burrows from rabbits. Unlike other dune grasslands, machair could be considered resilient to, and enhanced by, the addition of nutrients, a common practice in some Scottish regions, whereby crofters use seaweed as a natural fertiliser (nitrogen input). Water is an essential component of the system, both saline and fresh. Relative sea level rise and activities that modify the drainage of the machair have the potential to alter the system.

## **6.7 Shifting Dunes with Marram**

Shifting dunes are well adapted to dynamic, highly mobile conditions. They are succeeded when natural conditions favour stabilisation, reflecting the development of soils and vegetation. The feature is sensitive to human activities or interventions that could result in the over-stabilisation of the system, for instance through plantations and/or developments that constrain the natural capacity of movement in response to physical drivers. This includes interventions that affect the natural sediment supply, for instance, mechanical beach cleaning. This process removes natural strandline debris such as beach cast seaweed, which functions naturally to accumulate sand. The Monach Isles is uninhabited, therefore, human activities such as beach cleaning are not relevant to this site.

Shifting dunes could be susceptible to climate change where already under pressure from limited space or sediment supply. For instance, changes to prevailing winds, rainfall and temperature could have potential consequences on the system mobility. To restore or maintain this habitat in favourable condition non-climatic pressures should be reduced where possible. Shifting dunes can be impacted by over-grazing which may cause the collapse of dune ridges in particular. The potential for recovery depends on the prevailing conditions, in particular the net supply of sand. Flexible management through appropriate grazing levels can be considered, taking into account stock species, density and timing, in response to the season.

# **7 Management**

## **7.1 Conservation Measures**

The following conservation measures are currently in place for the Monach Isles MPA:

- The Habitats Regulations require all plans or projects that may cause an effect on the protected features of an SAC to be assessed against the Conservation Objectives for that site. This process is known as a Habitats Regulations Appraisal (HRA). An HRA is a rigorous statutory procedure that ensures the integrity of the site is maintained. It also provides an opportunity to consider appropriate mitigation that can reduce impacts, avoid adverse effects and permit plans or projects to proceed having taken full account of the protected features of an SAC.

- Marine (Scotland) Act 2010, Part 6 Conservation of seals (as amended): makes it an offence to kill, injure or take seals without a licence and makes it illegal to harass a seal (intentionally or recklessly) at a haul-out site. Licenses for the taking or killing of seals may be granted by Scottish Ministers for limited purposes.
- The Protection of Seals (Designation of Haul-Out Sites) (Scotland) Order 2014: introduced additional protection for seals at designated haul-outs. Haul-outs are locations on land where seals come ashore to rest, moult or breed. Harassing a seal (intentionally or recklessly) is an offence. Further guidance is available from Marine Scotland.
- Activities and developments subject to licensing that could affect the protected feature of the MPA also need to be assessed. Authorities need to determine whether if by carrying out their duties e.g. permitting an activity to take place, it would hinder the achievement of the Conservation Objectives of the MPA. This is referred to as an assessment under Section 82 or Section 83 of the Marine (Scotland) Act 2010.
- The MPA overlaps with a notified Site of Special Scientific Interest. Management changes described on their list of Operations Requiring Consent must have prior consent from NatureScot.
- The 'Biosecurity for Scotland's seabird islands' project (2023 – 2026) funded by Nature Restoration Fund (NRF) and led by Royal Society for the Protection of Birds (RSPB) Scotland, builds on the [Biosecurity for LIFE](#) project (2018 – 2023), and aims to permanently remove the threat of introduction and establishment of invasive predators on seabird islands. The project will work with stakeholders to implement and maintain sustainable biosecurity measures including awareness raising, prevention, surveillance, and incursion response. The Monach Isles are on the list of islands this project is focusing work on.

Other relevant measures include:

- Environmental Protection Guidelines (Maritime) exists for the Ministry of Defence (MoD). These guidelines have been developed in consultation with the JNCC and help the MoD manage military activities in a way that will avoid risk of the features not achieving their conservation objectives.

Further information relevant to the management of MPAs in the Outer Hebrides was developed through the MarPAMM project and is available through this [link](#)

## **7.2 Advice to support management**

Table 2 provides NatureScot's advice on management for activities where we consider this may be necessary to achieve the Conservation Objectives for the protected features. The advice is focused on the activities that cause an effect (a pressure) that a feature is sensitive to. Pressures can be physical (e.g. abrasion of the seabed), chemical or biological. Different activities may cause the same pressure, e.g. fishing using bottom gears and aggregate dredging both cause abrasion which can damage the surface of the seabed.

Our advice takes a risk-based approach, i.e. we are focusing on providing advice where we believe there is a risk to achieving the Conservation Objectives. We have identified risks to achieving the Conservation Objectives where there is an overlap between protected features and activities associated with pressures that the features are sensitive to. We have provided management advice to support public authorities and others in managing these risks. Our advice is based on existing data and information on protected features and relevant activities, and our understanding of the relationships between the features and activities. We have identified a range of management advice:

- management to remove or avoid pressures;
- management to reduce or limit pressures; or
- no additional management required.

For our advice on fisheries management we have also stated where we think this should be ‘considered.’ This term is included to highlight that an issue exists, but circumstances mean that a specific recommendation for action cannot / or need not be made at this point. However, there is sufficient cause to make fishery managers aware of the issue and for them to consider if a fishery management measure may be helpful in achieving Conservation Objectives – particularly where there may be a synergy between the benefits of management actions for the fishery and the Conservation Objectives for the feature. The term ‘recommended’ highlights that an issue of fishery-feature interaction exists, there is a reasonable evidence base and a specific recommendation can action can be made/ justified.

New or other activities not identified within the table would need to be considered on a case-by-case basis.

We recognise that stakeholders can provide local environmental knowledge and more detailed information on activities, including in relation to intensity, frequency and methods. This additional information will help public authorities and others develop more specific management, focussed on the interaction between features and activities. If new information becomes available our management advice may be revised. Where management measures are required, the development of these would be undertaken through discussion with the relevant stakeholders.

Activities that are considered not likely to affect the protected features (other than insignificantly) are listed in Table 3. Spatial data relating to the location and extent of the activities listed can be accessed on [Marine Scotland’s National Marine Plan Interactive](#)<sup>7</sup> (where available).

### **7.3 Best Practice**

In our management advice for activities in Tables 2a, 2b and 2c we refer to the development, adoption or use of ‘best practice’ as a way of managing interactions between activities and the features. Best practice is taken to mean approaches or procedures that are developed and accepted by regulators and relevant stakeholders as being an effective way of dealing with an interaction between a habitat or species and the pressures created by an activity. Much of this best practice is already being implemented by sectors and regulators, e.g. pre-application discussions between developers and regulators, the [Scottish Marine Wildlife Watching Code \(SMWWC\)](#)<sup>8</sup> and [Technical Standards for Scottish Finfish Aquaculture](#)<sup>9</sup>.

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<sup>7</sup> <https://marinescotland.atkinsgeospatial.com/nmpi/>

<sup>8</sup> <https://www.nature.scot/professional-advice/land-and-sea-management/managing-coasts-and-seas/scottish-marine-wildlife-watching-code>

<sup>9</sup> <https://www.gov.scot/publications/technical-standard-scottish-finish-aquaculture/>

**Table 2. NatureScot’s advice to support management for Monach Isles MPA for activities which are considered capable of affecting the protected features.**

The text under the ‘Advice to support management’ columns provides NatureScot’s management advice for the features in relation to the activities (further details about the terminology used are provided in section 7.2). Where a cell is coloured grey this indicates that management is already in place, this includes where there are existing regulatory requirements for new proposals. Cells are also coloured grey where it is considered there is no additional management required to achieve the Conservation Objectives. An \* has been used to highlight those activities to which the advice under ‘*Boat use associated with both commercial and recreational activities*’ also applies. For some activities, the pressures associated with new proposals are considered unlikely to affect some the features either because these activities do not occur in the same locations as the features or the pressure is unlikely to be at levels that can affect the features (see also Table 3). In these cases, we have not provided further advice however, where regulated; this does not exempt new plans or projects related to these activities undergoing a Habitats Regulations Appraisal (HRA).

Activities considered capable of affecting the protected features	Advice to support management				
	Grey seals	Black guillemot	Dune grassland	Machair	Shifting dunes with marram
<b>Boat use associated with both commercial and recreational activities</b>	<p><b>No additional management</b> (disturbance) for boat use associated with existing commercial and recreational activities providing the <a href="#">Scottish Marine Wildlife Watching Code</a> (SMWWC) is followed by water-borne recreational users. More information on the Code can be found at <a href="http://www.marinecode.org">www.marinecode.org</a>.</p> <p><b>Reduce or limit pressures</b> associated with new boat use activities that result in significant increased vessel traffic for defined periods. This may include seasonal restrictions to avoid</p>	<p><b>Reduce or limit pressures</b> (disturbance) associated with new boat use during commercial and recreational activities through effective mitigation such as:</p> <ul style="list-style-type: none"> <li>• following the <a href="#">Scottish Marine Wildlife Watching Code</a> (SMWWC).</li> <li>• seasonal and/or spatial restrictions to avoid sensitive time periods for black guillemot and/or;</li> <li>• production of vessel management plans associated with activities that</li> </ul>	<i>Pressures unlikely to affect this feature</i>		

Activities considered capable of affecting the protected features	Advice to support management				
	Grey seals	Black guillemot	Dune grassland	Machair	Shifting dunes with marram
	sensitive time periods for grey seals and/or; production of vessel management plans as part of the consenting/licensing process which may include agreed routes and potential speed restrictions.	require a marine licence. This may include agreed routes and for boats, potential seasonal speed restrictions.			
<b>Coastal development – other*</b>	<b>Reduce or limit pressures</b> (disturbance) associated with installation of new cable and pipeline infrastructure.	<b>No additional management</b> for existing coastal protection and flood defences.  <b>Reduce or limit pressures</b> (disturbance, loss of prey-supporting habitat) associated with new coastal development through effective seasonal and temporal mitigation.	<b>Reduce or limit pressures</b> associated with new developments		
<b>Fishing - demersal mobile/active gear*</b>	<i>See netting</i>	Whilst we have limited understanding about the extent of interactions between benthic fisheries and prey-supporting habitat within the site, a principal objective of the management of the relevant fisheries should be to ensure that the fishing activity does not cause such disturbance to the benthic habitats that it adversely affects the abundance and availability of prey for black guillemots.	<i>Pressures unlikely to affect this feature</i>		

Activities considered capable of affecting the protected features	Advice to support management				
	Grey seals	Black guillemot	Dune grassland	Machair	Shifting dunes with marram
		<p><b>Reduce or limit pressures</b> (removal of prey species and abrasion of prey-supporting habitat) associated with fishing that has the potential to damage seabed habitat (in particular, sandeel habitat, herring spawning grounds) <b>should be considered.</b></p>			
<b>Fishing – hydraulic (diver or vessel)*</b>	<i>Pressures unlikely to affect this feature</i>	<p>Hydraulic dredging has the potential to cause significant disturbance to the sedimentary habitats that support the prey species of the protected features, particularly for sandeel and herring.</p> <p>A principal objective of the management of the relevant fisheries should be to ensure that the fishing activity does not cause such disturbance to the benthic habitats that it adversely affects the abundance and availability of prey.</p> <p><b>Remove or avoid pressures</b> (removal of prey species and disturbance of prey-supporting habitat) associated with hydraulic fishing that has the potential to damage seabed habitat (in particular, sandeel habitat, herring</p>	<i>Pressures unlikely to affect this feature</i>		

Activities considered capable of affecting the protected features	Advice to support management				
	Grey seals	Black guillemot	Dune grassland	Machair	Shifting dunes with marram
		spawning grounds) <b>is recommended.</b>			
<b>Fishing – static gear (including bottom set nets, drift nets, fyke nets) *</b>	<b>See netting</b>	<b>Remove or avoid pressures</b> (entanglement) associated with the use of all static nets. Spatial exclusion of all static nets in areas identified as being important for black guillemot (as identified from habitat and dive depth preferences) <b>is recommended.</b>	<i>Pressures unlikely to affect this feature</i>		
<b>Grazing</b>	<i>Pressures unlikely to affect this feature</i>	<i>Pressures unlikely to affect this feature</i>	Grazing would be beneficial to this site, however feasibility should be considered via a <b>site management plan.</b>	<i>Pressures unlikely to affect this feature</i>	
<b>Marine disposal sites*</b>	<b>Reduce or limit pressures</b> associated with new disposal sites.	<b>Reduce or limit pressures</b> (disturbance, smothering of prey supporting habitat, changes in water clarity) associated with new disposal sites within or adjacent to the MPA.	<i>Pressures unlikely to affect this feature.</i>		
<b>Military activity</b>	<b>Reduce or limit pressures</b> (disturbance) associated with military activities by ensuring the MoD Environmental Protection Guidelines encompass the Monach Isles MPA, noting any seasonal sensitivities of the protected features to minimise disturbance.	<b>Reduce or limit pressures</b> (disturbance) associated with military activities by ensuring the MoD Environmental Protection Guidelines encompass the Monach Isles MPA, noting any seasonal sensitivities of the black guillemots to minimise disturbance.	<b>Reduce or limit pressures</b> associated with military activities by ensuring the MoD Environmental Protection Guidelines encompass the Monach Isles MPA.		

Activities considered capable of affecting the protected features	Advice to support management				
	Grey seals	Black guillemot	Dune grassland	Machair	Shifting dunes with marram
<b>Netting (grey seals only)</b> <b>Bottom-set gill nets – including tangle and trammel nets.</b> <b>Drift nets – gill nets set in water column</b> <b>Purse seine and ring net</b> <b>Fyke nets*</b>	<b>Reduce or limit pressures</b> (entanglement) associated with the use of nets <b>is recommended</b>	<b>See Fishing – static gear advice.</b>	n/a		
<b>Seaweed harvesting*</b>	<b>No additional management</b> for existing seaweed hand-harvesting activities.  <b>Reduce or limit pressures</b> (disturbance) associated with new seaweed harvesting developments, especially during the breeding (September and late-November in Scotland, August to mid-December across the UK)	<b>No additional management</b> for existing seaweed harvesting activities for hand-harvesting.  <b>Reduce or limit pressures</b> (disturbance, removal of prey supporting habitat) associated with new hand-harvesting seaweed harvesting developments.  <b>Remove or avoid pressures</b> (disturbance, removal of prey	<i>Pressures unlikely to affect this feature.</i>	<b>Reduce or limit pressures</b> associated with new seaweed harvesting.	

Activities considered capable of affecting the protected features	Advice to support management				
	Grey seals	Black guillemot	Dune grassland	Machair	Shifting dunes with marram
	and moulting (December-April) periods.	supporting habitat) associated with mechanical harvesting of seaweed (in particular, of kelp).			
<b>Scientific survey and research*</b>	<b>Reduce or limit pressures</b> Survey work that is targeted on seals should abide by the <a href="#">SMWWC</a> to reduce or limit the risks of collision and disturbance.	<b>No additional management</b> for current level of scientific research.	<i>Pressures unlikely to affect this feature</i>		
<b>Seismic survey*</b>	<b>Reduce or limit pressures</b> Minimise the impact of seismic or other acoustic surveys which may cause injury or disturbance to through following the <a href="#">JNCC Guidelines</a> for minimising the risk of injury to marine mammals from seismic surveys.	<b>Reduce or limit pressures</b> (disturbance) associated with any seismic survey activities.	<i>Pressures unlikely to affect this feature.</i>		
<b>Tourism and recreation*</b>	<b>No additional management</b> for existing recreational activities (includes diving, surfing, yachting, angling, and kayaking) providing the <a href="#">SMWWC</a> is followed by water-borne recreational users. The SMWWC highlights why seals are sensitive to disturbance and offers practical advice on how to avoid disturbance.  <b>Reduce or limit pressures</b> (disturbance) where an increase	<b>No additional management</b> for existing recreational activities (includes diving, angling, boating, and kayaking) providing the <a href="#">Scottish Marine Wildlife Watching Code (SMWWC)</a> is followed by water-borne recreational users. The SMWWC highlights why birds are sensitive to disturbance and offers practical advice on how to avoid disturbance.	<b>No additional management required</b> for existing activities		

Activities considered capable of affecting the protected features	Advice to support management				
	Grey seals	Black guillemot	Dune grassland	Machair	Shifting dunes with marram
	by water-borne recreational activities demonstrates there is evidence of impacts at particular locations and/or if there is major increase in intensity of these pursuits within the MPA.	<p><b>Reduce or limit pressures</b> (disturbance) of black guillemot from jet-skiing.</p> <p><b>Reduce or limit pressures</b> (disturbance) where an increase by water-borne or land-based recreational activities demonstrates there is evidence of impacts at particular locations and/or if there is a major increase in intensity of these pursuits within the MPA. There would be potential for some zonation of measures across the site.</p>			
<b>Wildlife tour operators*</b>	<p><b>No additional management</b> for existing wildlife tours providing the <a href="#">Scottish Marine Wildlife Watching Code (SMWWC)</a> is followed by wildlife tour operators. The SMWWC highlights why seals are sensitive to disturbance and offers practical advice on how to avoid disturbance.</p> <p><b>Reduce or limit pressures</b> (disturbance) where an increase by wildlife tours demonstrates there is evidence of impacts at</p>	<p><b>No additional management</b> for existing wildlife tours providing the <a href="#">Scottish Marine Wildlife Watching Code (SMWWC)</a> is followed by wildlife tour operators.</p> <p><b>Reduce or limit pressures</b> (disturbance) where an increase by wildlife tours demonstrates there is evidence of impacts at particular locations and/or if there is a major increase in intensity of these pursuits within the MPA. There would be</p>			<b>No additional management required</b> for existing activities

Activities considered capable of affecting the protected features	Advice to support management				
	Grey seals	Black guillemot	Dune grassland	Machair	Shifting dunes with marram
	particular locations and/or if there is a major increase in intensity of these pursuits within the MPA. There would be potential for some zonation of measures across the site.	potential for some zonation of measures across the site.			

**Table 3. Activities that are considered not likely to affect the protected features (other than insignificantly)<sup>10</sup>**

<b>Activity</b>	<b>Comments</b>
<b>Anchorage and moorings</b>	Beyond pressures associated with the vessel traffic (covered in Table 2), we are not aware of any further pressures that have the potential to cause an adverse effect on the protected features.
<b>Fishing – mobile gear – long line fishing (not including jigging)</b>	Our current understanding is that long-line fisheries (pelagic and bottom set) are largely restricted to offshore waters. Site-specific measures for long-lining are not currently considered appropriate due to the scale of the fishery. Wider seas management measures are more appropriate. Pressures associated with the vessel traffic from this pressure is covered under Table 2.
<b>Fishing – line-fishing - jigging.</b>	Beyond pressures associated with the vessel movement (covered in Table 2), this activity is not expected to have the potential to cause an adverse effect on the protected features.
<b>Fishing – static gear – Creels</b>	Creels (including lobster, crabs and <i>Nephrops</i> ). Fishing using creels takes place within the MPA. Whilst there is the potential for entanglement for all the protected features, the occurrence is thought to be rare and therefore we consider this method poses a low risk to the protected features. Pressures associated with the vessel traffic from this pressure is covered under Table 2.
<b>Fishing – diver collection of bivalves</b>	Diver collection of bivalves may take place but it is not considered to be at a level where it affects the protected feature of this site.
<b>Fishing – pelagic</b>	Whilst pelagic fishing is a risk to grey seals and black guillemots, the activity is unlikely within this SAC.

## **8 Research and survey requirements**

We recognise that there are still important gaps in our understanding and knowledge of the features of this site. We will identify research and survey projects to inform our understanding of these aspects. The requirements identified below are not a commitment to undertake this work. However, by highlighting these gaps we hope to inform future discussions with parties interested in undertaking research in this site and/or on these features, to help direct research and aid monitoring priorities. The following list of research and survey needs is not prioritised and is not exhaustive.

- Evaluate short and long-term effects on grey seal populations from exposure to underwater noise.
- Continue to monitor the grey seal pup production to assess status, and relative importance of the site for grey seals.
- Improve understanding and implications of contaminants burden on grey seals.

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<sup>10</sup> Only the specific examples of activities listed in the table have been excluded, rather than the broad activity types. New plans or projects will still need to be considered by the relevant competent authority.

- Diet studies of grey seals to inform understanding of prey preferences in the region.
- Updated count data required for black guillemots using the site, including updated data on their distribution within the site, both at their breeding sites and their use of the marine waters.
- Research required on understanding the decline of black guillemots within the MPA, including understanding if mammalian predation could be playing a role at this site.
- Establish adequate baseline information for supporting habitats and prey species and gain an understanding of which prey items are the most important at a local scale within the MPA for black guillemot.
- Monitor changes in machair species composition and structure resulting from a low level of grazing management.
- Monitor the presence of wireweed in Uist and the impacts on features within the MPA including black guillemot.
- Observe coastal change through a combination of satellite data and occasional ground truthing to understand potential impact of rising sea levels and other effects of climate change on coastal habitats.
- Analysis of survey findings to investigate the role of the Marine Geomorphology bedforms in the sediment budget of the coastal habitats within the MPA.
- Additional research is required to better understand the relationships between the impact of dredging and benthic trawling on supporting habitats, their ability to support suitable prey and any consequential effect this may have on protected features.

## Annex 1. Monach Islands SAC Conservation Objectives

The box below provides the high-level Conservation Objective statements for Monach Islands SAC. The full Conservation Objectives, which includes site-specific advice and information on the features that form part of this MPA, are provided in the tables that follow. A definition of the terms used is in the Glossary.

These tables are grouped split by feature type, i.e. habitats or species. The site-specific advice and information provides more detail in relation to each of the high level Conservation Objective statements for each feature type, e.g. detail on the extent of a habitat within a site and what the supporting features are for a species.

Information is also provided below on how minor changes to features should be considered and the influence of environmental change on features, particularly in relation to climate change. Temporary impacts on the qualifying features resulting from plans or projects can only be permitted where they do not prevent the ability of a feature to recover and there is certainty that the features will be able to quickly recover. Further details on the potential for each qualifying feature to recover are described in more detail in Annex 3 '*Factors determining the potential of features to recover*'.

A map of the SAC, the location of the features and the place names mentioned in the site-specific information is provided in Figure 2a and 2b.

The qualifying features for the Monach Islands SAC are dune grassland, machair, shifting dunes with marram and grey seals.

<b>Monach Islands SAC</b>
<ol style="list-style-type: none"> <li>1. To ensure that the qualifying features of Monach Islands SAC are in favourable condition and make an appropriate contribution to achieving Favourable Conservation Status.</li> <li>2. To ensure that the integrity of Monach Islands SAC is maintained or restored in the context of environmental changes by meeting objectives 2a, 2b and 2c for each qualifying feature:</li> </ol>
For qualifying habitat features (Dune grassland, machair and shifting dunes with marram):
<ol style="list-style-type: none"> <li>2a. Extent and distribution of the habitat within the site.</li> <li>2b. Structure and function of the habitat and the supporting environment on which it relies.</li> <li>2c. Distribution and viability of typical species of the habitat.</li> </ol>
For Grey seals:
<ol style="list-style-type: none"> <li>2a. Grey seals are a viable component of the Monach Islands SAC.</li> <li>2b. The distribution of grey seal throughout the site is maintained by avoiding significant disturbance of grey seal.</li> <li>2c. The supporting habitats relevant to grey seal are maintained.</li> </ol>

**1. To ensure that the qualifying features of Monach Islands SAC are in favourable condition and make an appropriate contribution to achieving Favourable Conservation Status.**

Favourable Conservation Status (FCS) is assessed, and expected to be achieved, at the UK level. Dune grassland, machair, and shifting dunes with marram are currently assessed as having an overall conservation status of 'unfavourable – bad' (as assessed in 2019). Grey seals are currently assessed as 'favourable' (as assessed in 2019).

When carrying out appraisals of plans and projects against these Conservation Objectives, it is not necessary to understand the status of qualifying features within each individual SAC in the UK. The focus of the appraisal should be to understand whether the integrity of the Monach Islands SAC (see Conservation Objective 2) would be maintained. If this is the case then its contribution to FCS across the UK will continue to be met. Similarly, when determining whether management measures may be required to ensure that the Conservation Objectives for this site are achieved, the focus should be on maintaining the contribution that this site makes to FCS. Further advice on how these appraisals should be focussed in relation to maintaining site integrity is provided by Conservation Objective 2 (including parts a, b and c). If broader information (status, trends) on dune grassland, machair and shifting dunes with marram is available, it should be used to provide context to the site-based appraisal.

Note '*Appropriate*' within this part of the Conservation Objectives is included to indicate that the contribution to FCS varies from site to site, and feature to feature.

**2. To ensure that the integrity of Monach Islands SAC is maintained in the context of environmental changes by meeting objectives 2a, 2b and 2c for each qualifying feature:**

When carrying out appraisals of plans or projects, or determining whether management measures are required, the focus is maintaining site integrity, specifically by meeting Objectives outlined in 2a, 2b and 2c. If these are met the site integrity will continue to be maintained. Note that not all of these may be relevant for every activity being considered. Any impacts on the Objectives shown in 2a, 2b or 2c must not persist so that they prevent the maintenance of site integrity. Temporary impacts on these objectives resulting from plans or projects can only be permitted where they do not prevent the ability of a feature to recover and there is certainty that the features will be able to quickly recover.

***Environmental changes***

These Conservation Objectives recognise that qualifying features are part of a complex, dynamic and multi-dimensional marine and coastal environment and that marine habitats and species are exposed to a wide range of drivers of change. 'Environmental changes' for the purpose of these Conservation Objectives means any change to qualifying features reflecting their natural cycle, and also broader environmental changes, i.e. those related to climate change and environmental variability that are beyond the scope of the site. The impact of human activities on the site that can be managed will not be considered as part of the broader context of environmental change, i.e. where required they should be managed.

Some site-level changes are natural and are not a direct result of human influences (e.g. population fluctuations/shifts or habitat changes resulting from natural processes). Changes in the extent, distribution, structure, function, and typical species of dune grassland, machair, and shifting dunes with marram, which are brought about by entirely natural drivers, directly or indirectly, are normally considered compatible with the site's Conservation Objectives. Similarly, changes in the distribution and use of the site by grey seal, which are brought about by natural processes, directly or indirectly, are normally considered compatible with the SAC's Conservation Objectives.

There may also be historical human influences that have now ceased but have modified and continue to drive change within the site. It is also recognised that climate change pressures could affect qualifying features within the site. These changes cannot be prevented, so the Conservation Objectives at a site level seek to take account of them and where possible, improve the habitats' and species' resilience to environmental change when considering future plans or projects. The magnitude of the future impacts will depend on the nature, scale, duration and intensity of the activity and the tolerance and ability of qualifying features to recover from such an impact.

Additionally, management of human activities at a wider scale (i.e. regional, Scotland or the area covered by an international agreement such as the OSPAR Convention), may also affect qualifying features in this site (either by making a positive contribution or by having a negative impact). Wider scale impacts may affect the ability of the features to recover from site level changes, and therefore additional precaution over the impacts of any future human activities may be necessary.

An assessment of whether a change is natural or human-induced, or a combination of both, will need to be looked at on a case-by-case basis.

In relation to Monach Islands SAC and its protected features, the following effects of environmental change (climate change) are relevant. These effects should be taken into account when considering plans and projects as additional pressures may reduce the habitat's and species' resilience to climate change, and conversely climate change impacts may start to hinder their ability to recover from human activities.

- **Dune grassland** – Climate change is increasing the prevalence of extreme weather events, such as storms, floods, and tidal surges. These events can cause considerable erosion of sand dune systems and may significantly alter the extent of this feature on the Monach Isles in the future. In addition, rising sea levels may lead to changes in sand dune distribution if coastal morphology is altered. A reduction or alteration in sand dune distribution may occur if the natural movement of intertidal sediments and sand dunes are hindered by hard structures or manmade coastal infrastructure, thereby reducing the resilience of this feature to adapt to changing conditions (Pye *et al.*, 2007). Natural processes should be maintained and obstacles to the movement of sand and natural migration of sand dunes should be avoided. Changes in seasonal temperature and rainfall patterns have the potential to affect underlying ecosystem processes such as evapotranspiration, plant productivity, soil moisture, and groundwater systems, which will affect plant community compositions (Jones *et al.*, 2013).

- **Machair** – Machair is particularly vulnerable to rising relative sea level, causing marine incursions, or to brackish or fresh water flooding, resulting from impoundment by redistributed sediment and/or increased water surpluses. Any marine flooding of areas that have not been subject to such flooding for at least several centuries will result in salt deposition and osmotic stress to most organisms in the flooded areas, possibly at fatal levels, jeopardising the survival of vulnerable species in affected areas.
- **Shifting dunes with marram** - Increased storminess and sea-level rise is likely to enhance erosion of sedimentary coastlines and could result in a landward migration. This has the potential to alter the extent and/or distribution of shifting dunes on the Monach Isles in the future, albeit naturally. Marram (*Ammophila arenaria*) dominates in unstable dune environments with active sand movement and regular burial, and helps to bind existing sand and promote fresh sediment accumulation for dune growth. With a maintained sand supply, this habitat has a lower vulnerability to changing climatic conditions.
- **Grey seals** - Under climate change, sea temperatures are predicted to increase, but grey seals are a widely distributed species and not physically constrained by water temperatures. Several of their prey species are sensitive to water temperature and may move to more suitable areas as sea temperatures increase. Grey seals are generalists and they are able to switch to another prey in these circumstances. However, there is still potential for their distribution to be altered as a result of a change in distribution of their prey and for a reduction in their number if their prey diversity and numbers decrease. Increased storm events are also likely, as a result of climate change. If these occur during the breeding season (August - December) this could result in reduced nursing time and increased mother - pup separation and therefore increased pup mortality possibly resulting in a decline in seal numbers in the SAC. Sea level rise as a result of climate change has the potential to cover the haul out areas currently used by grey seals for pupping. This could lead to a change in distribution of animals in the site or the site being abandoned for altogether if no suitable habitat remains.

## HABITATS

2a. Extent and distribution of the habitat within the site		
Feature	Site specific advice	Site specific information
Dune grassland	Maintain the extent and distribution of the dune grassland within the site so that it supports associated plant species	<p>The baseline extent of the dune grassland feature was estimated to be ~ 200 ha (2015).</p> <p>This habitat occurs when dunes become stabilised, or 'fixed' and represents a zone further inland where sand deposition has decreased. However, this does not preclude an element of mobility, but such mobility should be minor.</p> <p>The extent of dune grasslands should be maintained within a reasonable range, accepting natural changes</p> <p>Some systems may have fixed landward boundaries where adjacent land use has encroached on former dunes, and this provides a clear constraining inland boundary and/or loss of habitat. On other systems, the transition can be gradual, with no fixed limit to the system. On the Monach Isles, the transition is natural and generally to Machair systems.</p>
Machair	Maintain the extent and distribution of the machair within the site so that it supports associated plant species	<p>The baseline extent of the machair feature was estimated to be ~ 292 ha (2015).</p> <p>This habitat occurs primarily on the larger dune systems and in low-lying areas within dune systems that are seasonally flooded by freshwater and where nutrient levels are low. This should be maintained while allowing for the natural variability due to a high level of dynamism, but also taking into account the inherent difficulties of defining this habitat on the ground due to its similarities with dune grassland.</p> <p>Natural dynamism is most easily identified in winter when sand often lies on the surface denoting recent sand movement. As a minimum, the system should not be over-stabilised: the dune system (which is not part of the Annex I machair habitat in terms of definition, but is in terms of function) should show evidence of sand movement (dominance of <i>Ammophila</i> or <i>Leymus arenarius</i>), bare sand should be visible, and ideally bare sand should be clearly visible within the dune vegetation and coastal defences should have only minimal influence on inward sand movement. The landward transition is usually marked by a loch or marsh. The wetter areas should demonstrate natural transitions.</p>

		<p>Machair habitat has a long history of, and has been dependent on human management, including seasonal grazing and low-input rotational cropping, which supports its high biodiversity. Lack of grazing over the longer term on the Monach Isles (due to practicality considerations) may result in changes to the extent of this habitat compared to the managed habitat.</p>
Shifting dunes with marram	Maintain the extent and distribution of the shifting dunes with marram within the site	<p>The baseline extent of the shifting dunes with marram feature was estimated to be 15 ha (2015).</p> <p>This habitat, by its very nature, is restricted in the area it can occupy as dune systems are dynamic, responding to prevailing conditions.</p> <p>This habitat is ephemeral with extent dependent on continued supply of sand from the beach plain into the dune system.</p> <p>The extent and distribution of shifting dunes with marram is determined by coastal processes and its interaction with beach cast (e.g. seaweed) and adjacent habitats such as machair and will naturally change over time. Therefore, no fixed extent or distribution is set for shifting dunes with marram at this site. The monitoring of this habitat should highlight continued net loss of habitat.</p>

## 2b. Structure and function of the habitat and the supporting environment on which it relies.

### **Structure:**

Structure includes what the habitat is created from and what it requires to exist, e.g. habitat forming species, geological features or sediment; the depth of the substrate or thickness or height of the biogenic structures from the seabed; biogenic material forming the structure should still retain a live component where this exists at baseline.

Temporary changes in the structure of the qualifying features due to human activity may be considered, provided recovery of the associated biodiversity can be demonstrated with a high degree of certainty. Assessments should consider the timing, duration and scale of the impact on the qualifying features and their ability to recover. Factors determining the potential of qualifying features to recover vary between features.

### **Function:**

Functions include the environmental conditions and processes required for the habitat to exist and the key functions provided by the habitat to the site and wider supporting environment i.e. those where there is inter-dependence between the habitats and the supporting environment. The Monach Isles are a small chain of low-lying islands lying to the west of the Outer Hebrides on an extensive rocky shelf of Lewis gneiss. Connected by shell sand tombolos with shore backed by dunes, the islands provide a unique combination of rocky reefs and shell-sand

beaches. This complex geography of the island group creates a range of environmental conditions including varied landforms which function together to support the habitats and species within them.

The site-specific advice below identifies the environmental conditions required to maintain the habitat and the key functions each habitat provides to the supporting environment. Different habitats contribute to different functions to different degrees, all of which contribute to the supporting environment on which it in turn relies. Collectively the features contribute to a wider range of functions, while some such functions also operate more clearly at an ecosystem scale. An exhaustive list is not practical but the following are functions best considered at the scale of the whole site:

- Resilience to invasive non-native species (INNS) and disease – the healthy and biodiverse habitats in the Monach Isles MPA is likely to make significant contribution to the ability of the local ecosystem to resist, recover from or adapt to the introduction of a non-native or disease/pathogen.

The key functions provided by each habitat will continue into the future if the habitats are maintained in a favourable condition. Temporary changes in the environmental conditions due to human activity may be considered, provided recovery of the habitats can be demonstrated with a high degree of certainty. Assessments should consider the timing, duration and scale of the impact on the qualifying features and their ability to recover. Factors determining the potential of qualifying features to recover vary between features.

Feature	Site specific advice	Site specific information
Dune grassland	Maintain the structure, function and supporting processes of the habitat.	<p>Dune grassland provide an array of functions including soft coastal protection and habitat provision for other species.</p> <p>This habitat occurs inland of the zone dominated by marram <i>Ammophila arenaria</i> on coastal dunes. It represents the vegetation that replaces marram where accretion is no longer significant and the dune stabilises, or becomes ‘fixed’, and the organic content of the sand increases. This feature is characterised by the largely closed swards that are formed generally, or have been maintained by grazing (domestic stock, and/or by rabbits). Natural cycles of (alien) rabbit populations have a significant influence on vegetation. A maintained short sward via over-grazing and burrowing can result in significant erosion (lack of sward and root structure). Conversely, a lack of grazing can result in a conversion to rank grassland due to competition from vigorous growing species.</p> <p>Although dune grassland is classed as ‘fixed’ this does not preclude an element of mobility, but such mobility should be minor.</p>

Machair	Restore the structure, function and supporting processes of the habitat.	<p>Habitat structure and function are reliant on maintenance of sediment dynamism and maintenance of existing hydrological processes. Indeed, some machair habitat was created by drainage of lochs and marshes. Machair systems provide an array of functions including water flow regulation and sediment trapping, coastal protection and supporting other species.</p> <p>Machair habitat has a long history of, and has been dependent on human management, including seasonal grazing and low-input rotational cropping, which supports high biodiversity. Lack of grazing over the longer term on the Monach Isles (due to practicality considerations) may result in changes to the 'typical' structure and function compared to the managed habitat. This reduces the number of species supported by this habitat. However, we recognise the practicalities of doing this is being considered by a site management plan. Subject the practicalities of this, this conservation objective may change in the future.</p>
Shifting dunes with marram	Maintain the structure, function and supporting processes of the habitat.	<p>Dune grassland provide an array of functions including soft coastal protection and habitat provision for other species.</p> <p>This habitat can occur on both accreting and eroding dunes and can rapidly change. Cycles of erosion followed by stability are part of the natural development of shifting dunes with marram and are essential to the maintenance of diversity. It rarely occurs in isolation because of its dynamic nature and because it is successional related to other dune habitats.</p> <p>A supply of new sand is vital for the continued existence of the shifting dune community and the long-term survival of the dune ecosystem. Dunes form a natural buffer against marine processes, performing best when they are allowed to adjust themselves to changing natural forces. The sand supply from the beach and from offshore can fluctuate, and the dunes react to this by advancing or retreating, so that any attempt to interfere with this process will have consequences for sediment movement over a wider area. An appreciation of the behaviour of sediment is thus essential to the understanding of the dune habitat. Dune dynamism is a natural process and should not be confused with coastal erosion.</p> <p>The natural mobility and transition of the shifting dunes along shoreline with marram and continuity with associated habitats should be maintained and not disrupted.</p>

### 2c. Distribution and viability of typical species of the habitat.

It is expected that the viability of the typical species will continue to be maintained if Objective 2b is met and therefore the site-specific advice and information does not provide any additional detail on this. This objective focuses on the distribution and diversity of typical species. The list of species provided below should be used as a guide to inform Habitats Regulations Appraisals of plans or projects with regard to this Conservation Objective. This summarises our knowledge as it currently stands but may be updated in the future as our knowledge improves.

Temporary changes in abundance and distribution of typical species due to human activity may be considered, provided recovery of the typical species can be demonstrated with a high degree of certainty. Assessments should consider the timing, duration and scale of the impact on the qualifying features and their ability to recover.

Feature	Site specific advice	Site specific information
Dune grassland	Restore the diversity, abundance and distribution of typical species associated with dune grassland in this site (including <i>Euphrasia officinalis</i> agg, <i>Cerastium fontanum</i> , <i>Trifolium repens</i> , <i>Carex arenaria</i> , <i>Plantago lanceolata</i> , <i>Galium verum</i> , <i>Prunella vulgaris</i> and <i>Viola tricolor</i> )	<p>The vegetation of dune grassland will vary dependent on the substrate from calcareous to more acidic. Typical species of the calcareous dune grasslands include <i>Euphrasia officinalis</i> agg, <i>Cerastium fontanum</i>, <i>Trifolium repens</i>, <i>Carex arenaria</i>, <i>Plantago lanceolata</i>, <i>Galium verum</i>, <i>Prunella vulgaris</i> and <i>Viola tricolor</i>.</p> <p>Colonisation of this habitat by vigorous native species, such as, cocksfoot <i>Dactylis glomerata</i>; common ragwort <i>Senecio jacobaea</i> or perennial ryegrass <i>Lolium perenne</i> due of a lack of grazing can cause irreversible habitat loss in the longer term, through loss of typical/indicator species and conversion to other open-ground habitats.</p> <p>The dune grassland feature has been condition assessed as favourable declining due to a reduction in the number of plant species associated with this grassland. This is a result of undergrazing, where more vigorous grass species are becoming dominant and outcompeting other plant species. This could be addressed with an increase in the grazing pressure, outwith the summer growing season, to ensure that the annual growth of vegetation is removed. However, we recognise the practicalities of doing this is being considered by a site management plan. Subject the practicalities of this this conservation objective may change in the future.</p>
Machair	Restore the diversity, abundance and distribution of typical species associated with dune grassland in this site (including <i>Trifolium repens</i> , <i>Cerastium fontanum</i> ,	A wide range of plant communities is present on machair, and there is considerable variation within these. Typical species of machair include <i>Trifolium repens</i> , <i>Cerastium fontanum</i> , <i>Euphrasia</i> agg, <i>Galium verum</i> , <i>Plantago lanceolata</i> , <i>Carex arenaria</i> . With seasonal inter-annual variations in land use and climate, considerable changes may be recorded between observations. This should not be regarded as a negative attribute but as the result of natural variation within a very dynamic habitat, unless there are grounds for suspecting that land use changes are involved. In particular, wet areas should not be subject to new (additional) drainage.

	<p><i>Euphrasia agg,</i> <i>Galium verum,</i> <i>Plantago lanceolate,</i> <i>Carex arenaria)</i></p>	<p>Uncultivated 'natural' machair may have a wide range of species. These will vary according to land use and the degree of wetness.</p> <p>The machair feature has been condition assessed as favourable declining due to a reduction in the number of plant species associated with this grassland. This is a result of undergrazing, where more vigorous grass species are becoming dominant and outcompeting other plant species. This could be addressed with an increase in the grazing pressure, outwith the summer growing season, to ensure that the annual growth of vegetation is removed. However, we recognise the practicalities of doing this is being considered by a site management plan. Subject the practicalities of this this conservation objective may change in the future.</p>
<p>Shifting dunes with marram</p>	<p>Maintain the diversity, abundance and distribution of typical species associated with dune grassland in this site (including <i>Ammophila arenaria)</i></p>	<p>The species composition of shifting dunes is constrained by the harsh conditions, but the vegetation is by no means uniform. The most marked floristic variation relates to the degree of instability.</p> <p>Zonation is a fundamental attribute of a dynamic sand-dune ecosystem. The range of vegetation zones and the transitions between them should be maintained. In most cases there will be several distinct sand dune zones, typically strandline (with sea rocket <i>Cakile maritima</i>, sea sandwort <i>Honckenya peploides</i>, orache sp. <i>Atriplex</i> spp.), embryonic dune (sparse cover of common couch <i>Elytrigia juncea</i>, lyme-grass <i>Leymus arenarius</i>), mobile dune (more stable dune dominated by marram <i>Ammophila arenaria</i>) and fixed dune grassland (with grasses such as red fescue <i>Festuca rubra</i>, sheep's fescue <i>Festuca ovina</i> and herbs such as lady's bedstraw <i>Galium verum</i>, yellow rattle <i>Rhinanthus minor</i>, heath bedstraw <i>Galium saxatile</i>).</p>

**MOBILE SPECIES: GREY SEAL**

2a. The population of grey seal is a viable component of the site.	
<p>This objective seeks specifically to protect grey seal from <b>significant</b> mortality or injury that can lead to a long-term decline of the feature within the site. It protects grey seal from significant risk of incidental killing and injury from activities both within and outwith the site. Impacts and effects are considered 'significant' where they could result in a permanent reduction or continued decline in the population such that recovery cannot be expected and consequently, further reduction in the contribution Monach Isles SAC makes to the maintenance of grey seal in their natural range in the UK.</p> <p>At a site level, grey seal are considered to be viable if they can carry out their life cycle functions and if conditions are right to accommodate seals. The long-term viability of grey seals in the SAC is intrinsically linked to their ability to access and use habitat and prey resources both on site and in areas of functionally linked sea outwith the SAC.</p> <p>Any assessment of impacts on the trend in grey seal numbers within the SAC should take into account the population trend for the relevant Management Area. If there is a declining trend within the SAC, then the relationship with the trend for the relevant Seal Management Area requires more detailed consideration. Particular precaution should be exercised when there is a decreasing trend within the SAC but an increasing trend across the Seal Management Unit.</p> <p>Temporary short-term changes in pup production due to human activity may be considered not to compromise the Conservation Objectives within the site provided it can be demonstrated with a high degree of certainty that pup production can fully recover. Factors limiting pup production in grey seals include: the average generation time of grey seal, population growth rates, availability of prey and the timing and duration of the activity around vulnerable stages of their life cycles such as during pupping and nursing.</p>	
Site specific advice	Site specific information
<p>Maintain a stable or increasing trend in the estimated number of grey seal pups within the SAC, taking into account the trend for the Western Isles Area.</p>	<p>Estimates of grey seal pup production (generated from 3-6 counts taken through the breeding season) have been made by the Sea Mammal Research Unit (SMRU) since 1990. There has been an overall increasing trend of pup production at the Monach Islands SAC since the beginning of the 1990s. In recent years (2008-2019) pup production estimates show numbers to be stable/increasing but fluctuating, as would be expected naturally (SCOS, 2021). Accordingly, grey seals are considered to be in favourable condition at the Monach Islands SAC.</p> <p>No site-reference population is set for grey seal at the Monach Islands SAC due to the variation and large-scale fluctuations in grey seal populations across Scotland. When assessing plans or projects, the site trend should be considered in relation to the Western Isles Management Unit.</p>

<p>Ensure grey seal can move safely between the site and important areas of functionally linked sea outwith the site.</p>	<p>The Western Isles (referred to as Outer Hebrides in Special Committee on Seals (SCOS) reports) grey seal pup production area is considered stable/increasing between 1992 and 2019 (Thompson <i>et al.</i>, 2019). The Monach Isles SAC produced 79% of the pups born in the Outer Hebrides in 2016 (Russell <i>et al.</i>, 2019). Consequently, the Outer Hebrides pup production trend closely mirrors the trend seen at Monach Isles, which shows an increase from the 1990s till 2008, before stabilising (SCOS, 2022).</p> <p>Grey seals are highly mobile species and the long-term maintenance of the species in the SAC is intrinsically linked to their ability to access and use habitat and prey resources in areas of functionally linked sea outwith the SAC. Grey seals from the Monach Isles SAC will generally forage within 100 km from the SAC, although tracking of grey seal individuals has found that they can feed several hundred kilometres offshore (SCOS, 2022). Female grey seals will remain closer to the breeding colony (within 20 km) whilst caring for pups. The abundance of different prey within the site is unlikely to affect seal numbers at the SAC significantly. Sufficient availability of prey resources and access to these foraging areas outwith the SAC is essential to the long-term health of the species in the SAC.</p> <p>When assessing the effects of any plan or project consideration should therefore also be given to whether impacts outwith the SAC could affect achievement of this Conservation Objective.</p> <p>This Conservation Objective is considered to be met if the conditions to support all the species' essential behaviours and activities are in place. This includes:</p> <ul style="list-style-type: none"> <li>• avoiding effects within and outwith the site that could prevent or reduce the ability of the grey seal population to recover.</li> <li>• avoiding effects within and outwith the site that could lead to a permanent reduction in the grey seal population through mortality, injury, or impacts caused by disturbance, displacement, barrier effects or reduction in mobile prey resources.</li> <li>• maintaining the species' ability to use all areas of importance within the site (to be considered under Conservation Objective 2b)</li> <li>• maintaining access to, and availability of, supporting habitats within the site (to be considered under Conservation Objective 2c).</li> </ul> <p>Factors that may limit the recovery of grey seal include: availability and quality of prey, competition and predation, and the timing and duration of the activity around vulnerable stages of their life cycles such as during the breeding season.</p>
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**2b. The distribution of grey seal throughout the site is maintained by avoiding significant disturbance of grey seal.**

This objective seeks to ensure that grey seal continue to use and access all areas within the Monach Islands SAC used for pupping and nursing.

The main grey seal breeding colonies are located on Cean Ear, Ceann Iar, Shillay, Shinish and Stockay. Grey seals return to their natal breeding sites at the Monach Isles between August through to December. Adult females spend approximately three weeks ashore or in the shallow waters near the shores where their pups remain until weaned. Adult males may spend anything from a few days to nearly two months on breeding islands attempting to mate. It is important that grey seals continue to have access to shore areas during the breeding period and can continue to move safely between these locations and the sea.

Grey seal pups are particularly vulnerable to disturbance as, unlike their mothers when disturbed, they are unlikely to enter the water until they have moulted their white coat. Significant disturbance during the breeding period can lead to pups being separated from their mothers for long periods affecting the energetic health of the nursing pups (a reduction in feeding) and can even lead to pups being abandoned. This can result in a decrease in the survival of pups and therefore a reduction in the number of seals returning to breed in subsequent years. Significant disturbance can also lead to adults being displaced and abandoning the affected area reducing the ability of the population to recover since those adults and future generations may not return to the site for breeding.

Grey seals can habituate to some levels of disturbance over time (for example the same boat passing by the haul-out every day) but novel and/or prolonged events have the potential to affect distribution within the SAC and abandonment of the breeding site altogether.

Disturbance associated with human activity may take a variety of forms including: presence of people, underwater noise, as well as displacement and barrier effects on grey seals. Responses to disturbance can be physiological and/or behavioural for example adult grey seals will enter the water when they are disturbed.

'Significant disturbance' should be interpreted to mean disturbance that affects the integrity of the SAC through alteration of the distribution of grey seals such that recovery cannot be expected or effects can be considered long term. Significant disturbance should be assessed at the level of the site. It is expected that significant disturbance will lead to more than a transient effect on the distribution of grey seals. It may result in the following types of effect:

- Contributes to the long-term decline in the use of the site by grey seal.
- Changes to the distribution of grey seal on a continuing or sustained basis.
- Changes to grey seal behaviour such that it reduces the ability of the species to survive, breed or rear their young.

Temporary short-term disturbances for example a localised disturbance outwith the breeding season may be considered not to compromise the Conservation Objectives provided it can be demonstrated with a high degree of certainty that the population can fully recover and full use of the site can resume.

Factors limiting the recovery of grey seals include the timing, frequency and duration of the activity around vulnerable stages of their life cycle such as during the pupping period. Factors limiting the recovery of grey seals include the timing, frequency and duration of the activity around vulnerable stages of their life cycle such as the pupping period.

**2c. The supporting habitats relevant to grey seal are maintained.**

<p>Maintain the extent, quality, and distribution of the supporting habitats required by breeding grey seals.</p>	<p>This objective seeks to maintain the shore habitats used by grey seals for hauling out during breeding. Supporting habitat, in this context, means the characteristics of the shore used by grey seals. Grey seals will haul out on a variety of habitats including gently shelving rocky shores, pebbly beaches and grassy slopes close to the sea. The numerous sea inlets and associated shores provide suitable sheltered and undisturbed habitat for pupping.</p> <p>Throughout the year and during the breeding period in particular, grey seals also spend a large proportion of their time in waters within the SAC, particularly near the shore, often foraging or resting.</p> <p>Temporary short-term changes in supporting habitats due to human activity may be considered not to compromise the Conservation Objectives within the site provided it can be demonstrated with a high degree of certainty that the population of grey seal can fully recover.</p>
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## Annex 2. Monach Isles MPA Conservation Objectives

The box below provides the high-level Conservation Objective statements. The full Conservation Objectives, including site-specific advice and information on the features that form part of this MPA, are provided in the tables that follow. These tables are grouped split by feature type, i.e. habitats, species, large-scale features and geomorphology. The site-specific advice and information provides more detail in relation to each of the high-level

Conservation Objective statements for each feature type, e.g. detail on the extent of a habitat within a site and what the supporting features are for a species.

Information is also provided below on how minor changes to features should be considered and the influence of environmental change on features, particularly in relation to climate change for context.

A definition of the terms used is in the Glossary.

A map of the MPA, the location of the features and the place names mentioned in the site-specific information is provided in Figure 2.

Monach Isles MPA
Protected features(s): Mobile species – Black guillemot ( <i>Cephus grylle</i> ) Geomorphological features – Marine Geomorphology of the Scottish Shelf Seabed and Quaternary of Scotland
<p>The Conservation Objectives of the Monach Isles MPA, are that the protected features</p> <ul style="list-style-type: none"> <li>• so far as already in favourable condition, remain in such condition; and</li> <li>• so far as not already in favourable condition, be brought into such condition, and remain in such condition.</li> </ul> <p>“Favourable condition”, with respect to a mobile species of marine fauna, means that</p> <ol style="list-style-type: none"> <li>a) the species is conserved or, where relevant, recovered to include the continued access by the species to resources provided by the MPA for, but not restricted to, feeding, courtship, spawning or use as nursery grounds;</li> <li>b) the extent and distribution of any supporting features upon which the species is dependent is conserved or, where relevant, recovered; and</li> <li>c) the structure and function of any supporting feature, including any associated processes supporting the species within the MPA, is such as to ensure that the protected feature is in a condition which is healthy and not deteriorating.</li> </ol> <p>“Favourable condition”, with respect to a feature of geomorphological interest, means that</p> <ol style="list-style-type: none"> <li>a) its extent, component elements and integrity are maintained;</li> <li>b) its structure and functioning are unimpaired; and</li> <li>c) its surface remains sufficiently unobscured for the purposes of determining whether the criteria in paragraphs (a) and (b) are satisfied.</li> </ol> <p>For the purpose of determining whether a feature of geomorphological interest is sufficiently unobscured under paragraph (3)(c), any obscuring of that feature entirely by natural processes is to be disregarded.</p>

For the purpose of determining whether a protected feature is in favourable condition any alteration to that feature brought about entirely by natural processes is to be disregarded.

### Consideration of minor changes to features

For mobile species and geomorphological features temporary short-term and/or minor changes in the proposed protected features due to human activity may be considered not to compromise the Conservation Objectives and will be considered on a case by case basis.

Assessments should consider the timing, duration and scale of the impact on the features and their ability to recover. Factors determining the potential for features to recover following temporary deterioration vary between features. These are described in more detail in Annex 3 “*Factors determining the potential for features to recover*”.

### Environmental Change

This Conservation Objective recognises that the qualifying features are part of a complex, dynamic and multi-dimensional marine environment. Marine birds depend on environmental conditions (for example water movement, up-wellings and prevailing weather) which vary over time and space. Consequently, marine bird species are exposed to a wide range of drivers of change. ‘Environmental changes’ for the purpose of these Conservation Objectives means any change to the qualifying features reflecting both natural population dynamics and also broader environmental changes, i.e. those related to climate change and environmental variability, management of which is beyond the scope of the MPA.

For marine birds, some site-level changes are natural and are not a direct result of human influences (e.g. population fluctuations arising from factors such as variable breeding success or weather conditions across the wintering range / shifts or changes in prey availability resulting from variability in environmental factors processes such as water temperature and movements).

Any alterations to the proposed protected features that are brought about by entirely natural processes are to be disregarded when assessing against the Conservation Objectives.

In relation to the Monach Isles MPA and its protected features, the following effects of climate change are relevant as outlined below. These effects should be taken into account when considering plans and projects within Monach Isles MPA as additional pressures may reduce the habitat’s resilience to climate change, and additionally climate change impacts may start to hinder the habitat’s ability to recover from human activities.

Black guillemot	<p>Under climate change, sea temperatures are predicted to increase, sea levels will rise and there could be increases in the frequency of stormy conditions. Increased levels of atmospheric CO<sub>2</sub> will also result in ocean acidification. Any of these factors could cause changes in bird abundance and distribution at the MPA due to changes in prey (species, availability and distribution).</p> <p>In coastal breeding sites, increased flooding associated with storm tides may also cause nest site failures in breeding seabirds (Mendel <i>et al.</i>, 2008).</p> <p>As a result of climate change, the geographic range of black guillemot in the UK is predicted to shrink, so that Shetland, Orkney and the northern tips of mainland Scotland may be the only places holding breeding</p>
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	colonies (Daunt and Mitchell, 2013). In other parts of their range, outwith the UK, black guillemots have been shown to be affected by climate-induced changes in habitat and prey (Divoky, 2011; Buchadas and Hof, 2017).
Marine Geomorphology of the Scottish Shelf Seabed	<p>As an interest comprised of dynamic landforms, it is likely that the Marine Geomorphology of the Scottish Shelf Seabed feature will change to some degree in response to variations in tidal current speed, wave action and sediment supply driven by both natural and climate change.</p> <p>Projected increases in seawater temperatures, availability of CO<sub>2</sub> for photosynthesis, ocean acidification, the frequency and strength of storm events, and sea level associated with climate change all have implications for the continued extent, distribution, and structure of the biogenic component elements contributing to this feature.</p>
Quaternary of Scotland	As erosional features formed by ice over millennia the glaciated channel/troughs and landscape of areal glacial scour are likely to be highly resistant to climate change. The resilience of the megascale glacial lineations is highly variable and depends upon the composition of the seabed and its degree of consolidation. Lineations formed in well consolidated sediment can be considered highly resistant to climate change. Those preserved in poorly consolidated sediment may well be sensitive to large scale changes in water flow, wave exposure and sedimentation associated with climate change. Such sensitivities constitute a worthy consideration, particularly given that climate change may drive an increase in mean annual maximum wave height and a change in wind speed over the century (Palmer <i>et al.</i> , 2018).

## MOBILE SPECIES

<b>(a) Species is recovered</b>		
The boxes below provide the site-specific advice on the 'species is... recovered' element of Conservation Objective (a). Information on 'Continued access by the species to resources provided by the MPA for, but not restricted to, feeding, courtship, spawning or use as nursery grounds' is provided separately below.		
<b>Feature</b>	<b>Site specific advice</b>	<b>Site specific information</b>
Black guillemot	<p>Ensure the population of breeding black guillemot have the ability to recover to the site reference population.</p> <p>and</p> <p>Ensure black guillemots within the MPA are not at significant risk from injury or mortality.</p>	<p>The site reference population for breeding black guillemots at the Monach Isles MPA is 820 birds (2002 count), equating to around 2% of the British breeding population. Monach Isles SSSI, designated for black guillemot, is surrounded by the Monach Isles MPA. It is predicted that 95% of the black guillemots nesting at Monach Isles SSSI will use waters within 2 km of their breeding grounds, i.e. within the Monach Isles MPA marine waters. The last count from the Monach Isles SSSI showed a 95% decrease of black guillemots to around 38 individuals (2015-2021 Seabirds Count survey). Black guillemot populations in both the UK and in Scotland have shown a decrease of around 11% (2015-2021) since Seabird 2000 (1998-2002) (Burnell <i>et al.</i> 2023).</p> <p>Reasons for the decline at the associated breeding colony of this MPA (Monach Isles SSSI) is not fully understood. The extent of the supporting habitat is not thought to have changed. Visitor numbers are thought to be low on the Monachs. Mammalian predation could be a potential pressure on the black guillemots, however a survey of mammals on the Monachs would need to take place. Changes in their prey availability within their marine foraging areas within the Monach Isles MPA is another possible reason for their decline though it is currently unknown.</p> <p>Plans or projects should ensure that black guillemots are not at significant risk from injury or mortality. For the purposes of the MPA assessments black guillemot are only protected when they are within the site (which extends 2 km out to sea). Any activities that take place within or outside the MPA that could kill or injure black guillemots in the MPA should be considered in assessments.</p>

<b>(a) Continued access by the species to resources provided by the MPA for, but not restricted to, feeding, courtship, spawning or use as nursery grounds.</b>
The boxes below provide the site specific advice on the ' <i>continued access...</i> ' element of Conservation Objective (a). Information on ' <i>The species is conserved</i> ' is provided separately above.

Feature	Site specific advice	Site specific information
Black guillemot	<p>Ensure black guillemots have access to and can utilise all optimal habitats suitable for all relevant aspects of their life cycle associated with the site.</p> <p>and</p> <p>Avoid significant disturbance to black guillemots and ensure individuals can move safely between these areas within the site.</p>	<p>Black guillemots are resident species and will remain near their breeding colonies throughout the year. Their breeding season is from March until end of August.</p> <p>The latest assessment of distribution of nesting black guillemots within the Monach Isles MPA showed black guillemots were distributed along the coastline of each of the Monach Isles, with particular concentrations at Siolaigh noted. Black guillemots use nearshore waters for foraging and will be distributed throughout the Monach Isles MPA. In the breeding period, the foraging range of black guillemot has a mean maximum of 4.8 km ± 4.3 km (Woodward <i>et al.</i>, 2019). Black guillemots predominantly forage in waters up to a dive depth of 50 m (Johnston <i>et al.</i>, 2018).</p>

<b>(b) Extent and distribution of any supporting feature</b>		
<b>(c) Structure and function of any supporting feature, including any associated processes supporting the species</b>		
Feature	Site specific advice	Site specific information
Black guillemot	<p>Recover the extent and distribution of the supporting habitats for black guillemots within the site.</p> <p>and</p> <p>Recover the variety and abundance of food resources and the condition of supporting habitats and associated processes.</p> <p>and</p>	<p>Black guillemots at the Monach Isles MPA require suitable habitat for breeding, foraging, resting, and other maintenance activities. They will nest amongst boulders and rocks. Black guillemots use areas close to the coast in which to forage and rest. Guillemots have a small foraging radius, and will forage down to 50 m (Johnston <i>et al.</i>, 2018), feeding primarily in the benthic environment. Black guillemots are also strongly associated with feeding amongst seaweed.</p> <p>Black guillemots are pursuit divers that propel themselves in the water using their wings. Breeding black guillemot in Scotland feed diurnally, predominantly on butterfish, but will also take sandeel, gadoids, blenny, sculpins and flatfish species, depending on what is locally available (Johnston <i>et al.</i>, 2018). Some invertebrate prey items may also be taken depending on the region, although some studies have shown adults have a higher proportion of invertebrates compared to chicks (Birdlife International, 2022). Both generalist and specialist foraging behaviours have been recorded in black guillemots, and their foraging preferences change seasonally (Johnston <i>et al.</i>, 2018). Black guillemots have also been recorded using man-made objects in the sea to rest on.</p>

	Existing water quality should be conserved and any increase in nutrients, turbidity or contaminants where this could reduce supporting habitats and/or prey, should be avoided.	<p>The key supporting habitats for black guillemots at the Monach Isles MPA will relate to the availability of suitable foraging habitat, in particular seaweed. Supporting processes in the marine environment may relate to water speed, tides, turbidity and water quality. Black guillemots are associated with moderate current speeds, tidal eddies, and tidal streams, with foraging being most common at speeds of 0.5–1 m/s<sup>-1</sup>, reducing in frequency at higher current speeds of &gt;2 m/s<sup>-1</sup> (see references within Johnston <i>et al.</i>, 2018). Densities of black guillemots are greater during the low tide, which may relate to the accessibility of the prey (Johnston <i>et al.</i>, 2018). Their diving depths and their diving behaviour has been associated with the seafloor (Johnston <i>et al.</i>, 2018). As with other guillemot species that feed in the water column and as a visual feeder, black guillemots could potentially be affected by any increase in turbidity that would affect their ability to successfully forage for their prey (Cook and Burton, 2010).</p> <p>The overall water body condition status relevant to the Monach Isles MPA was assessed as “High” (SEPA, 2022). This assessment includes consideration of water chemistry, pollutants, the physical condition of the water body, plant and animal communities.</p>
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## GEOMORPHOLOGICAL FEATURES

<b>(a) Extent, component elements and integrity</b>		
<b>Feature</b>	<b>Site specific advice</b>	<b>Site specific information</b>
Marine Geomorphology of the Scottish Shelf Seabed	Conserve the extent, component elements and integrity of the Marine Geomorphology of the Scottish Shelf Seabed feature.	<p>Component elements refer to the landforms which make up the feature whilst integrity relates to the collective assemblage of these landforms and their inter-relationships.</p> <p>For thousands of years since the last glaciation, currents on the west coast of the Outer Hebrides have been reworking the complex seafloor morphology created by previous glacial and geomorphological processes. Whilst some relict features have been eroded, others have been buried by sediment creating a new bed over much of the continental shelf and deeper seabed areas. As a relatively shallow shelf sea the area is recognised as an internationally important example of a non-tropical shelf carbonate system (Brooks <i>et al.</i>, 2013), where storm surge and tidal currents drive calcium carbonate rich marine sediments shoreward. The processes create a supply of clastic carbonate ashore, transporting carbonate sands to the important coastal dune and machair systems on the Monach Isles.</p>

		<p>As an active feature maintained by hydrodynamic processes, significant alterations to the features extent, component elements and integrity may arise from activities causing changes in local water flow and those involving physical change/ and or removal of seabed sediment. The degree of change in response to these pressures is dependent on the duration and scale of the activity in question, as well as any potential permanent changes to local hydrodynamics.</p> <p>Assessments should focus on activities which may significantly alter water flow characteristics as well as those involving significant abrasion or disruption of seabed sediments. A consideration of the scale of the impact or activity in relation to individual component elements and to the full feature should be undertaken in assessments to conserve the integrity of the feature.</p>
Quaternary of Scotland	Conserve the extent, component elements and integrity of the Quaternary of Scotland feature.	<p>Component elements refers to the landforms which make up the feature, namely landscape of areal glacial scour, whilst integrity relates to the collective assemblage of these landforms and their inter-relationships.</p> <p>Landscapes of areal glacial scour within the MPA were created by the channelled flow of ice over bedrock and are characterised by elongated grooves and ridges in erosion resistant geology (Summerfield, 1991). As a result, landscapes of areal glacial scour are considered to be highly resistant to human activities and are either considered not sensitive or to have a low sensitivity to pressures arising from human activities. A loss in the extent, component elements or integrity is therefore not anticipated.</p> <p>Assessments should focus on activities which may significantly alter water flow characteristics as well as those involving significant abrasion or disruption of seabed sediments. A consideration of the scale of the impact or activity in relation to individual component elements and to the full feature should be undertaken in assessments to conserve the integrity of the feature.</p>

<b>(b) Its structure and functioning are unimpaired</b>		
<b>Feature</b>	<b>Site specific advice</b>	<b>Site specific information</b>
Marine Geomorphology of the Scottish Shelf Seabed	Conserve the structure and functioning of the feature so that they are unimpaired.	<p>The landforms which make up the feature are comprised of sands and gravels and are rich in carbonate material. The overall bedform areas are relatively stationary, but the bedforms within them are generally mobile. Areas adjacent to the feature are swept clean of sediments (Brooks <i>et al.</i>, 2013). The structure of the feature is considered to have a medium sensitivity to physical disturbance and a high sensitivity to local tidal current changes.</p> <p>The feature has the function of being scientifically important for furthering the understanding of shelf bedform systems (Brooks, 2013). The feature also has a sediment supply function, where storm-driven currents can drive carbonate-rich sands onshore. This is important for maintaining the supply of carbonate to coastal dune and machair systems (Brooks <i>et al.</i>, 2013). The feature's function of scientific importance and sediment supply may be impaired by activities which are detrimental to its extent, component elements and integrity, as set out above under (a).</p> <p>Assessments should therefore focus on activities which have the potential to significantly alter the hydrodynamic processes. Maintaining the ability of the feature to generate and supply sediments should also be an important consideration.</p>
Quaternary of Scotland	Conserve the structure and functioning of the feature so that they are unimpaired.	<p>Structurally the Quaternary of Scotland feature is preserved in unsorted mixed sediment and in bedrock. The structure of the Quaternary of Scotland feature is considered not sensitive where the landforms are in bedrock. In contrast, the structure of landforms consisting of sediment are likely to have a highly variable sensitivity to pressures arising from human activities. Activities involving the physical removal of sediments, sub-surface abrasion/penetration of the seabed or changes to local tidal currents may lead to a loss of structure in such landforms.</p> <p>In its entirety the feature has a function of 'scientific importance' for the understanding of Quaternary ice sheet dynamics and climate change during the last glacial period, which is relevant to understanding ice sheet dynamics in the coming decades (Brooks, 2013; Stoker <i>et al.</i>, 2009). This is largely due to the exceptional quality and continuity in which the Quaternary of Scotland feature is preserved. The feature's function of scientific importance may be impaired by activities which are detrimental to its extent, component elements and integrity, as set out above.</p>

		Assessments should therefore focus on activities which have the potential to significantly alter water flow characteristics as well as those involving significant abrasion or disruption of seabed sediments.
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<b>(c) Its surface remains sufficiently unobscured for the purposes of determining whether the criteria in paragraphs (a) and (b) are satisfied.</b>		
<b>Feature</b>	<b>Site specific advice</b>	<b>Site specific information</b>
Marine Geomorphology of the Scottish Shelf Seabed	Conserve the surface of the feature so that it remains sufficiently unobscured for the purposes of determining whether the criteria in conservation objectives (a) and (b) are satisfied.	Assessments should focus on whether the activity or development has the potential to significantly obscure the surface of the longitudinal bedform field to the extent that conservation objectives (a) and (b) could not be fully assessed. Whilst the feature as a whole is of a size which is unlikely to be obscured, assessments should consider the degree to which any of the component landforms might be obscured. This will vary greatly according to the size and nature of the component elements concerned. Therefore, the type of data and/or assessment required will vary likewise.
Quaternary of Scotland	Conserve the surface of the feature so that it remains sufficiently unobscured for the purposes of determining whether the criteria in conservation objectives (a) and (b) are satisfied.	Assessments should focus on whether the activity or development has the potential to significantly obscure the surface of the glaciated channel/troughs, landscape of areal glacial scour or mega-scale glacial lineations to the extent that conservation objectives (a) and (b) could not be fully assessed. Whilst the feature as a whole is of a size which is unlikely to be obscured, assessments should consider the degree to which any of the component landforms might be obscured. This will vary greatly according to the size and nature of the component elements concerned. Therefore, the type of data and/or assessment required will vary likewise.

### **Annex 3. Supporting information**

#### ***Factors determining the potential for features to recover***

##### *Dune grassland*

Excessive and continued tracking/trampling by livestock. Both overgrazing and undergrazing by livestock and rabbits can inhibit the ability of dune grasslands to recover and could lead to conversion to other habitats.

##### *Machair*

Large changes to sediment dynamism and local hydrological processes (via sea level rise or rainfall patterns) can inhibit the ability of machair to recover. For example, recovery potential will be greatly reduced if sediment is over-stabilised wherein dune systems are unable to move or if wet areas are subject to new (additional) drainage. Appropriate grazing levels are required to maintain favourable condition of machair.

##### *Shifting dunes with marram*

The recovery potential of shifting dunes with marram will be influenced by sediment supply and dynamism – both of which are integral to the natural functioning of this habitat.

##### *Grey seal*

Grey seals return to their natal colony to breed. Grey seals pups are born white, they occasionally swim before they moult but generally moult this first coat before they spend a lot of time at sea. Before the moult their mothers are reluctant to leave them on the land but they will enter the water occasionally for foraging and if disturbed. If disturbance is short lived (for example boat passing close to a haul out or a person landing at a haul out) recovery is likely to be swift as nursing mothers will return to the haul out within a few hours. However, if nursing mothers are prevented from returning to the haul out for a significant period the survival of the pups may be threatened and they may not survive to weaning. This could affect the population of grey seals in the SAC since large numbers of pups may not survive to weaning. Females start to breed at around 5 to 8 years of age and recovery from this type of impact could take a couple of generations therefore 15-20 years. If disturbance is significant and long-term the pupping success at the haul out could be reduced every year, effectively reducing the number of seals returning to the haul out and their breeding success year on year until no grey seals return to the haul out. There is scope for seals to move haul out within the SAC since there is no shortage of suitable habitat to haul out in. Whether this is possible depends on the nature and size of the disturbance but it is likely that distribution in the SAC will be affected. Significant long term disturbance during breeding could cause some or all of the SAC to be abandoned.

##### *Black guillemot*

Black guillemots have an estimated generation length of 9.2 years and age of first breeding is 3-4 years (Bird *et al.*, 2020). Their maximum longevity is close to 26 years (Bird *et al.*, 2020). Black guillemots are unlike other auk species in that they lay two eggs. Productivity of black guillemots in Scotland, which is derived from regularly monitored colonies mostly located in Orkney and Shetland, was approximately 1.01 chicks fledged per pair per year between 1986 and 2012 (JNCC, 2021). Adult survival is estimated as being 0.87 (Bird *et al.*, 2020). Any effect on adult mortality can potentially have serious effects on breeding numbers. As with other long-lived seabird species, the adult will balance parental investment into their current breeding attempt with their own need to survive, and future reproductive attempts.

As black guillemots have such a restricted foraging range within inshore waters this can make them particularly vulnerable to any pressures that would affect their prey within this environment, as well as being more vulnerable to oil-spill events that more often occur in nearshore waters.

As a resident species black guillemots tend to remain near their breeding colonies throughout the year. They have a flightless moult period between mid-August to end of November, during which they will be vulnerable to pressures, which could have a subsequent effect on reproduction or survival.

As with other auk species, black guillemots have a high wing loading, meaning that there is a high energetic cost of flight (Thaxter *et al.*, 2010). This may mean if they have to travel further to find food they may suffer energetically (Masden *et al.*, 2010).

#### *Marine Geomorphology of the Scottish Shelf Seabed*

The recoverability of this feature is influenced by a range of factors. Recoverability of the feature's overall functions for sediment supply is likely to be robust or high given the dynamic bedforms. The recovery of its component landforms may be limited by changes to hydrodynamics (water flow, waves), or changes in sediment transport and availability. The degree of limitation will be influenced by the scale and duration of the activity in question. The dynamic processes which underpin the feature can be 'tipped' into new states of equilibrium by activities of greater scale and longer duration, limiting the recovery of the feature.

#### *Quaternary of Scotland*

The processes which formed the component elements of the Quaternary of Scotland geodiversity feature no longer exist and therefore the feature has no recovery potential.

## Glossary for Conservation Objectives

Conservation Objective term	Definition
Distribution and diversity of typical species of the habitat	This should outline the typical species that are associated with the habitat. The typical species include those that are especially relevant to the habitat's definition, e.g. species that form the structure of a bivalve bed, or sea pens on burrowed mud. Viability of the typical species will be achieved if the structure and the function of the habitat is maintained/restored as appropriate. Therefore, this Conservation Objective focuses on outlining their distribution within the site in relation to the habitat.
Extent and distribution	The "extent" of a habitat is the total area that it covers. This should also include consideration of the "distribution" i.e. how it is spread out within the site. A habitat could be continuous and contained within one area, dispersed in smaller patches over a wider area, or as a mosaic with other habitats. Indeed, it could also be a combination of these.
Favourable condition	This refers to the assessed condition of a feature through Site Condition Monitoring. Features considered to be in favourable condition for the purposes of these Conservation Objectives are those that have an assessed condition of either: <ul style="list-style-type: none"> <li>• Favourable Maintained - the attribute targets set for the natural features have been met, and the natural feature is likely to be secure on the site under present conditions.</li> <li>• Favourable Recovered - the condition of the natural feature has recovered from a previous unfavourable condition, and attribute targets are now being met.</li> </ul>
Favourable Conservation Status	This is a measure of the condition of habitats and species listed in Annex I or II of the Habitats Directive and is assessed across the UK. It is achieved when a habitat or species throughout the zone is maintained in size and range and the conditions for its long-term existence are in place. Habitats and species within Scottish SACs contribute to achieving favourable conservation status within the UK.
Function	This encompasses both the environmental processes on which the condition of each habitat depends and the key functions that each habitat provides to the wider site ecosystem. The text within the supplementary advice explains function in relation to both of these factors for the feature concerned where information is available.
Generation length	Generation length is "the average age of parents of the current cohort". Generation length therefore reflects the turnover rate of breeding individuals in a population (IUCN, 2019).
Maintain	Where a qualifying feature of the SAC is assessed as being in favourable condition the conservation objective is 'maintain'. This means that the various attributes of the feature should be kept at that favourable level. This can include increasing/improving condition as well, but not a permanent decline.
Restore	Where a qualifying feature of the SAC is assessed as being in unfavourable condition the conservation objective is 'restore'. This means that the various attributes of the feature should be returned to the favourable level by increasing/improving condition.

<b>Conservation Objective term</b>	<b>Definition</b>
Site integrity	The integrity of a site is defined in general terms as the coherence of its ecological structures and function, across its whole area, which enables it to sustain the habitat, complex of habitats and and/or the levels of populations of the species for which it was designated.
Supporting environment	This includes the following environmental conditions (but is not limited to) which are important for maintaining/restoring the protected features, e.g. hydrography and supporting water currents, chemical water quality parameters, suspended sediment levels, radionuclide levels.
Structure	The structure of a habitat includes what the habitat is created from and what it requires to exist, e.g. habitat forming species, geological features or sediment; the depth of the substrate or thickness or height of the biogenic structures from the seabed; biogenic material forming the structure should still retain a live component where this exists at baseline.
Unfavourable condition	<p>This refers to the assessed condition of a feature through Site Condition Monitoring. Features considered to be in unfavourable condition for the purposes of these Conservation Objectives are those that have an assessed condition of either:</p> <ul style="list-style-type: none"> <li>• Favourable declining - The attribute targets set for the natural feature have been met, but evidence suggests that its condition will worsen unless remedial action is taken.</li> <li>• Unfavourable recovering - One or more of the attribute targets have not been met on the site, but management measures are in place to improve the condition.</li> <li>• Unfavourable no change - One or more of the attribute targets have not been met, and recovery is unlikely under the present management and activity on the site.</li> <li>• Unfavourable declining - One or more of the attribute targets have not been met, evidence suggests that condition will worsen unless remedial action is taken.</li> </ul>

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