

MORGAN OFFSHORE WIND PROJECT: GENERATION ASSETS

Conservation objectives clarification note

Deadline: 4

Application Reference: EN010136

Document Number: MRCNS-J3319-JVW-10212

Document Reference: S_D4_20

10 December 2024

F01



Image of an offshore wind farm

MORGAN OFFSHORE WIND PROJECT: GENERATION ASSETS

Document status

Version	Purpose of document	Authored by	Reviewed by	Approved by	Review date
F01	Deadline 4	NIRAS	Morgan Offshore Wind Ltd.	Morgan Offshore Wind Ltd.	December 2024

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Prepared for:

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Glossary

Term	Meaning
Applicant	Morgan Offshore Wind Limited.
Development Consent Order (DCO)	An order made under the Planning Act 2008 granting development consent for a Nationally Significant Infrastructure Project (NSIP).
Morgan Array Area	The area within which the wind turbines, foundations, inter-array cables, interconnector cables, scour protection, cable protection and offshore substation platforms (OSPs) forming part of the Morgan Offshore Wind Project: Generation Assets will be located.
Morgan Offshore Wind Project: Generation Assets	This is the name given to the Morgan Generation Assets project as a whole (includes all infrastructure and activities associated with the project construction, operations and maintenance, and decommissioning).
The Planning Inspectorate	The agency responsible for operating the planning process for applications for development consent under the Planning Act 2008.

Acronyms

Acronym	Description
APIS	Air Pollution Information System
CEFAS	Centre for Environment Fisheries and Aquaculture Sciences
DO	dissolved oxygen
EA	Environment Agency
EQS	Environmental Quality Standards
ExA	Examining Authority
HRA	Habitats Regulations Assessment
ISAA	Information to support an appropriate assessment
JNCC	Joint Nature Conservation Committee
LSE	Likely Significant Effect
NPWS	National Parks and Wildlife Service
PBDE	polybrominated diphenyl ether
RSPB	Statutory Nature Conservation Bodies
SAC	Special Areas of Conservation
SIP	Site Improvement Plan
SNCB	Statutory Nature Conservation Bodies
SPA	Special Protection Areas
WFD	Water Framework Directive

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Units

Unit	Description
km	Kilometres
%	Percentage

1 CONSERVATION OBJECTIVES CLARIFICATION NOTE

1.1 Introduction

1.1.1.1 This clarification note has been produced in response to the Examining Authority's first round of written questions, specifically question HRA 1.10 which is provided below:

“Conservation Objectives

Conservation Objectives are provided only for the SPAs/ Ramsars which reached Integrity Test: Step 2. The ExA will be considering the potential for adverse effects on all European sites that have reached Stage 2 in light of their conservation objectives.

The Applicant is requested to:

- i) Provide conservation objectives for all European sites for which a Likely Significant Effect has been identified.*
- ii) Confirm whether any qualifying features of the European sites assessed in the Stage 2 SPA/ Ramsar Report [APP-098] are in unfavourable condition and/ or have a restore Conservation Objective target?*

1.1.1.2 This report provides conservation objectives for all European sites for which a Likely Significant Effect (LSE) has been identified in HRA Stage 1 Screening Report (APP-099). The report also provides any supplementary information associated with the conservation objectives for each designated site and identifies if any associated features are in unfavourable condition.

1.1.1.3 To identify features in unfavourable condition, information presented on site condition assessments has been used. If a site condition assessment is not available for an SPA, the status of relevant features has been recorded as 'not assessed'.

1.1.1.4 European sites and associated qualifying features for which LSE was identified Table 1.1 identifies those SPAs and qualifying features for which LSE was identified in HRA Stage 1 Screening Report (APP-099).

1.1.1.5 With regards to Ramsar sites, no separate conservation objectives are provided but all the Ramsar sites are also SPAs and the conservation objective is recorded where available. On Natural England's Designated Sites View, under the conservation advice for a given SPA, it states that as the provisions of the Conservation of Habitats and Species Regulations 2017 (as amended) (the Habitats Regulations) relating to Habitats Regulations Assessments extend to Ramsar sites, Natural England considers the Conservation Advice packages for the overlapping European Marine Site designations to be, in most cases, sufficient to support the management of the Ramsar interests. If there are Ramsar qualifying features not covered by overlapping European Marine Sites, Natural England will consider the best approach on addressing these (e.g. to produce advice on a feature basis) if there is an operational risk. Therefore, the conservation objectives provided in this note for SPAs apply equally to commensurate Ramsar sites.

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Table 1.1: A summary of all European sites for which the potential for LSE could not be discounted within HRA Stage 1 Screening Report (APP-099), and for which Appropriate Assessment was undertaken (SPAs are listed in distance order from closest to furthest away from the Morgan Generation Assets).

European site	Relevant qualifying features	Feature Condition
Morecambe Bay and Duddon Estuary SPA/Morecambe Bay Ramsar	Lesser black-backed gull <i>Larus fuscus</i>	(Not assessed)
	Herring gull <i>Larus argentatus</i>	(Not assessed)
	Breeding seabird assemblage	(Not assessed)
Ribble and Alt Estuaries SPA/ Ribble and Alt Estuaries Ramsar	Lesser black-backed gull <i>Larus fuscus</i> (SPA feature only)	(Not assessed)
	Breeding seabird assemblage	(Not assessed)
Irish Sea Front SPA	Manx shearwater <i>Puffinus puffinus</i>	Favourable condition; maintain target
Bowland Fells SPA	Lesser black-backed gull <i>Larus fuscus</i>	(Not assessed)
North-west Irish Sea SPA	Kittiwake <i>Rissa tridactyla</i>	Unfavourable condition; restore target
	Herring gull <i>Larus argentatus</i> (non-breeding season)	Unfavourable condition; restore target
	Guillemot <i>Uria aalge</i> (non-breeding season)	Favourable condition; maintain target
	Razorbill <i>Alca torda</i> (non-breeding season)	Favourable condition; maintain target
Copeland Islands SPA	Manx shearwater <i>Puffinus puffinus</i>	Favourable condition; maintain target
Glannau Aberdaron ac Ynys Enlli/Aberdaron Coast and Bardsey Island SPA	Manx shearwater <i>Puffinus puffinus</i>	Favourable condition; maintain target
Lambay Island SPA	Kittiwake <i>Rissa tridactyla</i>	Unfavourable condition; restore target
	Herring gull <i>Larus argentatus</i> (non-breeding season)	Unfavourable condition; restore target
	Guillemot <i>Uria aalge</i> (non-breeding season)	Favourable condition; maintain target
	Razorbill <i>Alca torda</i> (non-breeding season)	Favourable condition; maintain target
	Breeding seabird assemblage	(Not assessed)
Ireland's Eye SPA	Kittiwake <i>Rissa tridactyla</i>	Unfavourable condition; restore target
Howth Head Coast SPA	Kittiwake <i>Rissa tridactyla</i>	Unfavourable condition; restore target
Ailsa Craig SPA	Gannet <i>Morus bassanus</i>	Favourable maintained
	Kittiwake <i>Rissa tridactyla</i>	Unfavourable recovering
	Breeding seabird assemblage	Favourable maintained
Wicklow Head SPA	Kittiwake <i>Rissa tridactyla</i>	Unfavourable condition; restore target
Rathlin Island SPA	Kittiwake <i>Rissa tridactyla</i>	Favourable condition; maintain target

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European site	Relevant qualifying features	Feature Condition
	Guillemot <i>Uria aalge</i> (non-breeding season)	Favourable condition; maintain target
	Razorbill <i>Alca torda</i> (non-breeding season)	Favourable condition; maintain target
	Breeding seabird assemblage	Favourable condition; maintain target
Forth Islands SPA	Gannet <i>Morus bassanus</i> (non-breeding seasons)	Favourable maintained
	Breeding seabird assemblage	Favourable declining
Flamborough and Filey Coast SPA	Kittiwake <i>Rissa tridactyla</i> (non-breeding seasons) Breeding seabird assemblage	Not assessed
Skomer, Skokholm and the Seas off Pembrokeshire SPA	Kittiwake <i>Rissa tridactyla</i> (non-breeding seasons)	Not assessed as an individual feature
	Lesser black-backed gull <i>Larus fuscus</i>	Unfavourable, no change
	Manx shearwater <i>Puffinus puffinus</i>	Favourable, maintained
	Guillemot <i>Uria aalge</i> (non-breeding season only)	Not assessed as an individual feature
	Razorbill <i>Alca torda</i> (non-breeding seasons)	Not assessed as an individual feature
	Breeding seabird assemblage	Unfavourable, unclassified
North Colonsay and Western Cliffs SPA	Kittiwake <i>Rissa tridactyla</i>	Unfavourable declining
	Breeding seabird assemblage	Favourable declining
	Guillemot <i>Uria aalge</i> (non-breeding seasons)	Favourable condition; maintain target
Grassholm SPA	Gannet <i>Morus bassanus</i>	Favourable maintained
Saltee Islands SPA	Gannet <i>Morus bassanus</i>	Favourable condition; maintain target
	Kittiwake <i>Rissa tridactyla</i>	Favourable condition; maintain target
	Guillemot <i>Uria aalge</i> (non-breeding season only)	Favourable condition; maintain target
	Razorbill <i>Alca torda</i> (non-breeding seasons)	Favourable condition; maintain target
	Breeding seabird assemblage	(Not assessed)
Rum SPA	Manx shearwater <i>Puffinus puffinus</i>	Favourable maintained
	Breeding seabird assemblage	Favourable maintained
Mingulay and Berneray SPA	Guillemot <i>Uria aalge</i> (non-breeding seasons)	Favourable maintained
	Razorbill <i>Alca torda</i> (non-breeding season)	Favourable maintained
	Breeding seabird assemblage	Favourable maintained

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European site	Relevant qualifying features	Feature Condition
Buchan Ness to Collieston Coast SPA	Kittiwake <i>Rissa tridactyla</i> (non-breeding seasons)	Unfavourable no change
	Breeding seabird assemblage	Favourable recovered
Troup, Pennan and Lion's Heads SPA	Kittiwake <i>Rissa tridactyla</i> (non-breeding seasons)	Unfavourable declining
	Breeding seabird assemblage	Unfavourable declining
The Shiant Isles SPA	Razorbill <i>Alca torda</i> (non-breeding season)	Favourable recovered
	Breeding seabird assemblage	Unfavourable declining
East Caithness Cliffs SPA	Kittiwake <i>Rissa tridactyla</i> (non-breeding seasons)	Favourable maintained
	Breeding seabird assemblage	Favourable maintained
Isles of Scilly SPA/Isles of Scilly Ramsar	Lesser black-backed gull <i>Larus fuscus</i> (non-breeding season)	(Not assessed)
	Great black-backed gull <i>Larus marinus</i> (non-breeding season) (SPA feature only)	(Not assessed)
	Manx shearwater <i>Puffinus puffinus</i> (SPA feature only)	(Not assessed)
	Breeding seabird assemblage	(Not assessed)
Seas off St Kilda SPA	Guillemot <i>Uria aalge</i> (non-breeding seasons)	(Not assessed)
	Fulmar <i>Fulmarus glacialis</i>	(Not assessed)
	Gannet <i>Morus bassanus</i>	(Not assessed)
Handa SPA	Guillemot <i>Uria aalge</i> (non-breeding seasons)	Unfavourable no change
	Razorbill <i>Alca torda</i> (non-breeding season)	Unfavourable recovering
	Breeding seabird assemblage	Unfavourable declining
St Kilda SPA	Gannet <i>Morus bassanus</i> (non-breeding season)	Favourable maintained
	Guillemot <i>Uria aalge</i> (non-breeding seasons)	Unfavourable declining
	Fulmar <i>Fulmarus glacialis</i>	Unfavourable declining
	Manx shearwater <i>Puffinus puffinus</i>	Unfavourable no change
	Breeding seabird assemblage	Favourable maintained
Cape Wrath SPA	Kittiwake <i>Rissa tridactyla</i> (non-breeding seasons)	Unfavourable declining
	Breeding seabird assemblage	Favourable maintained
	Guillemot <i>Uria aalge</i> (non-breeding seasons)	Favourable maintained

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European site	Relevant qualifying features	Feature Condition
Flannan Isles SPA	Guillemot <i>Uria aalge</i> (non-breeding seasons)	Unfavourable recovering
	Breeding seabird assemblage	Favourable maintained
Sule Skerry and Sule Stack SPA	Gannet <i>Morus bassanus</i> (non-breeding seasons)	Favourable maintained
	Guillemot <i>Uria aalge</i> (non-breeding seasons)	Favourable maintained
	Breeding seabird assemblage	Favourable maintained
North Rona and Sula Sgeir SPA	Gannet <i>Morus bassanus</i> (non-breeding seasons)	Favourable maintained
	Breeding seabird assemblage	Favourable maintained
West Westray SPA	Kittiwake <i>Rissa tridactyla</i> (non-breeding seasons)	Unfavourable declining
	Breeding seabird assemblage	Unfavourable declining
Hermaness, Saxa Vord and Valla Field SPA	Gannet <i>Morus bassanus</i> (non-breeding seasons)	Favourable condition; maintain target
	Breeding seabird assemblage	Unfavourable declining

1.2 Conservation objectives

1.2.1 Morecambe Bay and Duddon Estuary SPA

Conservation objectives

1.2.1.1 The conservation objectives for the Morecambe Bay and Duddon Estuary SPA are (Natural England, 2019):

- Ensure that the integrity of the site is maintained or restored as appropriate, and ensure that the site contributes to achieving the aims of the Wild Birds Directive, by maintaining or restoring:
 - The extent and distribution of the habitats of the qualifying features
 - The structure and function of the habitats of the qualifying features
 - The supporting processes on which the habitats of the qualifying features rely
 - The population of each of the qualifying features
 - The distribution of the qualifying features within the site.

Supplementary advice

1.2.1.2 Supplementary advice in relation to certain attributes of the herring gull and lesser black-backed gull population at the SPA is provided by Natural England (2023a). Those relevant to the assessments required in the ISAA are summarised in Table 1.2 and Table 1.4.

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Table 1.2: Relevant supplementary advice for the herring gull feature of the Morecambe Bay and Duddon Estuary SPA (Natural England, 2023a).

Attribute	Target	Supporting notes (Natural England, 2023a)
Breeding population: abundance	Restore the size of the breeding population to a level which is above 10,000 pairs whilst avoiding deterioration from its current level as indicated by the latest mean peak count or equivalent	<p><i>'At the time of classification, the most recent data (2011-2015) showed a five year peak mean of 1,596 breeding pairs within Morecambe Bay and Duddon Estuary SPA. The current biogeographic population is estimated at 340,000 pairs, within the SPA the population makes up only 0.5% of this. Originally at the time of citation in 1991 there were 10,000 pairs representing 7% of the GB population and 1% of the biogeographic population at that time. The original baseline citation of 10,000 pairs (1991) has been retained for the new SPA (Natural England, 2016).</i></p> <p><i>A restore target is set as the current population of breeding herring gull has declined from 10,000 pairs to 1,596 since the time of citation in 1991.'</i></p>
Connectivity with supporting habitats	Maintain safe passage of birds moving between nesting and feeding areas	<p><i>"During the breeding season, individuals tend to use the area immediately around the colony most frequently, this includes nearby mussel beds for feeding as well as the South Walney and Piel Channel Flats SSSI which encompasses the breeding colonies (Thaxter et al., 2017).</i></p> <p><i>There is evidence from survey or monitoring that shows the feature to be in a good condition and/or currently un-impacted by anthropogenic activities."</i></p>
Disturbance caused by human activity	Restrict the frequency, duration and / or intensity of disturbance affecting roosting, nesting, foraging, feeding, moulting and/or loafing birds so that they are not significantly disturbed	<p><i>"Both colonies on South Walney where herring gulls nest are within the nature reserve. There is no access to the spit for members of the public. The Gull Meadow site has a foot path running behind it, around 50 metres away, however disturbance is minimal. The only time the birds are disturbed to a greater degree is during repairs to the electric fence surrounding the colony, during surveys by reserve staff or over the last few years during tagging by BTO staff, all of which is monitored and logged (Dalrymple 2017 Pers Comm).</i></p> <p><i>There is evidence from survey or monitoring that shows the feature to be in a good condition and/or currently un-impacted by anthropogenic activities."</i></p>
Predation - all habitats	Reduce predation and disturbance caused by native and non-native predators	<p><i>"Predation by foxes and badgers at South Walney is a well-documented issue for the gull colonies and has been attributed to reduced productivity. Electric fencing is used to surround the nesting gulls and restrict predator access to the colonies. These measures have been successful in reducing predation, however the ability of predators to</i></p>

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Attribute	Target	Supporting notes (Natural England, 2023a)
		<p><i>dig underneath the fencing remains an issue. The smaller colony on the Spit is also vulnerable to aerial predation from magpies and crows. It is considered that one of the main restricting factors for expansion in tern nesting range within the SPA is due to predation pressure, this is preventing terns recolonising historic nesting sites and exploiting new ones and has a direct impact on the ability of the population to recover to previous numbers (Booth, 2018 Pers Comm), (Booth, 2018 Pers Comm).</i></p> <p><i>This target has been set as management is ongoing and there are additional measures which can be undertaken to further reduce predation.”</i></p>
Productivity	Maintain or recover productivity so that breeding success is maximised within the constraints of the site.	Not available.
Structure: pathogens	Restrict or reduce the introduction and spread of pathogens, including Highly Pathogenic Avian Influenza, and their impacts.	Not available.
Supporting habitat: air quality	Maintain concentrations and deposition of air pollutants at below the site-relevant Critical Load or Level values given for this feature of the site on the Air Pollution Information System	<p>“Further information can be obtained from the Air Pollution Information System website (Air Pollution Information System (APIS), 2017).</p> <p>The target has been set due to a lack of evidence that the feature is being impacted by any anthropogenic activities.”</p>
Supporting habitat: conservation measures	Restore the structure, function and supporting processes associated with the feature and its supporting habitat through management or other measures (whether within and/or outside the site boundary as appropriate) and ensure these measures are not being undermined or compromised.	<p>“There are measures in place for the herring gull colonies on South Walney to reduce predation pressure which has caused several years of low productivity. Electric fencing has been installed around both The Spit and Gull Meadow colonies with the aim of excluding predators(Dalrymple 2017 Pers Comm),(Booth, 2018 Pers Comm).</p> <p>This target has been set as management is ongoing however there are further measures which can be undertaken.”</p>
Supporting habitat: extent, distribution and availability of supporting habitat for the breeding season	Restore the extent, distribution and availability of suitable habitat (either within or outside the site boundary) which supports the feature for all necessary stages of its breeding cycle (courtship, nesting, feeding). Large shallow inlets and bays as well as Mudflats and sandflats not covered by seawater at low tide (31,000 ha) including; Intertidal sand and muddy sand, Intertidal seagrass beds (41 ha), Intertidal stony reef, Intertidal coarse sediment, Intertidal biogenic reef: mussel beds, Intertidal mud, Intertidal mixed sediments, Intertidal rock, Coastal lagoons (195 ha), Water column, Freshwater and coastal grazing marsh (unknown),	<p>“Herring gulls breed within the Morecambe Bay and Duddon Estuary SPA between May and July at colonies on South Walney and Hodbarrow. Individuals tend to use the area immediately around the colony most frequently. During the breeding season individuals utilise terrestrial and intertidal habitats as well as nearby mussel beds. The species has been recorded feeding on mussel beds to the South of Barrow-in-Furness and the colony extensively use the South Walney and Piel Channel Flats SSSI (Thaxter et al., 2017). Birds can also frequently be found on intertidal mud flats,</p>

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Attribute	Target	Supporting notes (Natural England, 2023a)
	Salicornia and other annuals colonising mud and sand and Atlantic salt meadows (<i>Glauco-puccinellietalia maritima</i>) under the umbrella of Saltmarsh (3744 ha).	as well as nearby fields, rubbish dumps and bodies of freshwater (Thaxter et al., 2017). This target has been set as although there is evidence to show that the habitats which this species rely on are in good condition within the SPA, the extent of these habitats is a restricted. Suitable breeding sites comprising of preferred vegetation type and height as well as being free from predation and disturbance are limited.”
Supporting habitat: food availability (bird)	Maintain the distribution, abundance and availability of key food and prey items (eg. sprat, herring, roach, perch, earthworm, beetles, cardium, mytilus, carcinus) at preferred sizes.	“Herring gull utilise a wide range of habitats for feeding and prey upon a number of species. Birds frequent intertidal mudflats, as well as terrestrial habitat such as fields, gravel workings, rubbish dumps and freshwater bodies. During the breeding season there is a clear foraging location hotspot centred on the mussel bed area south of Barrow-in-Furness (Thaxter et al., 2012). Intertidal mussel beds in the protected area can be ephemeral or highly variable in nature meaning the extent may vary substantially year to year or even month to month and there is little data on the abundance of other prey species such as terrestrial invertebrates. The target has been set using expert judgement based on knowledge of the sensitivity of the feature to activities that are occurring / have occurred on the site.”
Supporting habitat: vegetation characteristics for nesting	Maintain vegetation heights (generally 10-30 cm) in areas used for nesting.	“Vegetation characteristics can influence breeding site choice in this species, with a preference for areas of grassy sward of a medium height. In combination with other factors such as predation pressure, a lack of sites with suitable vegetation structure may inhibit range expansion and the ability of the species to recover to meet targets (Donato, 2017 Pers Comm). The target has been set using expert judgement based on knowledge of the sensitivity of the feature to activities that are occurring / have occurred on the site.”
Supporting habitat: water quality - contaminants	Reduce aqueous contaminants to levels equating to High Status according to Annex VIII and Good Status according to Annex X of the Water Framework Directive, avoiding deterioration from existing levels. This target was set using the Environmental Agency 2019 water body classifications data.	“This target has been set according to Water Framework Directive (WFD) chemical status of overlapping water bodies. The Morecombe Bay, Cumbria and Kent WFD water bodies together overlap with 66% of Morecombe Bay and Duddon Estuary SPA boundary. These water bodies failed WFD chemical status in the 2019 classification due to measured/assumed elevated levels of polybrominated diphenyl ether (PBDE) and mercury and its compounds. These two chemicals are persistent, bioaccumulative and toxic substances, which present risks to wildlife. In 2013, the EU Priority Substances

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Attribute	Target	Supporting notes (Natural England, 2023a)
		<p>Directive specified biota (concentrations in whole fish) Environmental Quality Standards (EQS) for these substances rather than water column EQSs, to better represent risks to wildlife. Sampling has only occurred in a subset of water bodies, but in all instances, these chemicals were found at levels above the EQSs, and therefore in the absence of additional data, the classification has been extrapolated across non-monitored waterbodies. These new standards have been used in the 2019 WFD classification for the first time, and therefore show failures where a water body may previously have been classified as good chemical status. This does not represent a decline in water quality, but rather, a result of the new, more stringent standards. The target has been set at 'reduce' due to the high levels of PBDE and mercury and its compounds present.</p> <p>This target has been set using the Water Framework Directive (WFD) updated Eutrophication 'Weight of Evidence' guidance (WoE) provided by the Environment Agency's Estuarine and Coastal Monitoring and Assessment team. Leven and Duddon waterbodies."</p>
<p>Supporting habitat: water quality - dissolved oxygen</p>	<p>Maintain the dissolved oxygen (DO) concentration at levels equating to High Ecological Status (specifically ≥ 5.7 mg L⁻¹ (at 35 salinity) for 95 % of year) avoiding deterioration from existing levels. This target was set using the Environmental Agency 2019 water body classifications data.</p>	<p>"This target has been set using the Water Framework Directive (WFD) updated Eutrophication 'Weight of Evidence' guidance (WoE) (Environment Agency (EA), 2016) provided by the Environment Agency's Estuarine and Coastal Monitoring and Assessment team. Leven and Duddon waterbodies have not been included in WFD assessments.</p> <p>Morecambe Bay SAC, which is an overlapping designation of the SPA has been awarded High Ecological Status for dissolved oxygen levels in all 5 of the years where measurements took place (2009-2014, excluding 2011 when no measurements were made) (Environment Agency (EA), 2016).</p> <p>There is evidence from survey or monitoring that shows the feature to be in a good condition and/or currently un-impacted by anthropogenic activities."</p>
<p>Supporting habitat: water quality - nutrients</p>	<p>Maintain water quality at mean winter dissolved inorganic nitrogen levels where biological indicators of eutrophication (opportunistic macroalgal and phytoplankton blooms) do not affect the integrity of the site and features, avoiding deterioration from existing levels. This target was set using the Environmental Agency 2019 water body classifications data.</p>	<p>"The risk of eutrophication across the site has been assessed as low using the Environment Agency's Weight of Evidence approach. This takes into account assessments of the Water Framework Directive opportunistic macroalgae and phytoplankton quality elements using the respective assessment tools. Adverse effects to integrity should be avoided. Therefore, opportunistic macroalgal levels</p>

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Attribute	Target	Supporting notes (Natural England, 2023a)
		<p>should be maintained so there is no adverse effect to the feature through limited algal cover (<15%) and low biomass (< 500 g m²) of macroalgal blooms in the available intertidal habitat, with area of available intertidal habitat affected by opportunistic macroalgae less than 15 %. There should also be limited (<5%) entrainment of algae in the underlying sediment (all accounting for seasonal variations and fluctuations in growth). Phytoplankton levels should be maintained above a WFD assessment tool score of 0.6, where there is only a minor (a) decline in species richness, and (b) disturbance to the diatom-dinoflagellate succession in the spring bloom compared to reference conditions.</p> <p>There is evidence from survey or monitoring that shows the feature to be in a good condition and/or currently un-impacted by anthropogenic activities.”</p>
<p>Supporting habitat: water quality - turbidity</p>	<p>Maintain natural levels of turbidity (e.g. concentrations of suspended sediment, plankton and other material) across the habitat.</p>	<p>“The SPA has a very high suspended sediment load due to the large tidal range, strong currents and large expanses of sedimentary deposits (Kestner and HRS, 1961). These high suspended sediment loads create high turbidity levels. Suspended sediment concentrations vary significantly with time and location. For example, suspended sediment levels increase during strong tidal flows and decrease during slack water (Kestner, 1972).</p> <p>The shallow water and exposure to waves from the Irish Sea means that suspended sediment levels increase during and after storms. The rivers feeding into the protected area are also a source of suspended matter and turbidity levels increase with proximity to the rivers and estuaries (Centre for Environment Fisheries and Aquaculture Sciences (CEFAS), 2008). In addition, the large freshwater input into the SPA means that during periods of high surface runoff, i.e. during heavy rain, turbidity levels increase as the amounts of suspended matter increase (Centre for Environment Fisheries and Aquaculture Sciences (CEFAS), 2008).</p> <p>Human induced physical disturbance of the seabed and the introduction of suspended solids through sources such as effluent discharges and dredging can cause elevated levels of turbidity in the water column.</p> <p>The target has been set using expert judgement based on knowledge of the sensitivity of the feature to activities that are occurring / have occurred on the site.”</p>

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Table 1.3: Relevant supplementary advice for the lesser black-backed gull feature of the Morecambe Bay and Duddon Estuary SPA (Natural England, 2023a).

Attribute	Target	Supporting notes (Natural England, 2023a)
Breeding population: abundance	Restore the size of the breeding population to a level which is above 10,000 pairs whilst avoiding deterioration from its current level as indicated by the latest mean peak count or equivalent.	<p><i>“Latest data (2011-2015) show the five year peak mean of breeding pairs at 4,860, which is 2.7% of the biogeographic population of 183,000 pairs. Lesser black-backed gulls were originally qualified at 10,000 pairs in 1991 which represented 12% of the Great British population at that time. Despite current declining trends in the lesser black-backed gull population both nationally and locally, the current peak mean value (2011-2015) of 4,860 breeding pairs is used to qualify the species for the SPA (Natural England (NE), 2016).</i></p> <p><i>A restore target is set as the current population of breeding lesser black-backed gull has declined by 51.4% to 4860 pairs since the time of citation in 1991.”</i></p>
Connectivity with supporting habitats	Maintain safe passage of birds moving between nesting and feeding areas	<p><i>“Currently the movements of lesser black-backed gulls into and out of the SPA is poorly understood. There is speculation that a proportion of gulls found in urban areas close to the SPA colonies may well be birds from the SPA. There is some evidence that this species do fly out to off shore windfarms however there is no evidence of windfarms posing a barrier to movement (Donato, 2017 Pers Comm).</i></p> <p><i>The target has been set using expert judgement based on knowledge of the sensitivity of the feature to activities that are occurring / have occurred on the site.”</i></p>
Disturbance caused by human activity	Restrict the frequency, duration and / or intensity of disturbance affecting roosting, nesting, foraging, feeding, moulting and/or loafing birds so that they are not significantly disturbed.	<p><i>“Both colonies on South Walney where lesser black-backed gulls nest are within the nature reserve. There is no access to the spit for members of the public. The Gull Meadow site has a foot path running behind it, around 50 metres away, however disturbance is minimal. The only time the birds are disturbed to a greater degree is during repairs to the electric fence surrounding the colony, during surveys by reserve staff or over the last few years during tagging by BTO staff, all of which is monitored and logged(Dalrymple 2017 Pers Comm).</i></p> <p><i>There is evidence from survey or monitoring that shows the feature to be in a good condition and/or currently un-impacted by anthropogenic activities.”</i></p>
Predation - all habitats	Reduce predation and disturbance caused by native and non-native predators	<p><i>“The main colony of breeding lesser black-backed gulls is at South Walney with a small number also nesting at Hodbarrow. Predation by foxes and badgers at South Walney is a well-documented issue for the</i></p>

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Attribute	Target	Supporting notes (Natural England, 2023a)
		<p><i>gull colonies and has been attributed to reduced productivity. Electric fencing is used to surround the nesting gulls and restricts predator access to the colonies (Dalrymple 2017 Pers Comm). These measures have been successful in reducing predation, however the ability of predators to dig underneath the fencing remains an issue. The smaller colony on the Spit is vulnerable to aerial predation by magpies and crows. At Hodbarrow, the site is managed for terns, which large gull species, including lesser black-backed gulls predate. At this site gulls are actively discouraged through visual and noise disturbance as well as laser hazing (Booth, 2018 Pers Comm).</i></p> <p><i>This target has been set as although management is ongoing, there are additional measures which can be undertaken to further reduce predation.”</i></p>
Productivity	Maintain or recover productivity so that breeding success is maximised within the constraints of the site.	Not available.
Structure: pathogens	Restrict or reduce the introduction and spread of pathogens, including Highly Pathogenic Avian Influenza, and their impacts.	Not available.
Supporting habitat: air quality	Maintain concentrations and deposition of air pollutants at below the site-relevant Critical Load or Level values given for this feature of the site on the Air Pollution Information System.	<p><i>“Further information can be obtained from the Air Pollution Information System website (Air Pollution Information System (APIS), 2017).</i></p> <p><i>The target has been set due to a lack of evidence that the feature is being impacted by any anthropogenic activities.”</i></p>
Supporting habitat: conservation measures	Restore the structure, function and supporting processes associated with the feature and its supporting habitat through management or other measures (whether within and/or outside the site boundary as appropriate) and ensure these measures are not being undermined or compromised.	<p><i>“There are a measures in place for the lesser black-backed gull colonies on South Walney to reduce predation pressure which has caused several years of low productivity. Electric fencing has been installed around both The Spit and Gull Meadow colonies with the aim of excluding predators (Donato, 2017 Pers Comm).</i></p> <p><i>This target has been set as management is ongoing however, there are further measures which could potentially be undertaken.”</i></p>
Supporting habitat: extent, distribution and availability of supporting habitat for the breeding season	Restore the extent, distribution and availability of suitable habitat (either within or outside the site boundary) which supports the feature for all necessary stages of its breeding cycle (courtship, nesting, feeding). Freshwater and coastal grazing marsh (unknown), Water column (unknown), Large shallow inlets and bays as well as Mudflats and sandflats not covered by seawater at low tide (31,000 ha) including; Intertidal	<p><i>“The breeding population of lesser black-backed gulls are primarily found at South Walney. Breeding birds are limited by habitat extent in that they need space free of ground predators. Action is ongoing through measures such as predator exclusion fences around existing colonies. If current measures are successful in achieving recruitment into the population, it is still unclear whether the nesting density within fences will be</i></p>

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Attribute	Target	Supporting notes (Natural England, 2023a)
	<p>coarse sediment, Intertidal stony reef, sand and muddy sand, Intertidal seagrass beds (41 ha), Intertidal rock, Intertidal biogenic reef: mussel beds, Intertidal mud, Intertidal mixed sediments, Atlantic salt meadows (<i>Glauco-puccinellietalia maritima</i>) and <i>Salicornia</i> and other annuals colonising mud and sand under the umbrella of Saltmarsh (3744 ha) and Coastal lagoons (195 ha).</p>	<p><i>sufficient to allow recovery to meet targets (Donato, 2017 Pers Comm),(Dalrymple 2017 Pers Comm).</i></p> <p><i>This target has been set as although there is evidence to show that the habitats which this species rely on are in good condition within the SPA, breeding birds are limited by habitat extent in that they need space free of ground predators.”</i></p>
<p>Supporting habitat: food availability (bird)</p>	<p>Maintain the distribution, abundance and availability of key food and prey items (eg. voles, small seabirds, waders, sandeel, sprat, cod, herring, roach, rudd, beetles, flies, earthworm, shellfish, as appropriate) at preferred sizes.</p>	<p><i>“Generally lesser black-backed gulls scavenge, feeding on intertidal areas and the strand line, they may also make use of agricultural land and prey on terrestrial invertebrates. This species also makes use of the local urban human population and its associated waste i.e. landfill sites such as in Barrow in Furness. Lesser black-backed gulls previously fed upon a large landfill site which has subsequently been closed and has reduced the food availability in the area for this species, however, as a wholly anthropogenic food source the closure reflects a return to a more natural state in this species diet and does not warrant a recover target (Donato, 2017 Pers Comm).</i></p> <p><i>There is evidence from survey or monitoring that shows the feature to be in a good condition and/or currently un-impacted by anthropogenic activities.”</i></p>
<p>Supporting habitat: vegetation characteristics for nesting</p>	<p>Restore the extent and distribution of predominantly medium to tall [i.e. 20-60 cm] grassland swards.</p>	<p><i>“Vegetation characteristics can influence breeding site choice in this species, with a preference for areas of grassy sward of a medium height. In combination with other factors such as predation pressure, a lack of sites with suitable vegetation structure may inhibit range expansion and the ability of the species to recover to meet targets(Donato, 2017 Pers Comm).</i></p> <p><i>Lack of suitable breeding habitat is a factor attributed to the restriction of breeding range in lesser black-backed gulls and in combination with predation and disturbance is a limiting factor to increasing the SPA population.”</i></p>
<p>Supporting habitat: water quality - contaminants</p>	<p>Reduce aqueous contaminants to levels equating to High Status according to Annex VIII and Good Status according to Annex X of the Water Framework Directive, avoiding deterioration from existing levels. This target was set using the Environmental Agency 2019 water body classifications data.</p>	<p><i>“This target has been set according to Water Framework Directive (WFD) chemical status of overlapping water bodies. The Morecombe Bay, Cumbria and Kent WFD water bodies together overlap with 66% of Morecombe Bay and Duddon Estuary SPA boundary. These water bodies failed WFD chemical status in the 2019 classification due to measured/assumed elevated levels of polybrominated diphenyl ether (PBDE) and mercury and its compounds. These two chemicals are persistent, bioaccumulative and toxic substances, which present risks to</i></p>

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Attribute	Target	Supporting notes (Natural England, 2023a)
		<p><i>wildlife. In 2013, the EU Priority Substances Directive specified biota (concentrations in whole fish) Environmental Quality Standards (EQS) for these substances rather than water column EQSs, to better represent risks to wildlife. Sampling has only occurred in a subset of water bodies, but in all instances, these chemicals were found at levels above the EQSs, and therefore in the absence of additional data, the classification has been extrapolated across non-monitored waterbodies. These new standards have been used in the 2019 WFD classification for the first time, and therefore show failures where a water body may previously have been classified as good chemical status. This does not represent a decline in water quality, but rather, a result of the new, more stringent standards. The target has been set at 'reduce' due to the high levels of PBDE and mercury and its compounds present. This target has been set using the Water Framework Directive (WFD) updated Eutrophication 'Weight of Evidence' guidance (WoE) provided by the Environment Agency's Estuarine and Coastal Monitoring and Assessment team. Leven and Duddon waterbodies."</i></p>
<p>Supporting habitat: water quality - dissolved oxygen</p>	<p>Maintain the dissolved oxygen (DO) concentration at levels equating to High Ecological Status (specifically ≥ 5.7 mg L⁻¹ (at 35 salinity) for 95 % of year) avoiding deterioration from existing levels. This target was set using the Environmental Agency 2019 water body classifications data.</p>	<p><i>"This target has been set using the Water Framework Directive (WFD) updated Eutrophication 'Weight of Evidence' guidance (WoE) (Environment Agency (EA), 2016) provided by the Environment Agency's Estuarine and Coastal Monitoring and Assessment team. Leven and Duddon waterbodies have not been included in WFD assessments.</i></p> <p><i>Morecambe Bay SAC, which is an overlapping designation of the SPA has been awarded High Ecological Status for dissolved oxygen levels in all 5 of the years where measurements took place (2009-2014, excluding 2011 when no measurements were made) (Environment Agency (EA), 2016).</i></p> <p><i>There is evidence from survey or monitoring that shows the feature to be in a good condition and/or currently un-impacted by anthropogenic activities."</i></p>
<p>Supporting habitat: water quality - nutrients</p>	<p>Maintain water quality at mean winter dissolved inorganic nitrogen levels where biological indicators of eutrophication (opportunistic macroalgal and phytoplankton blooms) do not affect the integrity of the site and features, avoiding deterioration from existing levels. This target was set using the</p>	<p><i>"The risk of eutrophication across the site has been assessed as low using the Environment Agency's Weight of Evidence approach. This takes into account assessments of the Water Framework Directive opportunistic macroalgae and phytoplankton quality elements using the respective assessment tools. Adverse effects to integrity should be avoided.</i></p>

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Attribute	Target	Supporting notes (Natural England, 2023a)
	<p>Environmental Agency 2019 water body classifications data.</p>	<p><i>Therefore, opportunistic macroalgal levels should be maintained so there is no adverse effect to the feature through limited algal cover (<15%) and low biomass (< 500 g m²) of macroalgal blooms in the available intertidal habitat, with area of available intertidal habitat affected by opportunistic macroalgae less than 15 %. There should also be limited (<5%) entrainment of algae in the underlying sediment (all accounting for seasonal variations and fluctuations in growth). Phytoplankton levels should be maintained above a WFD assessment tool score of 0.6, where there is only a minor (a) decline in species richness, and (b) disturbance to the diatom-dinoflagellate succession in the spring bloom compared to reference conditions.</i></p> <p><i>There is evidence from survey or monitoring that shows the feature to be in a good condition and/or currently un-impacted by anthropogenic activities.”</i></p>
<p>Supporting habitat: water quality - turbidity</p>	<p>Maintain natural levels of turbidity (e.g. concentrations of suspended sediment, plankton and other material) across the habitat.</p>	<p><i>“The SPA has a very high suspended sediment load due to the large tidal range, strong currents and large expanses of sedimentary deposits (Kestner and HRS, 1961). These high suspended sediment loads create high turbidity levels. Suspended sediment concentrations vary significantly with time and location. For example, suspended sediment levels increase during strong tidal flows and decrease during slack water (Kestner, 1972).</i></p> <p><i>The shallow water and exposure to waves from the Irish Sea means that suspended sediment levels increase during and after storms. The rivers feeding into the protected area are also a source of suspended matter and turbidity levels increase with proximity to the rivers and estuaries (Centre for Environment Fisheries and Aquaculture Sciences (CEFAS), 2008). In addition, the large freshwater input into the SPA means that during periods of high surface runoff, i.e. during heavy rain, turbidity levels increase as the amounts of suspended matter increase (Centre for Environment Fisheries and Aquaculture Sciences (CEFAS), 2008).</i></p> <p><i>Human induced physical disturbance of the seabed and the introduction of suspended solids through sources such as effluent discharges and dredging can cause elevated levels of turbidity in the water column.</i></p> <p><i>The target has been set using expert judgement based on knowledge of the sensitivity of the feature to activities that are occurring / have occurred on the site.”</i></p>

Features in unfavourable condition

1.2.1.3 The condition of the features at this SPA have not been assessed by the SNCB to determine feature condition.

1.2.2 Ribble and Alt Estuaries SPA

Conservation objectives

1.2.2.1 The conservation objectives for the Ribble and Alt Estuaries SPA are (Appendix B; Natural England, 2019):

- The objectives are to ensure that, subject to natural change, the integrity of the site is maintained or restored as appropriate, and that the site contributes to achieving the aims of the Wild Birds Directive, by maintaining or restoring:
 - The extent and distribution of the habitats of the qualifying features
 - The structure and function of the habitats of the qualifying features
 - The supporting processes on which the habitats of the qualifying features rely
 - The populations of each of the qualifying features
 - The distribution of qualifying features within the site.

1.2.2.2 Supplementary advice in relation certain attributes of the lesser black-backed gull population at the SPA is provided by Natural England (2023a). Those relevant to the assessments required in the ISAA are summarised in Table 1.2.

Table 1.4: Relevant supplementary advice for the lesser black-backed gull feature of the Ribble and Alt Estuaries SPA (Natural England, 2023a).

Attribute	Target	Supporting notes (Natural England, 2023a)
Breeding population: abundance	Maintain the size of the breeding population at a level which is above 8,097 pairs, whilst avoiding deterioration from its current level as indicated by the latest mean peak count or equivalent.	<i>“The breeding population on the SPA citation is 1,800 pairs based on a count in 1993 (Natural England (NE), 2002). This was revised in 2008 to 4,100 pairs because counts suggested that the population had increased steadily to over 4,000 pairs in 1998 and remained stable at around 4,100 pairs until 2008. The baseline has been further revised to 8,097 pairs because survey data indicate that the population has increased in recent years. A count undertaken in the Ribble Estuary National Nature Reserve (the only breeding lesser black-back gull colony in the SPA) in April - May 2014 estimated 9,041 breeding pairs; the count in 2015 estimated 8,461 breeding pairs and in 2016 the population was estimated to be between 6,554 and 7,022 pairs (median value of 6,788). This increase in population size is supported by a survey by the RSPB in 2012 which estimated 8,267 apparently occupied nests (Joint Nature Conservation Committee (JNCC), 2014). It is considered that this is not a short-term fluctuation, but a long-term change which</i>

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Attribute	Target	Supporting notes (Natural England, 2023a)
		<p><i>better reflects favourable condition. The revised baseline is based on an average (mean) of the median of the 2016 counts, the 2015 and 2014 counts. This population is the third most important in Great Britain and contributes 23% of the SPA network for this species.</i></p> <p><i>There is evidence from survey or monitoring that shows the feature to be in a good condition and/or currently un-impacted by anthropogenic activities."</i></p>
Connectivity with supporting habitats	Maintain safe passage of birds moving between roosting and feeding areas.	<p><i>"Lesser black-backed gull nest on Banks Marsh and feed on the intertidal mudflats and saltmarsh of the Ribble Estuary as well as outside of the SPA on the Mersey Estuary and further inland in urban areas, fields and landfill sites (Scragg et al., 2016)</i></p> <p><i>The target has been set due to a lack of evidence that the feature is being impacted by any anthropogenic activities."</i></p>
Disturbance caused by human activity	Restrict the frequency, duration and / or intensity of disturbance affecting roosting, nesting, foraging, feeding, moulting and/or loafing birds so that they are not significantly disturbed.	<p><i>"The target has been set due to a lack of evidence that the feature is being impacted by any anthropogenic activities."</i></p>
Predation - all habitats	Restrict predation and disturbance caused by native and non-native predators.	<p><i>"The target has been set due to a lack of evidence that the feature is being impacted by any anthropogenic activities."</i></p>
Productivity	Maintain or recover productivity so that breeding success is maximised within the constraints of the site.	Not available.
Structure: pathogens	Restrict or reduce the introduction and spread of pathogens, including Highly Pathogenic Avian Influenza, and their impacts.	Not available.
Supporting habitat: air quality	Maintain concentrations and deposition of air pollutants at below the site-relevant Critical Load or Level values given for this feature of the site on the Air Pollution Information System.	<p><i>"The target has been set due to a lack of evidence that the feature is being impacted by any anthropogenic activities."</i></p>
Supporting habitat: conservation measures	Maintain the structure, function and supporting processes associated with the feature and its supporting habitat through management or other measures (whether within and/or outside the site boundary as appropriate) and ensure these measures are not being undermined or compromised.	<p><i>"Threats to supporting habitats from coastal erosion and climate change are being addressed through local coastal plans and strategies (Sefton Coast Partnership, 2006), (Fylde Council, 2014). Areas within the site are managed by the RSPB (Royal Society for the Protection of Birds (RSPB), 2005), (Royal Society for the Protection of Birds (RSPB), 2013), Environment Agency (Environment Agency, 2014), National Trust and Natural England (Natural England (NE), 2010), (Mercer, 2013), (Mercer, 2013). Wildfowling consents and agri-environment schemes are also in place within the site. The Sefton Council Higher Level</i></p>

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Attribute	Target	Supporting notes (Natural England, 2023a)
		<p><i>Stewardship Agreement Ref. AG00339775 covers the Ainsdale and Birkdale Local Nature Reserves.</i></p> <p><i>The target has been set due to a lack of evidence that the feature is being impacted by any anthropogenic activities.”</i></p>
<p>Supporting habitat: extent, distribution and availability of supporting habitat for the breeding season</p>	<p>Maintain the extent, distribution and availability of suitable habitat (either within or outside the site boundary) which supports the feature for all necessary stages of its breeding cycle (courtship, nesting, feeding) at: 45 ha (intertidal rock); 11,678 ha (intertidal sand and muddy sand); 672 ha (intertidal mud); 78 ha (intertidal mixed sediments); 2,292 ha (coastal saltmarshes and saline reedbeds); 191 ha (freshwater and coastal grazing marsh).</p>	<p><i>“The breeding site is Banks Marsh which falls within the Ribble Estuary NNR and as such is subject to the relevant management plan. Management should ensure that the expansion of the lesser black-backed gull colony does not impact on other qualifying species. (Dargie, 1993);(Centre for Marine and Coastal Studies Ltd., 2011);(Environment Agency, 2015)</i></p> <p><i>The extent provided should only be used as a guide for specific saltmarsh features (Atlantic salt meadows (Glauco-Puccinellietalia maritimae) and Salicornia and other annuals colonising mud and sand) as they may either not be present or may indicate the presence of other related saltmarsh types as they have been aggregated during the extent and reference calculations.</i></p> <p><i>This target may apply to supporting habitat which lies outside the site boundary. Generally, birds will not be nesting on habitat regularly flooded by the tide but they will be found in intertidal habitats above the Mean High Water Mark (which may not have been mapped).</i></p> <p><i>There is evidence from survey or monitoring that shows the feature to be in a good condition and/or currently un-impacted by anthropogenic activities.”</i></p>
<p>Supporting habitat: food availability (bird)</p>	<p>Maintain the distribution, abundance and availability of key food and prey items (eg. voles, small seabirds, waders, sandeel, sprat, cod, herring, roach, rudd, beetles, flies, earthworm, shellfish, as appropriate) at preferred sizes.</p>	<p><i>“The target has been set due to a lack of evidence that the feature is being impacted by any anthropogenic activities.”</i></p>
<p>Supporting habitat: vegetation characteristics for nesting</p>	<p>Maintain the extent and distribution of predominantly medium to tall [i.e. 20-60 cm] grassland swards.</p>	<p><i>“This species prefers short to medium sward height at this site, building nests so they sit above the saltmarsh.</i></p> <p><i>There is evidence from survey or monitoring that shows the feature to be in a good condition and/or currently un-impacted by anthropogenic activities.”</i></p>
<p>Supporting habitat: water quality - contaminants</p>	<p>Reduce aqueous contaminants to levels equating to High Status according to Annex VIII and Good Status according to Annex X of the Water Framework Directive, avoiding deterioration from existing levels. This target</p>	<p><i>“This target has been set according to Water Framework Directive (WFD) chemical status of overlapping water bodies. The Mersey Mouth and Ribble WFD water bodies together overlap with 80% of Ribble and Alt Estuaries SPA boundary. These water bodies failed WFD chemical status in the</i></p>

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Attribute	Target	Supporting notes (Natural England, 2023a)
	<p>was set using the Environmental Agency 2019 water body classifications data.</p>	<p><i>2019 classification due to measured/assumed elevated levels of Benzo(g-h-i) perylene, polybrominated diphenyl ether (PBDE) and mercury and its compounds, with an additional failure for Benzo(b) fluoranthene (Ribble only). PBDE and mercury are persistent, bioaccumulative and toxic substances, which present risks to wildlife. In 2013, the EU Priority Substances Directive specified biota (concentrations in whole fish) Environmental Quality Standards (EQS) for these substances rather than water column EQSs, to better represent risks to wildlife. Sampling has only occurred in a subset of water bodies, but in all instances, these chemicals were found at levels above the EQSs, and therefore in the absence of additional data, the classification has been extrapolated across non-monitored waterbodies. These new standards have been used in the 2019 WFD classification for the first time, and therefore show failures where a water body may previously have been classified as good chemical status. This does not represent a decline in water quality, but rather, a result of the new, more stringent standards. The target has been set at 'reduce' due to the high levels of Benzo(g-h-i) perylene, Benzo(b)fluoranthene, PBDE and mercury and its compounds present.</i></p> <p><i>There is evidence from survey or monitoring that shows this attribute of the feature to be in a poor condition and/or currently impacted by anthropogenic activities."</i></p>
<p>Supporting habitat: water quality - dissolved oxygen</p>	<p>"Maintain the dissolved oxygen (DO) concentration at levels equating to High Ecological Status (specifically ≥ 5.7 mg L⁻¹ (at 35 salinity) for 95 % of year) avoiding deterioration from existing levels. This target was set using the Environmental Agency 2019 water body classifications data."</p>	<p><i>"The target has been set based on Environment Agency monitoring data for the Ribble. The Alt was only assessed for dissolved oxygen by the Environment Agency in 2012.</i></p> <p><i>There is evidence from survey or monitoring that shows the feature to be in a good condition and/or currently un-impacted by anthropogenic activities."</i></p>
<p>Supporting habitat: water quality - nutrients</p>	<p>Maintain water quality at mean winter dissolved inorganic nitrogen levels where biological indicators of eutrophication (opportunistic macroalgal and phytoplankton blooms) do not affect the integrity of the site and features, avoiding deterioration from existing levels. This target was set using the Environmental Agency 2019 water body classifications data.</p>	<p><i>"The risk of eutrophication across the site has been assessed as low using the Environment Agency's Weight of Evidence approach. This takes into account assessments of the Water Framework Directive opportunistic macroalgae and phytoplankton quality elements using the respective assessment tools. Adverse effects to integrity should be avoided. Therefore opportunistic macroalgal levels should be maintained so there is no adverse effect to the feature through limited algal cover (<15%) and low biomass (< 500 g m²) of macroalgal blooms in the available intertidal habitat, with area of available</i></p>

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Attribute	Target	Supporting notes (Natural England, 2023a)
		<p><i>intertidal habitat affected by opportunistic macroalgae less than 15 %. There should also be limited (<5%) entrainment of algae in the underlying sediment (all accounting for seasonal variations and fluctuations in growth). Phytoplankton levels should be maintained above a WFD assessment tool score of 0.6, where there is only a minor (a) decline in species richness, and (b) disturbance to the diatom-dinoflagellate succession in the spring bloom compared to reference conditions.</i></p> <p><i>There is evidence from survey or monitoring that shows the feature to be in a good condition and/or currently un-impacted by anthropogenic activities.”</i></p>
Supporting habitat: water quality - turbidity	Maintain natural levels of turbidity (e.g. concentrations of suspended sediment, plankton and other material) across the habitat.	“The target has been set due to a lack of evidence that the feature is being impacted by any anthropogenic activities.”

Features in unfavourable condition

1.2.2.3 The condition of the features at this SPA have not been assessed by the SNCB to determine feature condition.

1.2.3 Irish Sea Front SPA

Conservation objectives

1.2.3.1 The conservation objectives for the Irish Sea Front SPA are (Appendix C; JNCC, 2023):

- To avoid significant deterioration of the habitats used by the qualifying species, or significant disturbance to the qualifying species, subject to natural change, thus ensuring that the integrity of the site is maintained in the long term and makes an appropriate contribution to achieving the aims of the Conservation of Habitats and Species Regulations 2017.

1.2.3.2 This contribution would be achieved through delivering the following objectives for the site’s qualifying feature:

- Avoid significant disturbance of the qualifying feature within the site, so that the ability of the species to use the site is maintained in the long-term
- Maintain the habitats, processes and food resources of the qualifying feature in favourable condition
- Ensure connectivity between the site and its supporting habitats and Manx shearwater breeding colonies is maintained.

1.2.3.3 Supplementary advice in relation certain attributes of the Manx shearwater population at the SPA is provided by JNCC (2023). Those relevant to the assessments required in the ISAA are summarised in Table 1.5.

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Table 1.5: Relevant supplementary advice for the Manx shearwater feature of the Irish Sea Front SPA (JNCC, 2023).

Attribute	Target	Supporting notes (JNCC, 2023)
Disturbance	Ensure Manx shearwaters are not at significant risk from disturbance within the breeding season	<p><i>“An area as outlined in Figure 1 has been identified as an aggregation hotspot for Manx shearwater (Kober et al. 2010, 2012). Tracking data has shown that birds from Skomer, Skokholm, Bardsey, Rum, Copeland and Lundy all use the Irish Sea Front region for foraging during the breeding season (Dean et al. 2013; Guilford et al. 2008). ESAS data suggest that shearwaters are present throughout the site between March and September. They will mainly be using this site for foraging, although it may also be an important site for maintenance behaviours and resting/roosting as demonstrated by tracking data collected by Dean et al. (2015). There is high uncertainty surrounding assessments of various forms of disturbance, for example shearwaters have been observed within the footprint of a windfarm in the Celtic Sea, but there is little evidence of their occurrence within other established windfarms (Dierschke et al. 2016; Furness et al. 2013; Wade et al. 2016). Surveys before, during and post-construction at the Robin Rigg windfarm found numbers within the windfarm did appear to decrease during operational years compared with pre- and during-construction, however numbers were always relatively low (Canning et al. 2013).”</i></p>
Supporting habitat: food resources	Maintain the variety and abundance of food resources	<p><i>“In the UK, Manx shearwater diet studies are few and the forage species listed here are based on the only diet study identified through review and other opportunistic studies. Manx shearwater diet may mainly consist of small fish, particularly clupeids, including herring and sprat, as well as sand eels and a variety of cephalopod species (Brooke 1990; Camphuysen 2005; Cramp and Brooks 1992; Stone et al. 1995; Tasker and Furness 1996; Thompson 1987; Warham 1990). They tend to forage more on fish during the chick rearing period and fledging weight (which is related to survival) has shown to be significantly linked to the quality of herring stocks, therefore the abundance and quality of forage fish stocks during the chick rearing period of end of June to September will be vital for breeding success (Riou et al. 2011; Perrins et al. 1973; Thompson 1987). Manx shearwater breeding success has been assessed to have a very low vulnerability to a reduction in prey in the vicinity of the colony, due to their extensive foraging range, low flight costs, flexible daily energy budget and varied diet (Furness and Tasker 2000). This study was conducted in the North Sea and focussed on sand eels therefore the sensitivity to reduction in other prey species (herring) in the Irish Sea may not be the same.”</i></p>
Supporting habitat: condition	Maintain the condition of supporting habitats	<p><i>“Atlantic herring are benthic spawners, they tend to spawn in discreet beds and require substrates such as gravel, stones, shells and/or flat rock, see Appendix 2 Figures 1 & 2 (Breslin 1998; Campanella and van der Kooij 2021; Hay et al. 2001; Townsend 1992). They prefer to spawn at depths of around 15–40 m, in well-mixed, “high energy environments”, at these sites they can spawn at very high densities (BEIS 2016; Maravelias et al. 2000; O’Sullivan et al. 2013). Key spawning areas that contribute juvenile herring to the Irish Sea were identified as the east coast of the Isle of Man, the south coast of Ireland and a small area</i></p>

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Attribute	Target	Supporting notes (JNCC, 2023)
		<p><i>off the south-west of Pembrokeshire, although these data may need updating (Coull et al. 1998; BEIS 2016; Ellis 2012). A recent review, which used adult herring density as a proxy for spawning activity, identified a hotspot in the northern Irish Sea around the Isle of Man (Campanella & van der Kooij 2021). The spawning grounds around the coast of Isle of Man and Pembrokeshire are partially protected by Marine Nature Reserves and SACs, however, the waters off Ireland do not appear to have any protections in place and therefore may be vulnerable to anthropogenic impacts (Isle of Man Government 2021; NRW & JNCC 2017). Alongside spawning grounds which ensure the replenishment of prey for shearwaters, fish nursery grounds play an important role for prey availability to seabirds and research has shown that shearwaters favour juvenile fish (Riou et al. 2011; Thompson 1987). Herring stay in nursery grounds until they are between 2 and 3 years old when they migrate to their spawning grounds (Hay et al. 2001). The northern part of the Irish Sea, particularly the Liverpool Bay area, is an important nursery ground for juvenile herring hatched in the Celtic Sea around the South and West coasts of Ireland. They can form dense aggregations, often associating with sprats (BEIS 2016; Brophy and Danilowicz 2002; Dickey-Collas et al. 2015; Hay et al. 2001). In a recent study, all these main nursery areas have been confirmed by the presence of juvenile herring, and in addition a new nursery ground in the Bristol Channel has been identified (Campanella & van der Kooij 2021). The Irish Sea Front SPA overlaps low intensity spawning grounds for sand eel (Ammodytidae species) and high intensity nursery areas located to the south-west (Campanella & van der Kooij 2021; Ellis 2012) (See Appendix 2). Sand eels are reliant on favourable sandy benthic habitats, preferring sandy seabeds with high proportion of coarse and medium sand particles (Greenstreet et al. 2010, Holland et al. 2005). Sand eels are highly site-faithful and non-migratory, with large-scale dispersal only possible during larval phase and this is generally to a limited extent (Proctor et al. 1998; Christensen et al. 2008 & 2009; Van Deurs et al. 2010). Therefore, sand eel seabed habitats in or linked to the Irish Sea Front SPA should be maintained in favourable condition. Sprat are prevalent across the entire Irish Sea region; they spawn pelagic eggs in batches around the entire UK coast between May-August, near the coast or up to 100 km offshore between depths 10–20 m (De Silva 1973; Dickey-Collas et al. 2015; Gordon 2006). The most recent study did not identify egg data, adult density of adults was used as a proxy and the main spawning areas were distributed along the English coast of the western English Channel and in coastal waters of the northern Irish Sea (Campanella and van der Kooij 2021)."</i></p>
Supporting habitat: associated processes	Maintain the condition of associated processes	<p><i>"Seasonal stratification in the western Irish Sea is a key factor controlling the production, distribution and fate of marine organic matter (O'Reilly et al. 2014). The timing of formation and stability of the Irish Sea Front is vital to maintaining its reliable and productive characteristics. Early stratification and the formation of a stable front has been associated with significantly higher concentrations of plankton in the Irish Sea when compared with years of later stratification. A further study showed that when</i></p>

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Attribute	Target	Supporting notes (JNCC, 2023)
		<p><i>disrupted by severe gales, a breakdown in stratification led to a decrease in zooplankton abundance (Lee et al. 2005; Scrope-Howe and Jones 1985). A similar association was found in the north-eastern North Sea where a weakened frontal structure was linked to a decrease in gadoid larvae (Munk et al. 1999). Tidal fronts are areas of high primary productivity and subsequently attract and support a wide range of other organisms throughout the food chain. Ichthyoplankton surveys off the coast of the Isle of Man found that the frontal waters were the preferred habitat of both clupeids and sand eel larvae (Lee et al. 2005). The front attracts large aggregations of fish, such as herring, which are a key forage species for seabirds such as Manx shearwaters (Begg and Reid 1997; Fernandes 1993; Hardy 1936; Maravelias et al. 2000). Manx shearwaters can cover vast distances searching for food, however, tracking studies have shown that birds breeding on Skomer carry out most of their foraging within 100 km of fronts (Shoji et al. 2015)."</i></p>
<p>Supporting habitat: water quality</p>	<p>Existing water quality should be maintained any increase in nutrients, turbidity or contaminants where this could reduce supporting habitats and/or prey, should be avoided.</p>	<p><i>"Seasonal stratification in the western Irish Sea is a key factor controlling the production, distribution and fate of marine organic matter (O'Reilly et al. 2014). Long periods of increased turbidity, caused by persistent high levels of suspended sediments, could potentially affect Manx shearwaters directly and indirectly. Prey availability can be affected through reduced primary productivity, as well as the impacts on the health of fish and other organisms within the habitat. As shearwaters are visual predators, increased turbidity may impair their ability to locate prey patches within the environment (Ainley 1977; Baduini et al. 2001; Eriksson 1985; Hanley and Stone 1988; Lovvorn et al. 2001). Evidence collected using biologgers attached to Manx shearwaters suggests that visual cues are vital for successful foraging and that fine-scale prey capture was constrained by the detectability of prey underwater (Darby et al. 2022)."</i></p>
<p>Habitat connectivity</p>	<p>Ensure Manx shearwaters continue to have access to and utilise the site for foraging within the breeding season and avoid significant disturbance to Manx shearwaters to ensure individuals can move safely between the site and their breeding colonies</p>	<p><i>"Given the extensive foraging ranges of Manx shearwaters during the breeding season (mean maximum foraging range of 1,346.8 +/- 1,018.7 km but the maximum foraging distance recorded can be over 2,890 km), there are 57 colonies in the UK with the ability to forage within the SPA, although the number of colonies with individuals that regularly use this area is more likely to be between 16 - 21 (Woodward et al. 2019). Manx shearwaters show moderate displacement towards offshore activities such as wind, wave and tidal development, low displacement from dredging, aggregates, oil and gas activities and very low displacement from vessel activities such as traffic, fishing and transport (Dierschke et al. 2016; MMO 2018). Currently there are no operational wind farms that may act as a barrier for shearwaters accessing the site, although noting the planned floating and fixed wind projects off Pembrokeshire, Northern Ireland, Ireland, the ScotWind plan areas and Round 4 sites off the coast of Wales and Cumbria. Potential impacts on the Irish Sea Front SPA will be considered as part of the impact assessment process for these projects."</i></p>

Features in unfavourable condition

1.2.3.4 The condition of the Manx shearwater feature of this site is considered to be favourable.

1.2.4 Bowland Fells SPA

Conservation objectives

1.2.4.1 The conservation objectives for the Bowland Fells SPA are (Appendix D):

- Ensure that the integrity of the site is maintained or restored as appropriate, and ensure that the site contributes to achieving the aims of the Wild Birds Directive, by maintaining or restoring:
 - The extent and distribution of the habitats of the qualifying features
 - The structure and function of the habitats of the qualifying features
 - The supporting processes on which the habitats of the qualifying features rely
 - The population of each of the qualifying features
 - The distribution of the qualifying features within the site.

Features in unfavourable condition

1.2.4.2 The condition of the features at this SPA have not been assessed by the SNCB to determine feature condition.

1.2.5 North-west Irish Sea SPA

Conservation Objectives

1.2.5.1 A site-specific conservation objective aims to define favourable conservation condition for a particular habitat or species at that site. The maintenance of habitats and species within Natura 2000 sites at favourable conservation condition will contribute to the overall maintenance of favourable conservation status of those habitats and species at a national level.

1.2.5.2 Favourable conservation status of a habitat is achieved when:

- Its natural range, and area it covers within that range, are stable or increasing
- The specific structure and functions which are necessary for its long-term maintenance exist and are likely to continue to exist for the foreseeable future
- The conservation status of its typical species is favourable.

1.2.5.3 The favourable conservation status of a species is achieved when:

- Population dynamics data on the species concerned indicate that it is maintaining itself on a long-term basis as a viable component of its natural habitats
- The natural range of the species is neither being reduced nor is likely to be reduced for the foreseeable future
- There is, and will probably continue to be, a sufficiently large habitat to maintain its populations on a long-term basis.

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1.2.5.4 The specific conservation objectives of the Kittiwake feature within the North-west Irish Sea SPA are (Appendix E):

- To restore the favourable conservation condition of kittiwake in North-west Irish Sea SPA, which is defined by the list of attributes and targets in Table 1.6.

Relevant supplementary advice for herring gull, guillemot and razorbill features of the North-west Irish Sea SPA is presented in Table 1.7, Table 1.8 and

1.2.5.5 Table 1.9 respectively.

Table 1.6: Relevant supplementary advice for kittiwake feature of the North-west Irish Sea SPA (NPWS, 2023).

Attribute	Target	Supporting notes (National Parks & Wildlife Service, 2023)
Population size	Long term SPA population trend is stable or increasing.	<p><i>“Kittiwake is present within the North-west Irish Sea SPA throughout the year. Breeding kittiwake is a SCI for Lambay Island (004069), Howth Head (004113) and Ireland’s Eye (004117) SPAs; all of which declined over the period 1999-2015 (19% to 3,320 pairs; 22% to 1,773 pairs; 52% to 455 pairs respectively) (Cummins et al., 2019). It is likely that this SPA does not contain all relevant foraging resources for all of the aforementioned SPAs (Baer and Newton, 2012; Moss et al., 2016; Power et al., 2021). Conversely kittiwake, breeding at other colonies and non-breeding individuals may use the North-west Irish Sea SPA during the breeding period. Based on Jessopp et al. (2018) data for summer, autumn and winter surveys of the western Irish Sea 1,632, 2,858, and 944 individuals are estimated to have occurred in the SPA, respectively”</i></p>
Spatial distribution	Sufficient number of locations, area, and availability (in terms of timing and intensity of use) of suitable habitat to support the population	<p><i>“Distribution encapsulates the number of locations and area of potentially suitable habitat for the population and its availability for use. The suitability and availability of habitat areas may vary through time. This will affect the spatio-temporal patterns of use of the habitats by kittiwake. Jessopp et al. (2018) noted that sightings occurred throughout the western Irish Sea survey area, however, there was a distinct change in the distribution of sightings between the summer breeding season and the subsequent autumn and winter periods. In contrast to other gull species, and in all three seasons, areas of high sightings density occurred some distance from the coast. Based on several studies, Woodward et al. (2019) provides estimates of foraging ranges from the nest site during the breeding season (i.e. overall mean, mean of maximum distances across all studies, and maximum distance recorded) for kittiwake, which are 55km, 156km, and 770km respectively (see Power et al., 2021)”</i></p>

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Attribute	Target	Supporting notes (National Parks & Wildlife Service, 2023)
Forage spatial distribution, extent, abundance and availability	Sufficient number of locations, area of suitable habitat and available forage biomass to support the population target	<i>“Kittiwake is a surface feeding seabird and primarily piscivorous (e.g. sandeels, herring, gadoids) with some invertebrates (e.g. euphausiids, amphipods) in the diet also recorded (Hatch et al., 2020)”</i>
Disturbance across the site	The intensity, frequency, timing and duration of disturbance occurs at levels that do not significantly impact the achievement of targets for population size and spatial distribution	<i>“The impact of any significant disturbance (direct or indirect) to the population will ultimately affect the achievement of targets for population size and/or spatial distribution. Disturbance contributes to increased energetic expenditure which can result in increased likelihood of mortality or reduced fitness (if energy expenditure is greater than energy gain) and, in turn, negatively impact population trends. Factors such as intensity, frequency, timing and duration of a (direct or indirect) disturbance source must be taken into account to determine the potential impact upon the targets for population size and spatial distribution. Seabird species can make extensive use of the marine waters adjacent to their breeding colonies for non site-specific maintenance behaviours (e.g. courtship, bathing, preening) as defined in McSorley et al. (2003).”</i>
Barriers to connectivity	The number, location, shape and area of barriers do not significantly impact the site population's access to the SPA or other ecologically important sites outside the SPA	<i>“Kittiwake require regular access to marine waters ecologically connected to their colonies during the breeding season and on migration. Barriers limiting the population's access to this SPA or ecologically important sites outside the SPA will ultimately affect the achievement of targets for population trend and/or spatial distribution. Factors such as the number, location, shape and area of potential barriers must be taken into account to determine their potential impact. Access to ecologically important sites outside the SPA must also be considered as a single SPA may not satisfy all the ecological requirements of the non-breeding population, and it may require access to other SPAs or undesignated sites for certain activities, such as breeding and additional foraging locations when preferred foraging areas are unavailable due to disturbance, prey availability, or other factors.”</i>

Table 1.7: Relevant supplementary advice for herring gull feature of the North-west Irish Sea SPA (National Parks & Wildlife Service, 2023).

Attribute	Target	Supporting notes (National Parks & Wildlife Service, 2023)
Population size	Long term SPA population trend is stable or increasing	<i>“Herring gull is present within the North-west Irish Sea SPA throughout the year. Breeding herring gull is a SCI for Lambay Island, Ireland’s Eye and Skerries Islands SPAs.</i>

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Attribute	Target	Supporting notes (National Parks & Wildlife Service, 2023)
		<p><i>Over the period 1999-2015, the herring gull breeding population are estimated to have decreased by 50% to 906 pairs at Lambay and increased by 29% to 318 pairs on Ireland's Eye (Cummins et al., 2019). The population was estimated to be 300 pairs in 1999. As herring gull can range large distances from their nest sites during the breeding season it is likely that this SPA does not contain all relevant foraging resources for the aforementioned SPAs' breeding populations (Power et al., 2021). Herring gull, breeding at other colonies and non-breeding individuals will use the North-west Irish Sea SPA during the breeding period. Based on survey data of Jessopp et al. (2018) and by HiDef (2019) it is estimated that 6,893 herring gull individuals occurred in the SPA in the winter."</i></p>
Spatial distribution	Sufficient number of locations, area, and availability (in terms of timing and intensity of use) of suitable habitat to support the population	<p><i>"Distribution encapsulates the number of locations and area of potentially suitable habitat for the population and its availability for use. The suitability and availability of habitat areas may vary throughout the season. This will affect the spatio-temporal patterns of use of the habitats by herring gull. Jessopp et al. (2018) survey of the western Irish Sea did not distinguish between common gull and herring gull – these gulls occurred across the range of available water depths in the survey area but more observations were noted in depths less than 50m. Winter HiDef aerial surveys (2018, 2019) were conducted from December to March and the survey area overlaps with the SPA. This survey showed that herring gull was mainly concentrated along the coast south of Dundalk Bay."</i></p>
Forage spatial distribution, extent, abundance and availability	Sufficient number of locations, area of suitable habitat and available forage biomass to support the population target	<p><i>"Herring gull is a generalist and opportunistic feeder and can forage over both terrestrial and aquatic habitats. Its diet includes fish, fish offal, bivalves, gastropods, crustaceans, squid, insects, other seabirds, small landbirds, small mammals, terrestrial insects, earthworms, berries, carrion, and a wide variety of human refuse (Weseloh et al., 2020). Based on several studies, Woodward et al. (2019) provides estimates (i.e. overall mean, mean of maximum distances across all studies, and maximum distance recorded) of herring gull foraging ranges from the nest site during the breeding season, which are 15, 59, and 92km respectively (see Power et al., 2021)."</i></p>
Disturbance across the site	The intensity, frequency, timing and duration of disturbance occurs at levels that do not significantly impact the achievement of	<p><i>"The impact of any significant disturbance (direct or indirect) to the population will ultimately affect the achievement of targets for population size and/or spatial distribution."</i></p>

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Attribute	Target	Supporting notes (National Parks & Wildlife Service, 2023)
	targets for population size and spatial distribution	<i>Disturbance contributes to increased energetic expenditure which can result in increased likelihood of mortality or reduced fitness (if energy expenditure is greater than energy gain) and, in turn, negatively impact population trends. Factors such as intensity, frequency, timing and duration of a (direct or indirect) disturbance source must be taken into account to determine the potential impact upon the targets for population size and spatial distribution. Seabird species can make extensive use of the marine waters adjacent to their breeding colonies for non site-specific maintenance behaviours (e.g. courtship, bathing, preening) as defined in McSorley et al. (2003)."</i>
Barriers to connectivity	The number, location, shape and area of barriers do not significantly impact the site population's access to the SPA or other ecologically important sites outside the SPA	<i>"Herring gull require regular access to marine waters ecologically connected to their colonies during the breeding season and on migration. Barriers limiting the population's access to this SPA or ecologically important sites outside the SPA will ultimately affect the achievement of targets for population trend and/or spatial distribution. Factors such as the number, location, shape and area of potential barriers must be taken into account to determine their potential impact. Access to ecologically important sites outside the SPA must also be considered as a single SPA may not satisfy all the ecological requirements of the non-breeding population, and it may require access to other SPAs or undesignated sites for certain activities, such as breeding and additional foraging locations when preferred foraging areas are unavailable due to disturbance, prey availability, or other factors."</i>

Table 1.8: Relevant supplementary advice for guillemot feature of the North-west Irish Sea SPA (NPWS, 2023).

Attribute	Target	Supporting notes (National Parks & Wildlife Service, 2023)
Population size	No significant decline	<i>"Guillemot occur in the SPA throughout the year. Breeding guillemot is a SCI of Lambay Island and Ireland's Eye SPAs. From 1999-2015, individual population estimates at Lambay of 59,983 remained stable (-1%), and Ireland's Eye increased by 101% to 4,410 (Cummins et al., 2019). These birds exploit this SPA during the breeding season. As birds can range large distances from the colony during the breeding season it is likely that this SPA does not contain all relevant foraging resources for these populations (Baer and Newton, 2012; Power et al., 2021). Guillemot from other colonies and</i>

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Attribute	Target	Supporting notes (National Parks & Wildlife Service, 2023)
		<p><i>nonbreeding individuals may also use this SPA during the breeding period. Jessopp et al. (2018) undertook summer, autumn and winter surveys of the western Irish Sea; razorbill (Alca torda) and guillemot were categorised together. Based on this 18,621, 93,191, and 18,553 individuals are estimated to have occurred in the SPA respectively; it is likely that guillemot formed the majority of these.”</i></p>
Spatial distribution	Sufficient number of locations, area, and availability (in terms of timing and intensity of use) of suitable habitat to support the population	<p><i>“Distribution encapsulates the number of locations and area of potentially suitable habitat for the population and its availability for use. The suitability and availability of habitat may vary through time. This will affect the spatio-temporal patterns of use of the habitats by the guillemot. Jessopp et al. (2018) noted that during the summer, guillemot/razorbill sightings concentrated around the central transect lines, while during autumn surveys, large numbers of sightings occurred in the northernmost transects. There was no obvious association between the occurrence of razorbills/guillemots and bathymetric features. HiDef (2019) undertook surveys off Gormanstown and noted that most areas were used regularly by guillemot, but were present at the highest density in the east of the study area. Woodward et al. (2019) provides estimates (i.e. mean, mean of max distances across all studies, and max distance) of guillemot movements from the colony, which are 33, 73, and 338km respectively.”</i></p>
Forage spatial distribution, extent, abundance and availability	Sufficient number of locations, area of suitable habitat and available forage biomass to support the population target	<p><i>“The diet of guillemot consists of micronektonic prey, 2–25cm in length (mainly 6–10cm), including fish, euphausiids, large copepods, and squid. In summer mainly fish, especially when feeding chicks, in contrast to a more diverse diet during non-breeding period, with euphausiids in particular more important (Ainley et al., 2021). Based on several studies, Woodward et al. (2019) provides estimates of foraging ranges from the nest site during the breeding season (i.e. overall mean, mean of maximum distances across all studies, and maximum distance recorded) for guillemot, which are 33, 72, and 338km respectively (see Power et al., 2021).”</i></p>
Disturbance across the site	The intensity, frequency, timing and duration of disturbance occurs at levels that do not significantly impact the achievement of targets for population size and spatial distribution	<p><i>“The impact of any significant disturbance (direct or indirect) to the breeding population will ultimately affect the achievement of targets for population size and/or spatial distribution. Disturbance contributes to increased energetic expenditure which can result in increased likelihood of mortality or</i></p>

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Attribute	Target	Supporting notes (National Parks & Wildlife Service, 2023)
		<p><i>reduced fitness (if energy expenditure is greater than energy gain) and, in turn, negatively impact population trends. Factors such as intensity, frequency, timing and duration of a (direct or indirect) disturbance source must be taken into account to determine the potential impact upon the targets for population size and spatial distribution. Seabird species can make extensive use of the marine waters adjacent to their breeding colonies for non site-specific maintenance behaviours as defined in McSorley et al. (2003). Studies in the UK found the highest densities of guillemot performing these behaviours occurred within 1km of the breeding colony (McSorley et al., 2003)."</i></p>
Barriers to connectivity	The number, location, shape and area of barriers do not significantly impact the site population's access to the SPA or other ecologically important sites outside the SPA	<p><i>"Guillemot require regular access to marine waters ecologically connected to their colonies during the breeding season and on migration. Barriers limiting the population's access to this SPA or ecologically important sites outside the SPA will ultimately affect the achievement of targets for population trend and/or spatial distribution. Factors such as the number, location, shape and area of potential barriers must be taken into account to determine their potential impact. Access to ecologically important sites outside the SPA must also be considered as a single SPA may not satisfy all the ecological requirements of the population, and it may require access to other SPAs or undesignated sites for certain activities, such as breeding and additional foraging locations when preferred foraging areas are unavailable due to disturbance, prey availability, or other factors."</i></p>

Table 1.9: Relevant supplementary advice for razorbill feature of the North-west Irish Sea SPA (NPWS, 2023).

Attribute	Target	Supporting notes (NPWS, 2023)
Population size	No significant decline	<p><i>"Razorbill occur in the SPA throughout the year. Breeding razorbill is a SCI of Lambay Island and Ireland's Eye SPAs. From 1999-2015, individual population estimates at Lambay of 7,353 increased by 70%, and Ireland's Eye increased by 207% to 1,600 (Cummins et al., 2019). These birds exploit this SPA during the breeding season. As birds can range large distances from the colony during the breeding season it is likely that this SPA does not contain all relevant foraging resources for these populations (Baer and Newton, 2012; Power et al., 2021). Razorbill from other colonies and</i></p>

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Attribute	Target	Supporting notes (NPWS, 2023)
		<p><i>nonbreeding individuals may use this SPA during the breeding period. Jessopp et al. (2018) undertook summer, autumn and winter surveys of the western Irish Sea; razorbill and guillemot were categorised together. Based on this 18,621, 93,191, and 18,553 individuals are estimated to have occurred in the SPA respectively; it is likely that razorbill formed a significant minority of these.</i></p>
Spatial distribution	Sufficient number of locations, area, and availability (in terms of timing and intensity of use) of suitable habitat to support the population	<p><i>“Distribution encapsulates the number of locations and area of potentially suitable habitat for the population and its availability for use. The suitability and availability of habitat may vary through time. This will affect the spatio-temporal patterns of use of the habitats by razorbill. Jessopp et al. 2018) noted that during the summer, guillemot/razorbill sightings were concentrated around the central transect lines, while during autumn surveys, large numbers of sightings occurred in the northernmost transects. There was no obvious association between the occurrence of razorbills/guillemots and bathymetric features. HiDef (2019) undertook surveys off Gormanstown and noted that razorbill varied across the survey area, with most areas being used, except the most coastal of habitats. Woodward et al. (2019) provides estimates (i.e. mean, mean of max distances across all studies, and max distance) of razorbill movements from the colony, which are 61km, 89km, and 313km respectively.”</i></p>
Forage spatial distribution, extent, abundance and availability	Sufficient number of locations, area of suitable habitat and available forage biomass to support the population target	<p><i>“The diet of razorbill comprises schooling fish including herring and sandeel. Crustaceans and polychaetes may also be important in adult diets (Lavers et al., 2020). Based on several studies, Woodward et al. (2019) provides estimates of foraging ranges from the nest site during the breeding season (i.e. overall mean, mean of maximum distances across all studies, and maximum distance recorded) for razorbill, which are 61km, 89km, and 313km respectively (see Power et al., 2021).”</i></p>
Disturbance across the site	The intensity, frequency, timing and duration of disturbance occurs at levels that do not significantly impact the achievement of targets for population size and spatial distribution	<p><i>“The impact of any significant disturbance (direct or indirect) to the population will ultimately affect the achievement of targets for population size and/or spatial distribution. Disturbance contributes to increased energetic expenditure which can result in increased likelihood of mortality or reduced fitness (if energy expenditure is greater than energy gain) and, in turn, negatively impact population trends. Factors such as intensity, frequency, timing and duration of a (direct or indirect) disturbance source must be taken into account to determine the potential</i></p>

Attribute	Target	Supporting notes (NPWS, 2023)
		<p><i>impact upon the targets for population size and spatial distribution. Seabird species can make extensive use of the marine waters adjacent to their breeding colonies for non site-specific maintenance behaviours as defined in McSorley et al. (2003). Studies in the UK found the highest densities of razorbill performing these behaviours occurred within 1km of the breeding colony (McSorley et al., 2003)."</i></p>
Barriers to connectivity	The number, location, shape and area of barriers do not significantly impact the population's access to the SPA or other ecologically important sites outside the SPA	<p><i>"Razorbill require regular access to marine waters ecologically connected to their colonies during the breeding season and on migration. Barriers limiting the population's access to this SPA or ecologically important sites outside the SPA will ultimately affect the achievement of targets for population trend and/or spatial distribution. Factors such as the number, location, shape and area of potential barriers must be taken into account to determine their potential impact. Access to ecologically important sites outside the SPA must also be considered as a single SPA may not satisfy all the ecological requirements of the breeding population, and it may require access to other SPAs or undesignated sites for certain activities, such as breeding and additional foraging locations when preferred foraging areas are unavailable due to disturbance, prey availability, or other factors."</i></p>

Features in unfavourable condition

1.2.5.6 The kittiwake and herring gull features of this site are considered to be in unfavourable condition with restore targets. The guillemot and razorbill features of this site are considered to be in favourable condition.

1.2.6 Copeland Islands SPA

Conservation Objectives

1.2.6.1 The conservation objectives for the Copeland Islands SPA are (Appendix F; DEARA 2015a): To maintain each feature in favourable condition.

1.2.6.2 For species, favourable conservation status is defined in Article 1(i) as when:

- Population dynamics data on the species concerned indicate that it is maintaining itself on a long-term basis as a viable component of its natural habitats
- The natural range of the species is neither being reduced nor is likely to be reduced for the foreseeable future
- There is, and will probably continue to be, a sufficiently large habitat to maintain its population on a long term basis.

Table 1.10: Relevant supplementary advice for Manx shearwater feature of the Copeland Islands SPA (Northern Ireland Environment Agency, 2015).

Attribute	Target	Supporting notes (DAERA, 2015a)
Population size	No significant decrease in population against national trends	<i>“Requirement that data is collected once every reporting cycle. Ideally the population will be maintained above 1% of the national population.”</i>
Fledging success	Fledging success sufficient to maintain or enhance population	<i>“Appropriate level of fledgling survival to be determined.”</i>

Features in unfavourable condition

1.2.6.3 The condition of Manx shearwater was assessed in 2014, and the species status was considered to be in favourable condition (DEARA, 2015).

1.2.7 Glannau Aberdaron and Ynys Enlli/Aberdaron Coast and Bardsey Island SPA

Conservation Objectives

1.2.7.1 The conservation objective for the Manx shearwater feature of the Glannau Aberdaron and Ynys Enlli/Aberdaron Coast and Bardsey Island SPA are (Countryside Council for Wales, 2008):

- Breeding population of Manx shearwater (confined to Ynys Enlli) is stable or increasing
- Reproductive rates remain stable
- Deaths from the lighthouse attractions, fencing and other infrastructure are minimal
- No ground predators are introduced
- Nesting birds are not disturbed by restoration works on boundary walls or recreational activities
- All factors affecting the achievement of these conditions are under control.

1.2.7.2 Relevant supplementary advice for the Manx shearwater feature of the Glannau Aberdaron and Ynys Enlli/Aberdaron Coast and Bardsey Island SPA is provided in Table 1.11.

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Table 1.11: Relevant supplementary advice for Manx shearwater feature of the Glannau Aberdaron and Ynys Enlli/Aberdaron Coast and Bardsey Island SPA (Countryside Council for Wales, 2008).

Attribute	Target	Supporting notes (Countryside Council for Wales, 2008)
Population size	Breeding population of Manx shearwater (confined to Ynys Enlli) is stable or increasing	<p><i>“Specific limits: Upper limit: None set Lower limit: 10,000 pairs or 1% of the UK population.”</i></p>
Productivity/breeding success	Reproductive rates remain stable	<p><i>“Specific limits: Upper limit: None set Lower limit: 5 year mean of 0.6 per pair. Lowest tolerable limit of >0.5 for 3 consecutive years.”</i></p>
Deaths from lighthouse attraction	Deaths from the lighthouse attractions are minimal.	<p><i>“On dark moonless nights or when there is poor visibility due to fog, drizzle, cloud cover or rain the lighthouse attracts night flying birds. Individuals may collide with the lighthouse or become exhausted from flying repeatedly round the light. Upper limit: 30 fatalities per year or <0.3% of the Enlli population, Lower limit: Gantry lights and light exclusion zone in place annually.”</i></p>
Deaths from barbed wire/ other fencing and similar materials	Deaths from fencing and other infrastructure are minimal.	<p><i>“A small number of Manx shearwater mortalities occur each year as a direct result of entanglement in barbed wire on existing fences, or fence netting. BBFO keep annual records of the number and locations of fatalities. Upper limit: 5 fatalities per year or <0.05% of the Enlli population. No unnecessary barbed wire erected. Lower limit: All unnecessary barbed wire removed.”</i></p>
Ground-based predators	No ground predators are introduced	<p><i>“At present ground predators, such as common rat, fox, mink or hedgehog do not inhabit the island. Should such predators be introduced they could severely threaten the Manx Shearwater population. All measures must be taken to avoid their introduction. Upper limit: No domestic or wild predators introduced to the island Lower limit: None set.”</i></p>
Avian predators	All crows seen predating in burrows should be controlled	<p><i>“In recent years crows have been observed taking Manx shearwater eggs from burrows. If not controlled, this apparent learnt behaviour could become more widespread. Upper limit: None set Lower limit: All crows seen predating in burrows should be controlled.”</i></p>
Boundary wall maintenance practice	Nesting birds are not disturbed by restoration works on boundary walls.	<p><i>“Many Manx shearwaters dig nesting burrows into both stone-faced and earth walls. Maintenance can only be carried out</i></p>

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Attribute	Target	Supporting notes (Countryside Council for Wales, 2008)
		<p><i>carefully and on a rotation, as Manx shearwaters seem to be site faithful and perhaps even burrow faithful. Although burrowing Manx shearwaters appear to benefit from easier access in derelict stone/earth boundary walls, landscape issues and other conservation features would benefit from restoration and repair of such boundaries. All burrows are protected under UK law. They are protected while in use by the birds as nest sites, and protected outside the nesting season by the provisions or the SSSI legislation.</i></p> <p><i>Upper limit: None set</i></p> <p><i>Lower limit: All boundary restoration work must take account of the potential effects on Manx shearwaters and must only be carried out to the strict guidelines set out in the Ynys Enlli Management Plan. All staff, contractors or volunteers working on field boundaries must be made aware of the guidelines.</i></p> <p><i>All field boundaries have been surveyed and the number of Manx shearwater burrows in each recorded. Boundaries have thus been categorised as to whether they are of importance to Manx shearwaters. Significant boundaries are those with 5 or more burrows per 100m.”</i></p>
Marine pollution incidents	All factors affecting the achievement of these conditions are under control.	<p><i>“Manx shearwaters frequently settle on the water surface to rest, swim and dive for food. They are therefore, particularly vulnerable to pollution at sea, particularly oil pollution.</i></p> <p><i>Upper limit: No incidences of island generated pollution. No major pollution incidents within 30 miles of Ynys Enlli</i></p> <p><i>Lower limit: None set.”</i></p>
Human disturbance/trampling	Nesting birds are not disturbed by recreational activities	<p><i>“Human disturbance can be through erosion or collapse of shearwater burrows or by disturbing individuals on land at night. Collapse of burrows during the breeding season would be particularly detrimental to breeding success.</i></p> <p><i>Upper limit: 2 burrows accidentally damaged per year.</i></p> <p><i>Lower limit: All promoted paths should avoid Manx shearwater burrows. All visitors to be advised of sensitive areas.”</i></p>

Features in unfavourable condition

1.2.7.3 The condition of the Manx shearwater feature of this site is considered to be favourable.

1.2.8 Lambay Island SPA

Conservation Objectives

1.2.8.1 Objective: To maintain or restore the favourable conservation condition of the bird species listed as Special Conservation Interests for this SPA (Appendix H; NPWS 2024a).

1.2.8.2 The favourable conservation status of a species is achieved when:

- Population dynamics data on the species concerned indicate that it is maintaining itself on a long-term basis as a viable component of its natural habitats
- The natural range of the species is neither being reduced nor is likely to be reduced for the foreseeable future
- There is, and will probably continue to be, a sufficiently large habitat to maintain its populations on a long-term basis.

Features in unfavourable condition

1.2.8.3 The kittiwake and herring gull features of this site are considered to be in unfavourable condition with restore targets. The guillemot and razorbill features of this site are considered to be in favourable condition. Ireland's Eye SPA

Conservation Objectives

1.2.8.4 The conservation objectives of Ireland's Eye SPA are to restore the favourable conservation condition of Kittiwake in Ireland's Eye SPA (Appendix I; NPWS, 2024b).

1.2.8.5 The favourable conservation status of a species is achieved when:

- Population dynamics data on the species concerned indicate that it is maintaining itself on a long-term basis as a viable component of its natural habitats
- The natural range of the species is neither being reduced nor is likely to be reduced for the foreseeable future
- There is, and will probably continue to be, a sufficiently large habitat to maintain its populations on a long-term basis.

Features in unfavourable condition

1.2.8.6 Kittiwake at Ireland's Eye SPA are to be restored to the favourable conservation condition, as defined by a list of attributes and targets focused on maintaining a stable or increasing population over time (NPWS, 2024b).

1.2.9 Howth Head Coast SPA

Conservation Objectives

1.2.9.1 The conservation objectives of Howth Head Coast SPA are to restore the favourable conservation condition of kittiwake in Howth Head Coast SPA (Appendix J; NPWS, 2024b).

The favourable conservation status of a species is achieved when:

- Population dynamics data on the species concerned indicate that it is maintaining itself on a long-term basis as a viable component of its natural habitats

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- The natural range of the species is neither being reduced nor is likely to be reduced for the foreseeable future
- There is, and will probably continue to be, a sufficiently large habitat to maintain its populations on a long-term basis.

1.2.9.2 Relevant supplementary advice for the kittiwake feature of the Howth Head Coast SPA is provided in Table 1.12.

Table 1.12: Relevant supplementary advice for kittiwake feature of the Howth Head Coast SPA (NPWS, 2024).

Attribute	Target	Supporting notes (NPSW, 2024)
Breeding Population size	Long term SPA population trend is stable or increasing	“A 1987 survey recorded an estimate of 1,700 pairs of Kittiwake breeding at this site (Lloyd et al., 1991). A repeat survey in 1999 recorded 2,269 AONs equating to a 33.5% increase (Mitchell et al., 2004). Breeding numbers continued to increase and by 2007 the population was estimated to stand at 2,612 AONs, which then dipped to 1,773 AONs by 2015 (Trewby et al., 2007; Burnell et al., 2023). Based on these metrics, longer-term (1987-2015) and shorter-term (2007-2015) population trends of 4.3% and -32.1% are estimated”
Productivity rate	Sufficient to maintain a stable or increasing population	“In 2007 and based on 12 non-randomly selected plots ranging in size from 43 to 157 AONs (amounting to 41% of the breeding population), Trewby et al. (2007) reported a Kittiwake productivity estimate of 0.62 (\pm 0.06) fledglings per pair for this SPA. Coulson (2017) established, based on data from UK Kittiwake colonies during the period 1985-2015, that 0.80 fledglings per pair were needed to maintain the size of these colonies.”
Distribution: extent of available nesting options within the SPA	Sufficient availability of suitable nesting sites throughout the SPA to maintain a stable or increasing population	Distribution encapsulates the number of locations and area of potentially suitable nesting habitat for the breeding population and its availability for use. The suitability and availability of habitat across the SPA may vary through time. This will affect the spatio-temporal patterns of use of the habitats by Kittiwake. Typically this species establishes nest sites on cliff ledges of offshore islands, sea stacks, or along inaccessible areas of coastal mainland (Hatch et al., 2020).”
Forage spatial distribution, extent, abundance and availability	Sufficient number of locations, area of suitable habitat and available forage biomass to support the population target	“Kittiwake is a surface feeding seabird and primarily piscivorous (e.g. sandeels, herring, gadoids) with some invertebrates (e.g. euphausiids, amphipods) in the diet also recorded (Hatch et al., 2020). Woodward et al. (2019) provides estimates (i.e. overall mean, mean of maximum distances across all studies, and maximum distance recorded) of Kittiwake foraging ranges from the nest site during the breeding season, which are 55km, 156km, and 770km respectively (see Power et al., 2021).”

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Attribute	Target	Supporting notes (NPSW, 2024)
Disturbance at the breeding site	Disturbance occurs at levels that do not significantly impact on birds at the breeding site	<p><i>“Disturbance events at the nest site/breeding colony level can result in a reduction of overall productivity and even lead to the abandonment of the breeding colony. The impact of any significant disturbance (direct or indirect) to the breeding population will ultimately affect the achievement of targets for population size and/or spatial distribution. Disturbance contributes to increased energetic expenditure which can result in increased likelihood of mortality or reduced fitness (if energy expenditure is greater than energy gain) and, in turn, negatively impact population trends. Factors such as intensity, frequency, timing and duration of a (direct or indirect) disturbance source must be taken into account to determine the potential impact upon the targets for population size and spatial distribution”.</i></p>
Disturbance at areas ecologically connected to the colony	Disturbance occurs at levels that do not significantly impact on breeding population	<p><i>“Seabird species can make extensive use of the marine waters adjacent to their breeding colonies for non site-specific maintenance behaviours (e.g. courtship, bathing, preening) as defined in McSorley et al. (2003).”</i></p>
Barriers to connectivity	Barriers do not significantly impact the population’s access to the SPA or other ecologically important sites outside the SPA	<p><i>“Seabirds, particularly during the breeding season, require regular and efficient access to marine waters ecologically connected to the colony in order to forage as well as to engage in other maintenance behaviours. Woodward et al. (2019) provides estimates (i.e. overall mean, mean of maximum distances across all studies, and maximum distance recorded) of Kittiwake foraging ranges from the nest site during the breeding season, which are 55km, 156km, and 770km respectively (see Power et al., 2021).”</i></p>

Features in unfavourable condition

1.2.9.3 The kittiwake feature of this site is considered to be in unfavourable condition with a restore target.

1.2.10 Ailsa Craig SPA

Conservation Objectives

1.2.10.1 The conservation objectives of the Ailsa Craig SPA are (Appendix K; NatureScot, 2015a):

- To avoid deterioration of the habitats of the qualifying species (listed below) or significant disturbance to the qualifying species, thus ensuring that the integrity of the site is maintained
- To ensure for the qualifying species that the following are maintained in the long term:

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- Population of the species as a viable component of the site
- Distribution of the species within site
- Distribution and extent of habitats supporting the species
- Structure, function and supporting processes of habitats supporting the species
- No significant disturbance of the species.

Features in unfavourable condition

1.2.10.2 The kittiwake feature of this site is considered to be in unfavourable condition. The gannet and breeding seabird assemblage features are considered to be in favourable condition. Wicklow Head SPA

Conservation Objectives

1.2.10.3 The conservation objectives of Wicklow Head SPA are to restore the favourable conservation condition of kittiwake (Appendix L; NPWS, 2024c).

1.2.10.4 The favourable conservation status of a species is achieved when:

- Population dynamics data on the species concerned indicate that it is maintaining itself on a long-term basis as a viable component of its natural habitats
- The natural range of the species is neither being reduced nor is likely to be reduced for the foreseeable future
- There is, and will probably continue to be, a sufficiently large habitat to maintain its populations on a long-term basis.

1.2.10.5 Relevant supplementary advice for the kittiwake feature of the Wicklow Head SPA is provided in Table 1.13.

Table 1.13: Relevant supplementary advice for kittiwake feature of the Wicklow Head SPA (NPWS, 2024c).

Attribute	Target	Supporting notes (NPWS, 2024c)
Breeding Population size	Long term SPA population trend is stable or increasing	<i>“Kittiwake were breeding on Wicklow Head by 1974, with 164 pairs recorded, and this population increased to 786-800 pairs by 1986-1987 (Merne, 1987). The population increased further to 956 pairs in 1999 (Mitchell et al., 2004). Monitoring effort increased at this site in the 21st century, which tracked an initial decline followed by a recovery to 999 pairs in 2007 (Cork Ecology, 2007). Subsequent estimated abundances indicate a declining trend (Tierney, 2022). In 2023, the population was estimated to be 645 pairs (Cork Ecology, 2023) equating to a decline of 33% since 1999, which is similar to the national declining trend of 36% between 1998-2002 and 2015-2021 (Burnell et al., 2023).”</i>
Productivity rate	Sufficient to maintain a stable or increasing population	<i>“Coulson (2017) established, based on data from UK kittiwake colonies during the period 1985-2015, that 0.80 fledglings per pair were needed to maintain the size of these</i>

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Attribute	Target	Supporting notes (NPWS, 2024c)
		<p>colonies. Since 2001, two bouts of annual productivity monitoring at Wicklow Head has occurred: the first, covering the period 2001-2007 (Cork Ecology, 2007); and more recently, 2018-2023 (Tierney, 2022; Cork Ecology, 2023). A seven year mean of 0.70 chicks per nest for the period 2001- 2007 is reported (Cork Ecology, 2007). For the 2023 breeding season, Cork Ecology (2023) estimated a productivity rate of 0.25 (± 0.13 SE) chicks per nest based on the same five sub-colonies used in previous years by NPWS for the period 2018-2022. This contributes to an overall reported six year mean of 0.56 (± 0.12 SE) chicks per nest for Wicklow Head for the period 2018-2023 (Cork Ecology, 2023). Current breeding productivity rates may be insufficient to drive a reversal of the negative population trend in the near term (Tierney, 2022).”</p>
<p>Distribution: extent of available nesting options within the SPA</p>	<p>Sufficient availability of suitable nesting sites throughout the SPA to maintain a stable or increasing population</p>	<p>“Distribution encapsulates the number of locations and area of potentially suitable nesting habitat for the breeding population and its availability for use. The suitability and availability of habitat across the SPA may vary through time. This will affect the spatio-temporal patterns of use of the habitats by kittiwake. Typically this species is a cliff-nester on ledges of offshore islands, sea stacks, or inaccessible areas of coastal mainland (Hatch et al., 2020).”</p>
<p>Forage spatial distribution, extent, abundance and availability</p>	<p>Sufficient number of locations, area of suitable habitat and available forage biomass to support the population target</p>	<p>“Kittiwake is a surface feeding seabird and primarily piscivorous (e.g. sandeels, herring, gadoids) with some invertebrates (e.g. euphausiids, amphipods) in the diet also recorded (Hatch et al., 2020). Woodward et al. (2019) provides estimates (i.e. overall mean, mean of maximum distances across all studies, and maximum distance recorded) of kittiwake foraging ranges from the nest site during the breeding season, which are 55km, 156km, and 770km respectively (see Power et al., 2021).”</p>
<p>Disturbance at the breeding site</p>	<p>Disturbance occurs at levels that do not significantly impact on birds at the breeding site</p>	<p>“Disturbance events at the nest site/breeding colony level can result in a reduction of overall productivity and even lead to the abandonment of the breeding colony. The impact of any significant disturbance (direct or indirect) to the breeding population will ultimately affect the achievement of targets for population size and/or spatial distribution. Disturbance contributes to increased energetic expenditure which can result in increased likelihood of mortality or reduced fitness (if energy expenditure is greater than energy gain) and, in turn, negatively impact population trends. Factors such as intensity, frequency, timing and duration of a (direct or indirect) disturbance source must be taken</p>

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Attribute	Target	Supporting notes (NPWS, 2024c)
		<i>into account to determine the potential impact upon the targets for population size and spatial distribution.</i>
Disturbance at areas ecologically connected to the colony	Disturbance occurs at levels that do not significantly impact on breeding population	<i>“Seabird species can make extensive use of the marine waters adjacent to their breeding colonies for non site-specific maintenance behaviours (e.g. courtship, bathing, preening) as defined in McSorley et al. (2003).”</i>
Barriers to connectivity	Barriers do not significantly impact the population's access to the SPA or other ecologically important sites outside the SPA	<i>“Seabirds, particularly during the breeding season, require regular and efficient access to marine waters ecologically connected to the colony in order to forage as well as to engage in other maintenance behaviours. Woodward et al. (2019) provides estimates (i.e. overall mean, mean of maximum distances across all studies, and maximum distance recorded) of kittiwake foraging ranges from the nest site during the breeding season, which are 55km, 156km, and 770km respectively (see Power et al., 2021).”</i>

Features in unfavourable condition

1.2.10.6 Kittiwake are to be restored to the favourable conservation condition, as defined by a list of attributes and targets focused on maintaining a stable or increasing population over time (NPWS, 2024c).

1.2.11 Rathlin Island SPA

Conservation objectives

1.2.11.1 The conservation objectives for the Rathlin Island SPA are to maintain each feature in favourable condition (Appendix M; DAERA, 2015b).

1.2.11.2 The favourable conservation status of a species is achieved when:

- Population dynamics data on the species concerned indicate that it is maintaining itself on a long- term basis as a viable component of its natural habitats
- The natural range of the species is neither being reduced nor is likely to be reduced for the foreseeable future
- There is, and will probably continue to be, a sufficiently large habitat to maintain its populations on a long-term basis.

1.2.11.3 For each feature a number of component objectives are defined. The component objectives for guillemot are:

- To maintain or enhance the population of the qualifying species
- Fledging success sufficient to maintain or enhance population
- To maintain or enhance the range of habitats utilised by the qualifying species
- To ensure that the integrity of the site is maintained

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- To ensure there is no significant disturbance of the species
- To ensure that the following are maintained in the long term:
 - Population of the species as a viable component of the site
 - Distribution of the species within site
 - Distribution and extent of habitats supporting the species
 - Structure, function and supporting processes of habitats supporting the species.

1.2.11.4 Relevant supplementary advice for the kittiwake, guillemot and razorbill features of the Rathlin Island SPA is provided in Table 1.14, Table 1.15 and Table 1.16 respectively.

Table 1.14: Relevant supplementary advice for the kittiwake feature of the Rathlin Island SPA (DAERA, 2015b).

Attribute	Target	Supporting notes (DAERA, 2015b)
Breeding population	No significant decrease in population against national trends	<i>“Requirement that data is collected once every reporting cycle. Mean population greater than 4,959 (i.e. within 50% of 2000 population) or above minimum historical count.”</i>

Table 1.15: Relevant supplementary advice for the guillemot feature of the Rathlin Island SPA (DAERA, 2015).

Attribute	Target	Supporting notes (DAERA, 2015b)
Breeding population	No significant decrease in population against national trends	<i>“Requirement that data is collected once every reporting cycle. Mean population greater than 47,784 (i.e. within 50% of 2000 population) or above minimum historical count.”</i>
Fledging success	Site condition favourable if: Mean of 0.7 chicks fledge per pair, each year.	<i>“Appropriate level of fledgling survival to be determined.”</i>

Table 1.16: Relevant supplementary advice for the razorbill feature of the Rathlin Island SPA (DAERA, 2015b).

Attribute	Target	Supporting notes (DAERA, 2015b)
Breeding population	No significant decrease in population against national trends	<i>“Requirement that data is collected once every reporting cycle. Mean population greater than 10,430 (i.e. within 50% of 2000 population) or above minimum historical count.”</i>
Fledging success	Site condition favourable if: Mean of 0.7 chicks fledge per pair, each year.	<i>“Appropriate level of fledgling survival to be determined.”</i>

Features in unfavourable condition

- 1.2.11.5 None of the features considered in HRA Stage 2 information to support an appropriate assessment Part Three: Special Protection Areas and Ramsar Site assessments (APP-098) are considered to be in unfavourable condition.

1.2.12 Forth Islands SPA

Conservation Objectives

- 1.2.12.1 The conservation objectives for the Forth Islands SPA are (Appendix N; NatureScot, 2018a):
- To avoid deterioration of the habitats of the qualifying species (listed below) or significant disturbance to the qualifying species, thus ensuring that the integrity of the site is maintained
 - To ensure for the qualifying species that the following are maintained in the long term:
 - Population of the species as a viable component of the site
 - Distribution of the species within site
 - Distribution and extent of habitats supporting the species
 - Structure, function and supporting processes of habitats supporting the species
 - No significant disturbance of the species.

Features in unfavourable condition

- 1.2.12.2 None of the features considered in HRA Stage 2 information to support an appropriate assessment Part Three: Special Protection Areas and Ramsar Site assessments (APP-098) are considered to be in unfavourable condition.

1.2.13 Flamborough and Filey Coast SPA

Conservation Objectives

- 1.2.13.1 The conservation objectives of the Flamborough and Filey Coast SPA are (Appendix O; Natural England, 2023b):
- The objectives are to ensure that, subject to natural change, the integrity of the site is maintained or restored as appropriate, and that the site contributes to achieving the aims of the Wild Birds Directive, by maintaining or restoring:
 - The extent and distribution of the habitats of the qualifying features
 - The structure and function of the habitats of the qualifying features
 - The supporting processes on which the habitats of the qualifying features rely
 - The populations of each of the qualifying features
 - The distribution of qualifying features within the site.
- 1.2.13.2 Relevant supplementary advice for the kittiwake feature of the Flamborough and Filey Coast SPA is provided in Table 1.17.

Table 1.17: Relevant supplementary advice for kittiwake feature of the Flamborough and Filey Coast SPA (Natural England, 2023b).

Attribute	Target	Supporting notes (Natural England, 2023b)
Breeding population: abundance	Restore the size of the breeding population at a level which is above 83,700 breeding pairs, whilst avoiding deterioration from its current level as indicated by the latest mean peak count or equivalent.	<p><i>“At the time of reclassification as the Flamborough & Filey Coast SPA there were approximately 44,520 breeding pairs of kittiwake. This was calculated using the 2008 Seabird Monitoring Programme (SMP) for Flamborough Head and Bempton Cliffs SPA which showed 37,617 pairs along the Flamborough Head section of the designation and a further 6,903 pairs from Filey Brigg to Cunstone Nab from surveys in 2009-2011 (Natural England, 2014). A single year full colony count taken in 2017 indicated 51,535 pairs across the whole of the SPA (Aitken et al., 2017)</i></p> <p><i>The original citation for Flamborough Head and Bempton Cliffs SPA specifies that the site supported 83,700 pairs of breeding kittiwake in 1987. At the time this was 4% of the western European population and 7% of the UK population (Natural England (NE), 2013). The current figures clearly indicate a major decline in numbers since this time. At present, it is unclear why this decline has occurred, although evidence suggests that reductions in the availability of the kittiwakes preferred prey species (sandeels) has also reduced kittiwake productivity (Frederiksen et al., 2004). This reduction in prey availability is thought potentially to be a response to climate change, as this decline in kittiwake population has been seen in other parts of the North Sea region, coinciding with a rise in sea surface temperatures (Wanless et al., 2007).</i></p> <p><i>It should be noted that the abundance of the breeding population is reliant on recruitment from the non-breeding population and is therefore dependent on a stable age class structure. Therefore, population abundance could also be affected by disproportionate impacts to a particular age class.</i></p> <p>Productivity</p> <p><i>Breeding productivity is an important factor influencing adult abundance. The number of chicks fledged per pair indicates the likely availability of new recruits to the breeding population in future years. The 2015 Flamborough and Filey Coast pSPA Seabird Monitoring Programme monitored the productivity of kittiwake across the site at both Bempton/Flamborough and at Filey Cliffs. Overall productivity for kittiwake at Bempton/Flamborough averaged 0.73 chicks per pair and at Filey Cliffs productivity</i></p>

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Attribute	Target	Supporting notes (Natural England, 2023b)
		<p>averaged 0.47 chicks per pair. (Babcock et al., 2015).</p> <p>Between 2009 and 2015 there are indications of a gradual downward trend in kittiwake productivity at Flamborough/Bempton. However productivity at Filey Cliffs, whilst generally low, appears to have been relatively stable between 2012-2015 (Babcock et al., 2015). After the extension of the site was formalised in 2018 the 2018 survey monitored kittiwake productivity at 20 plots across the SPA as a whole. The mean figure was 0.55 chicks per pair (Babcock et al., 2018). The 2019 survey used 19 plots and produced the same productivity figure of 0.55 chicks per pair (Lloyd et al., 2019), following the ongoing trend of low productivity.</p> <p>The 2017 report also showed differences between the two parts of the site in terms of productivity; although productivity at both locations was still lower than that indicated in the 2015 report. At Bempton/Flambough mean productivity was 0.58 chicks per AON. At Filey this figure was 0.39. (Aitken et al., 2017).</p> <p>For reference, mean productivity for kittiwake recorded between 1986-2005 across UK colonies was 0.68 chicks per pair. (Mavor et al., 2008).</p> <p>The target has been set to restore, on the basis of best available evidence. This evidence indicates that the population at the site has declined significantly since the initial census of 1987.”</p>
Connectivity with supporting habitats	Restore safe passage of birds moving between nesting and feeding areas.	<p>“The presence of the tidal stream just off Flamborough Head, known as the Flamborough Front, (where cooler waters from the north meet with warmer waters coming up from the south) creates a nutrient-rich environment in the waters adjacent to the kittiwake colony (English Nature (EN), 2000). This upwelling of nutrients, coupled with the availability of nesting ledges provided by the local geology, creates the necessary conditions for the kittiwake’s preferred breeding habitat. As such, the kittiwake population should be able to freely access both the cliff-face nesting sites and adjacent foraging areas, outside of the SPA boundaries.</p> <p>Site specific studies have shown much higher ranges than (Thaxter et al., 2012). For example tracking data from the Flamborough and Filey Coast pSPA colony between 2010 and 2013 indicates that kittiwake tagged at Flamborough were foraging up to 219km offshore from the</p>

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Attribute	Target	Supporting notes (Natural England, 2023b)
		<p><i>colony (Aitken et al., 2014). In all years when tracking data was collected, an area close to the colony was used by a high density of birds, as well as areas located further offshore (Aitken et al., 2014), perhaps indicating important foraging grounds. Kittiwake tracking studies at the colony are ongoing and this information may be updated as new site specific evidence becomes available.</i></p> <p><i>Understanding of seabird foraging ranges is continually evolving, therefore when reviewing connectivity with the SPA a full range of available evidence should be considered.</i></p> <p>Offshore</p> <p><i>A potential collision risk has been acknowledged when kittiwake interact with offshore wind turbines (Cook et al., 2012). Therefore interaction with offshore structures in important locations for foraging kittiwake may have an impact on the colony through collision mortality. Natural England has advised regulators that the predicted in-combination collision mortality from consented or proposed offshore windfarms could adversely affect the integrity of the SPA.</i></p> <p><i>The target has been set using expert judgement based on knowledge of the sensitivity of the feature to activities that are occurring / have occurred on the site."</i></p>
Disturbance caused by human activity	Restrict the frequency, duration and / or intensity of disturbance affecting roosting, nesting, foraging, feeding, moulting and/or loafing birds so that they are not significantly disturbed	<p><i>"Kittiwake can be disturbed by a number of human activities close to their nesting site. This includes, but is not limited to: human presence, fast moving motorised watercraft, non-powered craft in close proximity to the nesting site, low-flying aircraft and noise/vibration from construction works. Disturbance which creates a flight response in the adult birds may reduce the energy levels of the bird and, therefore, limit foraging ability. Additionally, adult birds who are disturbed from the nest may leave eggs/chicks vulnerable to predation and adverse weather conditions. Later in the breeding season there is also a risk to flightless chicks on the water; they are unable to avoid direct or indirect conflict with fast-moving watercraft which can result in collision or injury/death from boat wakes.</i></p> <p><i>This species may be vulnerable to impacts of habitat loss, displacement and collision from offshore activities.</i></p> <p><i>The target has been set using expert judgement based on knowledge of the</i></p>

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Attribute	Target	Supporting notes (Natural England, 2023b)
		<i>sensitivity of the feature to activities that are occurring / have occurred on the site.</i>
Predation - all habitats	Restrict predation and disturbance caused by native and non-native predators	<p><i>“Predation of juvenile and adult birds by carrion crow (Corvus corone) and peregrine falcons (Falco peregrinus) is known to occur, particularly around Filey Brigg and the Briel Newk section of Flamborough Head. However it is not thought to be significantly affecting the population size or productivity of the kittiwake feature.</i></p> <p><i>Due to the nature of the sheer cliffs, mammalian predation is not deemed to be a significant problem at this site.</i></p> <p><i>The target has been set using expert judgement based on knowledge of the sensitivity of the feature to activities that are occurring / have occurred on the site.”</i></p>
Productivity	Maintain or recover productivity so that breeding success is maximised within the constraints of the site.	Not available
Structure: pathogens	Restrict or reduce the introduction and spread of pathogens, including Highly Pathogenic Avian Influenza, and their impacts.	Not available
Supporting habitat: air quality	Maintain concentrations and deposition of air pollutants at below the site-relevant Critical Load or Level values given for this feature of the site on the Air Pollution Information System.	<p><i>“The Air Pollution Information System (APIS) records this feature's supporting habitat as not sensitive to the following pollutants:</i></p> <ul style="list-style-type: none"> <i>• Nitrogen deposition</i> <i>• Acidity</i> <i>• Ammonia</i> <i>• Mono-nitrogen oxides</i> <i>• Sulphur Oxides</i> <p><i>The target has been set using expert judgement based on knowledge of the sensitivity of the feature to activities that are occurring / have occurred on the site.”</i></p>
Supporting habitat: conservation measures	Restore the structure, function and supporting processes associated with the feature and its supporting habitat through management or other measures (whether within and/or outside the site boundary as appropriate) and ensure these measures are not being undermined or compromised.	<p><i>“Understanding of factors driving kittiwake decline since the population peaked in 1987 is limited and still evolving so it is unclear what measures are needed in the marine environment. It is possible wider ecological issues are a major factor, such as those linked to the abundance of prey species.</i></p> <p><i>Individual civil sanctions, in the form of stop-notices, have been issued within the SPA in order to reduce disturbance caused by personal watercraft use.</i></p> <p><i>Other voluntary measures are also in place around the site, and are facilitated by the Flamborough Head European Marine Site Management Scheme. In an effort to reduce the impact of recreational activities on the breeding seabird colony, a number of</i></p>

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Attribute	Target	Supporting notes (Natural England, 2023b)
		<p><i>activity-specific voluntary codes of conduct have been initiated or are in development.</i></p> <p><i>Additional information regarding the above conservation measures can be found in the Natura 2000 Site Improvement Plan (SIP) for the SPA: Natura 2000 Site Improvement Plan.</i></p> <p><i>The target has been set using expert judgement based on knowledge of the sensitivity of the feature to activities that are occurring / have occurred on the site.”</i></p>
<p>Supporting habitat: extent, distribution and availability of supporting habitat for the breeding season</p>	<p>Maintain the extent, distribution and availability of suitable breeding habitat which supports the feature for all necessary stages of its breeding cycle (courtship, nesting, feeding) at existing level.</p>	<p><i>“The kittiwake colony is reliant on the numerous chalk and limestone ledges which exist around Flamborough Head and Filey Brigg, respectively. The sheer nature of the cliff face ensures that the risk of mammalian predation is minimised, allowing the kittiwake to build their nest in relative security. Further information about the hard chalk cliffs around Flamborough Head can be found in the vegetated sea cliffs feature description for Flamborough Head Special Area for Conservation.</i></p> <p><i>Additionally, the kittiwake colony is reliant on the water column to provide feeding and loafing areas. The SPA extends 2 km into the marine environment to include waters vital to the essential ecological requirements of the breeding seabird populations, for example preening, bathing and social displaying behaviour (Natural England, 2014). However, kittiwakes are also reliant on the offshore environment for feeding and have been recorded travelling long distances offshore to forage. See the Connectivity with Supporting Habitats and Supporting Habitat: Food Availability attributes for more information.</i></p> <p><i>The target has been set using expert judgement based on knowledge of the sensitivity of the feature to activities that are occurring / have occurred on the site.”</i></p>
<p>Supporting habitat: food availability (bird)</p>	<p>Restore the distribution, abundance and availability of key food and prey items (eg. Sandeel, sprat, cod, squid, shrimps) at preferred sizes.</p>	<p><i>“Kittiwake feed mainly on small shoaling fish near the sea surface, such as sandeels, sprats and young herring, as well as invertebrates on the sea surface (Mitchell et al., 2004). At the start of the breeding season, kittiwake prefer to feed on year-one sandeels, before switching to the smaller year-zero sandeels in order to feed their young (Frederiksen et al., 2007). Scavenging for offal and discards around fishing boats can also be an important food source in years when their preferred prey species are less abundant (Mitchell et al., 2004).</i></p>

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Attribute	Target	Supporting notes (Natural England, 2023b)
		<p><i>Unlike guillemot and razorbill, kittiwake consume prey at sea and regurgitate it for their young once returned to the nest (Frederiksen et al., 2007). If sufficient amounts of prey are available, multiple provisioning trips may be completed in a single day (Frederiksen et al., 2007).</i></p> <p><i>Evidence for the wider North Sea indicates that availability of sandeels is likely to be a factor in kittiwake decline. (Frederiksen et al., 2004) (Wanless et al., 2007). Recent evidence suggests that the decline in sandeel in the area around Flamborough may be attributable to fishing activity. It is also acknowledged that sea surface temperature rise (related to climate change) may be an additional factor in the reduction of sandeel availability (Carroll et al., 2017).</i></p> <p><i>The target has been set using expert judgement based on knowledge of the sensitivity of the feature to activities that are occurring / have occurred on the site.”</i></p>
<p>Supporting habitat: water quality - contaminants</p>	<p>Reduce aqueous contaminants to levels equating to High Status according to Annex VIII and Good Status according to Annex X of the Water Framework Directive, avoiding deterioration from existing levels. This target was set using the Environmental Agency 2019 water body classifications data.</p>	<p><i>“This target has been set according to Water Framework Directive (WFD) chemical status of overlapping water bodies. Yorkshire North and Yorkshire South WFD water bodies together overlap >85% of this SPA. These water bodies failed WFD chemical status in the 2019 classification due to elevated levels of benzo(g-h-i)perylene, tributyltin and its compounds, and measured/assumed elevated levels of polybrominated diphenyl ether (PBDE) and mercury and its compounds. PBDE and mercury are persistent, bioaccumulative and toxic substances, which present risks to wildlife. In 2013, the EU Priority Substances Directive specified biota (concentrations in whole fish) Environmental Quality Standards (EQS) for these substances rather than water column EQSs, to better represent risks to wildlife. Sampling has only occurred in a subset of water bodies, but in all instances, these chemicals were found at levels above the EQSs, and therefore in the absence of additional data, the classification has been extrapolated across non-monitored waterbodies. These new standards have been used in the 2019 WFD classification for the first time, and therefore show failures where a water body may previously have been classified as good chemical status. This does not represent a decline in water quality, but rather, a result of the new, more stringent standards. The target has been set at ‘reduce’ due to the high levels of benzo(g-h-i) perylene, tributyltin and its compounds, polybrominated diphenyl ether (PBDE) and mercury and its compounds present.</i></p>

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Attribute	Target	Supporting notes (Natural England, 2023b)
		<p><i>There is evidence from survey or monitoring that shows this attribute of the feature to be in a poor condition and/or currently impacted by anthropogenic activities.”</i></p>
<p>Supporting habitat: water quality - dissolved oxygen</p>	<p>Maintain the dissolved oxygen (DO) concentration at levels equating to High Ecological Status (specifically ≥ 5.7 mg L⁻¹ (at 35 salinity) for 95 % of year) avoiding deterioration from existing levels. This target was set using the Environmental Agency 2019 water body classifications data.</p>	<p><i>“Flamborough and Filey Coast SPA sits within two WFD water bodies; Yorkshire North and Yorkshire South. Since 2009 the dissolved oxygen levels within the SPA have been classified as achieving High Ecological Status.</i></p> <p><i>There is evidence from survey or monitoring that shows the feature to be in a good condition and/or currently un-impacted by anthropogenic activities.”</i></p>
<p>Supporting habitat: water quality - nutrients</p>	<p>Maintain water quality at mean winter dissolved inorganic nitrogen levels where biological indicators of eutrophication (opportunistic macroalgal and phytoplankton blooms) do not affect the integrity of the site and features, avoiding deterioration from existing levels. This target was set using the Environmental Agency 2019 water body classifications data.</p>	<p><i>“The risk of eutrophication across the site has been assessed as low using the Environment Agency’s Weight of Evidence approach. This takes into account assessments of the Water Framework Directive opportunistic macroalgae and phytoplankton quality elements using the respective assessment tools. Adverse effects to integrity should be avoided. Therefore opportunistic macroalgal levels should be maintained so there is no adverse effect to the feature through limited algal cover (<15%) and low biomass (< 500 g m²) of macroalgal blooms in the available intertidal habitat, with area of available intertidal habitat affected by opportunistic macroalgae less than 15 %. There should also be limited (<5%) entrainment of algae in the underlying sediment (all accounting for seasonal variations and fluctuations in growth). Phytoplankton levels should be maintained above a WFD assessment tool score of 0.6, where there is only a minor (a) decline in species richness, and (b) disturbance to the diatom-dinoflagellate succession in the spring bloom compared to reference conditions.</i></p> <p><i>There is evidence from survey or monitoring that shows the feature to be in a good condition and/or currently un-impacted by anthropogenic activities.”</i></p>
<p>Supporting habitat: water quality - turbidity</p>	<p>Maintain natural levels of turbidity (e.g. concentrations of suspended sediment, plankton and other material) across the habitat.</p>	<p><i>“Due to the tidal streams and complex sediment movement around Flamborough Head, there can be varying degrees of turbidity throughout the year (CEFAS, 2000). The combination of strong tides, wave action and chalk make the shallow waters around the headland especially turbid (Howson et al., 2002).</i></p> <p><i>The target has been set using expert judgement based on knowledge of the sensitivity of the feature to activities that are occurring / have occurred on the site.”</i></p>

Features in unfavourable condition

1.2.13.3 The condition of the features at this SPA have not been assessed by the SNCB to determine feature condition.

1.2.14 Skomer, Skokholm and the Seas off Pembrokeshire SPA

Conservation Objectives

1.2.14.1 The conservation objectives for the Skomer, Skokholm and the Seas off Pembrokeshire SPA are specified for each feature (Appendix P; Countryside Council for Wales, 2008).

1.2.14.2 The conservation objectives for the seabird breeding assemblage feature is for it to be in a favourable conservation status, where all of the following conditions are satisfied (Countryside Council for Wales, 2008):

- Each of the component species of the seabird assemblage will be in favourable condition for the assemblage as a whole to achieve Favourable Condition
- During the breeding season the SPA will regularly support at least 67,000 individual seabirds of the following species, most of which also qualify independently as SPA features:
 - Razorbill
 - Guillemot
 - Kittiwake
 - Puffin
 - Lesser black-backed gull
 - Manx shearwater
 - Storm petrel.

1.2.14.3 The conservation objectives for the lesser black-backed gull feature is for it to be in a favourable conservation status, where all of the following conditions are satisfied (Countryside Council for Wales, 2008):

- During the breeding season the population of lesser black-backed gull will be at least 20,300 pairs within the SPA. This represents around 16.4% of the current breeding Western European/Mediterranean/western African population
- Breeding success will be at least 0.4 chicks/pair
- Sufficient suitable nesting sites will be present to support at least the current populations
- The factors affecting the feature are under control.

1.2.14.4 Relevant supplementary advice for the lesser black-backed gull feature of the Skomer, Skokholm and the Seas off Pembrokeshire SPA is provided in Table 1.18

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Table 1.18: Relevant supplementary advice for the lesser black-backed gull feature of the Skomer, Skokholm and the Seas off Pembrokeshire SPA (Countryside Council for Wales, 2008b).

Attribute	Target	Supporting notes (Countryside Council for Wales, 2008)
Population size	Upper limit: None set Lower limit: During the breeding season the population of lesser black-backed gull should be at least 20,300 pairs within the SPA	<i>Based on SPA review site account.</i>
Adult survival rate	Upper limit: None set Lower limit: Adult survival rates should be at least 80%	<i>Based on performance indicators and targets as set out in Skomer Island SSSI management plan and Skokholm Island management statement.</i>
Breeding productivity	Upper limit: None set Lower limit Breeding success rate should be at least 0.4 chicks per pair”	<i>Based on performance indicators and targets as set out in Skomer Island SSSI management plan and Skokholm Island management statement.</i>
Availability of nest sites		<i>Current distribution records are being followed up, will be digitised and specified limits will follow as appropriate.</i>
Disturbance	Upper limit: there will be no unauthorised access away from the footpaths. Lower limit: None set	<i>Based on performance indicators and targets as set out in Skomer Island SSSI management plan and Skokholm Island management statement.</i>
Predators	Upper limit: There should be no mammalian land predators present in the SPA Lower limit: None set	<i>Based on performance indicators and targets as set out in Skomer Island SSSI management plan and Skokholm Island management statement.</i>
Nest siting & distribution on heathland	Upper limit: None set Lower limit: the distribution of breeding gulls will be allowed to develop, but there should be no lesser black-backed gulls successfully nesting in or within 2m of any of the heather enclosures.	<i>Based on performance indicators as set out in Skomer Island SSSI management plan.</i>
Food availability	Not available	Sufficient preferred fish species will need to be available to maintain breeding populations. Management of this factor needs to be undertaken at national/international level therefore limits have not been set.
Oil spill Contingency plans are in place in West	Not available	Contingency plans are in place in West Wales area to ensure that response to any spill will take these species into account.

1.2.14.5 The conservation objectives for the Manx shearwater feature is for it to be in a favourable conservation status, where all of the following conditions are satisfied (Countryside Council for Wales, 2008):

- During the breeding season the population of Manx shearwater will be at least 150,000 pairs

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- within the SPA (this represents around half of the current breeding population)
- Breeding success will be at least 0.5 chicks per egg laid
- The factors affecting the feature are under control.

1.2.14.6 Relevant supplementary advice for the Manx shearwater feature of the Skomer, Skokholm and the Seas off Pembrokeshire SPA is provided in Table 1.19.

Table 1.19: Relevant supplementary advice for the Manx shearwater feature of the Skomer, Skokholm and the Seas off Pembrokeshire SPA (Countryside Council for Wales, 2008).

Attribute	Target	Supporting notes (Countryside Council for Wales, 2008b)
Population size	Upper limit: None set Lower limit: During the breeding season the population of Manx shearwater should be at least 150,000 pairs within the SPA	<i>Based on SPA review site account.</i>
Adult survival rate	Upper limit: None set Lower limit: Adult survival rates should be at least 85%	<i>Based on performance indicators and targets as set out in Skomer Island SSSI management plan and Skokholm Island management statement (Seabird Monitoring programme data).</i>
Breeding productivity	Upper limit: None set Lower limit: The annual breeding success in 3 of any 5 consecutive years is 0.5 per egg laid	<i>Based on performance indicators and targets as set out in Skomer Island SSSI management plan and Skokholm Island management statement.</i>
Contingency plans are in place in West Wales area to ensure that response to any spill will take these species into account.	Upper limit: there will be no unauthorised access away from the footpaths Lower limit: None set	<i>Based on performance indicators and targets as set out in Skomer Island SSSI management plan and Skokholm Island management statement.</i>
Predators	Upper limit: There should be no mammalian land predators present in the SPA Lower limit: None set	<i>Based on performance indicators and targets as set out in Skomer Island SSSI management plan and Skokholm Island management statement.</i>
Soil erosion	Upper limit: Skomer only: Soil erosion should not exceed 0.5 cm/year (See SSSI management plan for details) Lower limit: None set	<i>Based on performance indicators as set out in Skomer Island SSSI management plan. Targets apply only to Skomer Island. Since natural soil erosion is not something that can be controlled, this target relates to anthropogenic soil erosion (e.g. around footpaths etc).</i>
Bracken distribution	Upper limit: Skomer only: Coastal bracken distribution will not exceed that in Bray 1981. (See SSSI management plan for details) Lower limit: None set	<i>Based on performance indicators as set out in Skomer Island SSSI management plan. Targets apply only to Skomer Island.</i>
Food availability	Not available	<i>Sufficient preferred fish species will need to be available to maintain breeding populations. Management of this factor needs to be undertaken at</i>

Attribute	Target	Supporting notes (Countryside Council for Wales, 2008b)
Oil Spill	Not available	<p><i>national/international level therefore limits have not been set.</i></p> <p><i>Contingency plans are in place in West Wales area to ensure that response to any spill will take these species into account.</i></p>

Features in unfavourable condition

1.2.14.7 Of the features included in the assessments presented in HRA Stage 2 information to support an appropriate assessment Part Three: Special Protection Areas and Ramsar Site assessments (APP-098) the following are considered to be in unfavourable condition:

- Lesser black-backed gull
- Breeding seabird assemblage.

1.2.15 North Colonsay and Western Cliffs SPA

Conservation Objectives

1.2.15.1 The conservation objectives of the North Colonsay and Western Cliffs SPA are (Appendix Q; NatureScot, 2022a):

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

Features in unfavourable condition

1.2.15.2 Of the features included in the assessments presented in HRA Stage 2 information to support an appropriate assessment Part Three: Special Protection Areas and Ramsar Site assessments (APP-098) the following are considered to be in unfavourable condition:

- Kittiwake.

1.2.16 Grassholm SPA

Conservation Objectives

- 1.2.16.1 The conservation objectives of the Grassholm SPA are (Appendix R; Countryside Council for Wales, 2008c):
- Favourable conservation status defined in Articles 1(e) and 1(i) of the Habitats Directive. The conservation status of a species is the sum of the influences acting on the species that may affect the long-term distribution and abundance of its populations. The conservation status will be taken as ‘favourable’ when:
 - Population dynamics data on the species indicate that it is maintaining itself on a long-term basis as a viable component of its natural habitats
 - The natural range of the species is neither being reduced nor is likely to be reduced for the foreseeable future
 - There is, and will probably continue to be, a sufficiently large habitat to maintain its populations on a long-term basis.
- 1.2.16.2 The conservation objectives of the gannet feature is for it to be in a favourable conservation status, where all of the following conditions are satisfied:
- The population will not fall below 30,000 pairs in three consecutive years
 - It will not drop by more than 25% of the previous year’s figures in any one year
 - There will be no decline in this population significantly greater than any decline in the North Atlantic population as a whole.
- 1.2.16.3 Relevant supplementary advice for the gannet feature of the Grassholm SPA is provided in Table 1.20.

Table 1.20: Relevant supplementary advice for the gannet feature of the Grassholm SPA (Countryside Council for Wales, 2008c).

Attribute	Target	Supporting notes (Countryside Council for Wales, 2008c)
Number of pairs	Upper limit: Not set Lower limit: 30,000	<i>Lower limit is based on current extent</i>
Measurable change	Upper limit: Not required Lower limit: decline of 25% on previous year	<i>None</i>

Features in unfavourable condition

- 1.2.16.4 None of the features considered in HRA Stage 2 information to support an appropriate assessment Part Three: Special Protection Areas and Ramsar Site assessments (APP-098) are considered to be in unfavourable condition (they are assessed as being in favourable condition).

1.2.17 Saltee Islands SPA

Conservation Objectives

- 1.2.17.1 The overall site-specific conservation objective is to define a favourable conservation condition for the habitat and species at the site (Appendix S; NPWS, 2011).
- 1.2.17.2 The favourable conservation status of a species is achieved when:
- Population dynamics data on the species concerned indicate that it is maintaining itself on a long- term basis as a viable component of its natural habitats
 - The natural range of the species is neither being reduced nor is likely to be reduced for the foreseeable future
 - There is, and will probably continue to be, a sufficiently large habitat to maintain its populations on a long-term basis.
- 1.2.17.3 To maintain the favourable conservation condition of gannet in the Saltee Islands SPA, which is defined by the attributes and targets set out in Table 1.21 (NPWS, 2011).

Table 1.21: Relevant supplementary advice for the gannet feature of the Saltee Islands SPA (NPWS, 2011).

Attribute	Target	Supporting notes (NPWS, 2011)
Breeding population: abundance	No significant decline	<i>“Measure based on standard survey methods (see Walsh et al., 1995). Mitchell et al. (2004) provides summary population information. The Seabird Monitoring Programme (SMP) online database (JNCC, 2011) provides population data for this species.”</i>
Productivity rate	No significant decline	<i>“Measure based on standard survey methods (see Walsh et al., 1995). The Seabird Monitoring Programme (SMP) online database (JNCC, 2011) provides population data for this species.”</i>
Distribution: breeding colonies	No significant decline	<i>“Gannetries are conspicuous with high densities of nests built with seaweed, other vegetation and earth stuck together with excreta.”</i>
Prey biomass available	No significant decline	<i>“Key prey items: surface schooling fish, fisheries waste; discards important for some colonies and/or in some seasons. Key habitats: Deep-water depressions, tidal mixing fronts, shelf breaks, sandbanks, inshore and coastal waters. Foraging range: max. 640km, mean max. 308.36km, mean 140.09km (BirdLife International Seabird Database (Birdlife International, 2011)).”</i>
Barriers to connectivity	No significant increase	<i>“Seabird species can make extensive use of the marine waters adjacent to their breeding colonies for non site-specific behaviours (e.g. courtship, bathing, preening). Work carried out in the UK found that highest densities of gannet performing these behaviours occurred within 2km of the breeding colony (Reid and Webb, 2005). Foraging range: max. 640km, mean max.</i>

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Attribute	Target	Supporting notes (NPWS, 2011)
		308.36km, mean 140.09km (BirdLife International Seabird Database (Birdlife International, 2011)).”
Disturbance at the breeding site	No significant increase	“Gannetries are conspicuous with high densities of nests built with seaweed, other vegetation and earth stuck together with excreta. Often 'clubs' of immature and adult plumage non-breeders are discrete from the breeding birds.”
Disturbance at marine areas immediately adjacent to the colony	No significant increase	“Seabird species can make extensive use of the marine waters adjacent to their breeding colonies for non site-specific behaviours (e.g. courtship, bathing, preening). Work carried out in the UK found that highest densities of gannet performing these behaviours occurred within 2km of the breeding colony (Reid and Webb, 2005).”

1.2.17.4 To maintain the favourable conservation condition of kittiwake in the Saltee Islands SPA, which is defined by the list of attributes and targets set out in Table 1.22 (NPWS, 2011).

Table 1.22: Relevant supplementary advice for the kittiwake feature of the Saltee Islands SPA (NPWS, 2011).

Attribute	Target	Supporting notes (NPWS, 2011)
Breeding population: abundance	No significant decline	“Measure based on standard survey methods (see Walsh et al., 1995). Mitchell et al. (2004) provides summary population information. The Seabird Monitoring Programme (SMP) online database (JNCC, 2011) provides population data for this species.”
Productivity rate	No significant decline	“Measure based on standard survey methods (see Walsh et al., 1995). The Seabird Monitoring Programme (SMP) online database (JNCC, 2011) provides population data for this species.”
Distribution: breeding colonies	No significant decline	“In general, kittiwake colonies are found on vertical rocky sea cliffs.”
Prey biomass available	No significant decline	“Key prey items: small pelagic shoaling fish, marine invertebrates. Key habitats: fronts, tidal upwellings and eddies, offshore sandbanks, areas over rocky seabed. Foraging range: max. 200km, mean max. 65.81km, mean 25.45km (BirdLife International Seabird Database (Birdlife International, 2011)).”
Barriers to connectivity	No significant increase	“Foraging range: max. 200km, mean max. 65.81km, mean 25.45km (BirdLife International Seabird Database (Birdlife International, 2011)).”

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Attribute	Target	Supporting notes (NPWS, 2011)
Disturbance at the breeding site	No significant increase	<i>"In general, kittiwake colonies are found on vertical rocky sea cliffs."</i>

1.2.17.5 To maintain the favourable conservation condition of guillemot in the Saltee Islands SPA, which is defined by the list of attributes and targets set out in Table 1.23 (NPWS, 2011).

Table 1.23: Relevant supplementary advice for the guillemot feature of the Saltee Islands SPA (NPWS, 2011).

Attribute	Target	Supporting notes (NPWS, 2011)
Breeding population: abundance (individual adults)	No significant decline	<i>"Measure based on standard survey methods (see Walsh et al., 1995). Mitchell et al. (2004) provides summary population information. The Seabird Monitoring Programme (SMP) online database (JNCC, 2011) provides population data for this species."</i>
Productivity rate	No significant decline	<i>"Measure based on standard survey methods (see Walsh et al., 1995). The Seabird Monitoring Programme (SMP) online database (JNCC, 2011) provides population data for this species."</i>
Distribution: breeding colonies	No significant decline	<i>"In general, guillemot colonies are found on vertical rocky sea cliffs and sea stacks."</i>
Prey biomass available	No significant decline	<i>"Key prey items: schooling pelagic fish, crustaceans. Key habitats: fronts and other ocean features that concentrate prey, offshore sandbanks, areas of sandy sediment. Foraging range: max. 200km, mean max. 60.61km, mean 24.49km (BirdLife International Seabird Database (Birdlife International, 2011))."</i>
Barriers to connectivity	No significant increase	<i>"Seabird species can make extensive use of the marine waters adjacent to their breeding colonies for non site-specific behaviours (e.g. courtship, bathing, preening). Work carried out in the UK found that highest densities of guillemot performing these behaviours occurred within 1km of the breeding colony (Reid and Webb, 2005). Foraging range: max. 200km, mean max. 60.61km, mean 24.49km (BirdLife International Seabird Database (Birdlife International, 2011))."</i>
Disturbance at the breeding site	No significant increase	<i>"In general, guillemot colonies are found on vertical rocky sea cliffs and sea stacks."</i>
Disturbance at marine areas immediately adjacent to the colony	No significant increase	<i>"Seabird species can make extensive use of the marine waters adjacent to their breeding colonies for non site-specific behaviours (e.g. courtship, bathing, preening). Work carried out in the UK found that highest densities of guillemot performing these behaviours occurred within 1km of the breeding colony (Reid and Webb, 2005). Foraging range: max. 200km, mean max. 60.61km, mean 24.49km (BirdLife International Seabird Database (Birdlife International, 2011))."</i>

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Attribute	Target	Supporting notes (NPWS, 2011)
		<i>behaviours occurred within 1km of the breeding colony (Reid and Webb, 2005)."</i>

1.2.17.6 To maintain the favourable conservation condition of razorbill in the Saltee Islands SPA, which is defined by the list of attributes and targets set out in Table 1.24 (NPWS, 2011).

Table 1.24: Relevant supplementary advice for the razorbill feature of the Saltee Islands SPA (NPWS, 2011).

Attribute	Target	Supporting notes (NPWS, 2011)
Breeding population: abundance (individual adults)	No significant decline	<i>"Measure based on standard survey methods (see Walsh et al., 1995). Mitchell et al. (2004) provides summary population information. The Seabird Monitoring Programme (SMP) online database (JNCC, 2011) provides population data for this species."</i>
Productivity rate	No significant decline	<i>"Measure based on standard survey methods (see Walsh et al., 1995). The Seabird Monitoring Programme (SMP) online database (JNCC, 2011) provides population data for this species."</i>
Distribution: breeding colonies	No significant decline	<i>"Razorbill breed mainly on small ledges or in cracks of rocky cliffs and in associated screes, and on boulder fields (Mitchell et al., 2004)."</i>
Prey biomass available	No significant decline	<i>"Key prey items: Sandeels (Ammodytes spp.), clupeids. Key habitats: shallow waters, sandy seabeds, upwelling areas and tidal fronts. Foraging range: max. 51km, mean max. 31km, mean 10.27km (BirdLife International Seabird Database (Birdlife International, 2011))."</i>
Barriers to connectivity	No significant increase	<i>"Seabird species can make extensive use of the marine waters adjacent to their breeding colonies for non site-specific behaviours (e.g. courtship, bathing, preening). Work carried out in the UK found that highest densities of razorbill performing these behaviours occurred within 1km of the breeding colony (Reid and Webb, 2005). Foraging range: max. 51km, mean max. 31km, mean 10.27km (BirdLife International Seabird Database (Birdlife International, 2011))."</i>
Disturbance at the breeding site	No significant increase	<i>"Razorbill breed mainly on small ledges or in cracks of rocky cliffs and in associated screes, and on boulder fields (Mitchell et al., 2004)."</i>
Disturbance at marine areas immediately adjacent to the colony	No significant increase	<i>"Seabird species can make extensive use of the marine waters adjacent to their breeding colonies for non site-specific behaviours (e.g. courtship, bathing, preening). Work</i>

Attribute	Target	Supporting notes (NPWS, 2011)
		<i>carried out in the UK found that highest densities of razorbill performing these behaviours occurred within 1km of the breeding colony (Reid and Webb, 2005)."</i>

Features in unfavourable condition

1.2.17.7 None of the features considered in HRA Stage 2 information to support an appropriate assessment Part Three: Special Protection Areas and Ramsar Site assessments (APP-098) are considered to be in unfavourable condition (they are assessed as being in favourable condition).

1.2.18 Rum SPA

Conservation Objectives

1.2.18.1 Rum SPA has the following draft conservation objectives (Appendix T; NatureScot, 2021a):

- To ensure that the qualifying features of Rum SPA are in favourable condition and make an appropriate contribution to achieving Favourable Conservation Status
- To ensure that the integrity of Rum SPA is restored in the context of environmental changes by meeting the following objectives for each qualifying feature:
 - The populations of the qualifying features are viable components of Rum SPA
 - The distributions of the qualifying features throughout the site are maintained by avoiding significant disturbance of the species
 - The supporting habitats and processes relevant to qualifying features and their prey/food resources are maintained, or where appropriate, restored at Rum SPA.

Features in unfavourable condition

1.2.18.2 None of the features considered in HRA Stage 2 information to support an appropriate assessment Part Three: Special Protection Areas and Ramsar Site assessments (APP-098) are considered to be in unfavourable condition (they are assessed as being in favourable condition).

1.2.19 Mingulay and Berneray SPA

Conservation Objectives

1.2.19.1 The conservation objectives of the Mingulay and Berneray SPA are to (Appendix U; NatureScot, 2022b):

- To avoid deterioration of the habitats of the qualifying species (listed below) or significant disturbance to the qualifying species, thus ensuring that the integrity of the site is maintained

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- To ensure for the qualifying species that the following are maintained in the long term:
 - Population of the species as a viable component of the site
 - Distribution of the species within site
 - Distribution and extent of habitats supporting the species
 - Structure, function and supporting processes of habitats supporting the species
 - No significant disturbance of the species.

Features in unfavourable condition

1.2.19.2 None of the features considered in HRA Stage 2 information to support an appropriate assessment Part Three: Special Protection Areas and Ramsar Site assessments (APP-098) are considered to be in unfavourable condition (they are assessed as being in favourable condition).

1.2.20 Buchan Ness to Collieston Coast SPA

Conservation Objectives

1.2.20.1 The conservation objectives of Buchan Ness to Collieston Coast SPA are (Appendix V; NatureScot, 2015b):

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

Features in unfavourable condition

1.2.20.2 Of the features included in the assessments presented in HRA Stage 2 information to support an appropriate assessment Part Three: Special Protection Areas and Ramsar Site assessments (APP-098) the following are considered to be in unfavourable condition:

- Kittiwake.

1.2.21 Troup, Pennan and Lion's Head SPA

Conservation Objectives

1.2.21.1 The conservation objectives of Troup, Pennan and Lion's Head SPA are (Appendix W; NatureScot, 2019):

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

Features in unfavourable condition

1.2.21.2 Of the features included in the assessments presented in HRA Stage 2 information to support an appropriate assessment Part Three: Special Protection Areas and Ramsar Site assessments (APP-098) the following are considered to be in unfavourable condition:

- Kittiwake
- Breeding seabird assemblage.

1.2.22 The Shiant Isles SPA

Conservation Objectives

1.2.22.1 The conservation objectives of the Shiant Isles SPA are (Appendix X; NatureScot, 2015c):

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

Features in unfavourable condition

1.2.22.2 Of the features included in the assessments presented in HRA Stage 2 information to support an appropriate assessment Part Three: Special Protection Areas and Ramsar Site assessments (APP-098) the following are considered to be in unfavourable condition:

- Breeding seabird assemblage.

1.2.23 East Caithness Cliffs SPA

Conservation Objectives

- 1.2.23.1 The conservation objectives of the East Caithness Cliffs SPA are (Appendix Y; NatureScot, 2018b):
- To avoid deterioration of the habitats of the qualifying species (listed below) or significant disturbance to the qualifying species, thus ensuring that the integrity of the site is maintained
 - To ensure for the qualifying species that the following are maintained in the long term:
 - Population of the species as a viable component of the site
 - Distribution of the species within site
 - Distribution and extent of habitats supporting the species
 - Structure, function and supporting processes of habitats supporting the species
 - No significant disturbance of the species.

Features in unfavourable condition

- 1.2.23.2 None of the features considered in HRA Stage 2 information to support an appropriate assessment Part Three: Special Protection Areas and Ramsar Site assessments (APP-098) are considered to be in unfavourable condition.

1.2.24 Isles of Scilly SPA

Conservation objectives

- 1.2.24.1 The conservation objectives for the Isles of Scilly SPA are (Natural England, 2023c) to:
- Ensure that the integrity of the site is maintained or restored as appropriate, and ensure that the site contributes to achieving the aims of the Wild Birds Directive, by maintaining or restoring:
 - The extent and distribution of the habitats of the qualifying features
 - The structure and function of the habitats of the qualifying features
 - The supporting processes on which the habitats of the qualifying features rely
 - The population of each of the qualifying features
 - The distribution of the qualifying features within the site.
- 1.2.24.2 Supplementary advice in relation certain attributes of the great black-backed gull population at the SPA is provided by Natural England (2023c). Those relevant to the assessments required in the ISAA are summarised in Table 1.25.
- 1.2.24.3 Relevant supplementary advice for the lesser black-backed gull feature of the Isles of Scilly SPA is provided in Table 1.26.

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Table 1.25: Relevant supplementary advice for the great black-backed gull feature of the Isles of Scilly SPA (Natural England, 2023c).

Attribute	Target	Supporting notes (Natural England, 2023b)
Breeding population: abundance	Maintain the size of the breeding population at a level which is above 941 (Apparently Occupied Nests, equivalent to pairs), whilst avoiding deterioration from its current level as indicated by the latest mean peak count or equivalent.	<p><i>“Great black-backed gulls <i>Larus marinus</i> breed on 45 separate islands (Heaney and St. Pierre, 2017), the main colony being in the Eastern Isles island group. All-island surveys in 2015 and 2016 returned a total of 984 breeding pairs, with 941 at sites within the SPA, equating to 0.90% of the biogeographic total of 105,000 pairs (Natural England, 2018).</i></p> <p><i>Great black-backed gull abundance within the Isles of Scilly SPA (Apparently Occupied Nests, equivalent to pairs) (Heaney and St. Pierre, 2017), (Natural England, 2018).</i></p> <p><i>2000 = 743</i></p> <p><i>2006 = 835</i></p> <p><i>2015/16 = 941.</i></p> <p><i>From the first systematic count in 1969, recording 1,200 pairs, the number of Great black-backed gulls nesting in Scilly increased to a peak of 1,583 pairs in 1974 before declining to a low of 808 pairs in 1999. Since then, numbers have been increasing.</i></p> <p><i>Additional seabird monitoring and research reports, including productivity data (Heaney, 2018), (Heaney, 2019), (Heaney, 2020), (Heaney, 2021) can be found in the Technical Reports section of the Isles of Scilly Wildlife Trust Website (Isles of Scilly Wildlife Trust, N/A).</i></p> <p><i>The target has been set using expert judgement based on knowledge of the sensitivity of the feature to activities that are occurring / have occurred on the site.”</i></p>
Connectivity with supporting habitats	Maintain safe passage of birds moving between nesting and feeding areas.	<p><i>“Great black-backed gulls use the Isles of Scilly SPA for foraging during the breeding season, and will regularly travel around the SPA and the 45 occupied breeding islands (Heaney and St. Pierre, 2017), some of which are outside the SPA boundary. Connectivity between feeding, roosting and breeding sites should be maintained.</i></p> <p><i>The target has been set using expert judgement based on knowledge of the sensitivity of the feature to activities that are occurring / have occurred on the site.”</i></p>
Disturbance caused by human activity	Restrict the frequency, duration and/or intensity of disturbance affecting roosting, nesting, foraging, feeding, moulting and/or loafing birds so that they are not significantly disturbed	<p><i>“Tourism is the islands' main source of jobs and income accounting for 80% of employment and 85% of the economy. Annual visitor numbers are currently around 100,000 and are increasing (Islands Partnership, 2018).</i></p> <p><i>The Isles of Scilly Wildlife Trust implement access restrictions either all year round or part of the year on some Trust land to minimise human disturbance in areas important for breeding seabirds and Atlantic grey seals <i>Halichoerus grypus</i> (The Isles of Scilly Wildlife Trust, 2019). This is documented on OS maps and in various seabird leaflets (Heaney and St. Pierre, 2017).</i></p> <p><i>There are a number of WiSe (The UK national training and accreditation scheme for minimising disturbance to marine wildlife) trained and accredited boat/tour operators in Scilly. These are available to view on the wisecollege.org website (WiSeScheme, 2019).</i></p> <p><i>The Site Improvement Plan for the Isles of Scilly Complex identifies public access/disturbance as a priority issue with</i></p>

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Attribute	Target	Supporting notes (Natural England, 2023b)
		<p><i>an action to develop marine codes of conduct and supporting material to manage disturbance effects on seabirds and grey seals (Natural England (NE), 2014).</i></p> <p><i>The current range of initiatives to minimise human disturbance is precautionary, further assessment of recreational impacts is required.</i></p> <p><i>The Isles of Scilly Seabird Conservation Strategy (2018-2023) (Isles of Scilly Wildlife Trust et al., 2018) contains the following visitor management and access objectives to reduce disturbance to seabirds:</i></p> <ul style="list-style-type: none"> • <i>Provide and maintain a network of paths, particularly on the uninhabited islands that direct visitors away from important seabird breeding colonies (zoning), which help to mitigate against any negative impacts an increase in visitor numbers may have on important breeding seabird colonies</i> • <i>Expose physical boundaries and erect signage to highlight important breeding areas and inform the public of what to do/how to behave</i> • <i>Raise awareness and responsibility of dog owners and their behaviour around breeding seabird colonies. Work with key stakeholders of the Destination Management Plan on key messages/issues around 'Dog Friendly Destination'</i> • <i>Monitor distribution of seabird colonies and adjust location of paths if required</i> • <i>Raise awareness and responsibility of local boat owners, hirers, excursion providers and visitors of how to minimise recreational disturbance to breeding seabird colonies</i> <p><i>The target has been set using expert judgement based on knowledge of the sensitivity of the feature to activities that are occurring / have occurred on the site."</i></p>
<p>Predation - all habitats</p>	<p>Reduce predation and disturbance caused by native and non-native predators</p>	<p><i>"The Site Improvement Plan for the Isles of Scilly Complex identifies invasive species (brown rats) as priority issue with action to extend rat eradication to include Bryher, Tresco and St Martins (Natural England (NE), 2014).</i></p> <p><i>Since 1993 there has been an intensive rat eradication and control programme targeted at selected island groups. The threat of new incursions is always present, facilitated by the proximity of inhabited islands with populations of rats. Complete removal of rats in the winter of 2013/14 on St Agnes and Gugh by the Isles of Scilly Seabird Recovery Project (Isles of Scilly Wildlife Trust et al., 2018) has not only protected seabirds breeding on those islands but has also ensured that Annet is much less vulnerable to incursions (Heaney and St. Pierre, 2017).</i></p> <p><i>The Isles of Scilly Seabird Conservation Strategy (2018-2023) (Isles of Scilly Wildlife Trust et al., 2018) contains the following predator management objectives:</i></p> <ul style="list-style-type: none"> • <i>To ensure the Western Rocks, Annet, Norrad Rocks, St Agnes and Gugh and Round Island remain rat-free through having effective biosecurity and monitoring measures in place.</i> • <i>To trial new methods of rat control on other important seabird islands as well as inhabited islands to identify</i>

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Attribute	Target	Supporting notes (Natural England, 2023b)
		<p><i>viable interim measures of control and long term biosecurity methods to protect seabird colonies and rat-free areas</i></p> <ul style="list-style-type: none"> <i>To remove rats from the islands of Bryher, Tresco and St Martin's and associated uninhabited islands including Samson group, St Helen's and Team Group and the Eastern Isles, funding and local support permitting</i> <p><i>At present, other sources of mammalian and avian predation are not thought to exert a population level effect (Heaney and St. Pierre, 2017) but monitoring should ensure changes are detected.</i></p> <p><i>The target has been set to reduce due to known threats and impacts of mammalian predation."</i></p>
Productivity	Maintain or recover productivity so that breeding success is maximised within the constraints of the site.	Not available.
Structure: pathogens	Restrict or reduce the introduction and spread of pathogens, including Highly Pathogenic Avian Influenza, and their impacts.	Not available.
Supporting habitat: air quality	Maintain concentrations and deposition of air pollutants to below the site-relevant Critical Load or Level values given for this feature of the site on the Air Pollution Information System	<p><i>"The target has been set using expert judgement based on knowledge of the sensitivity of the feature to activities that are occurring / have occurred on the site."</i></p>
Supporting habitat: conservation measures	Maintain the structure, function and supporting processes associated with the feature and its supporting habitat through management or other measures (whether within and/or outside the site boundary as appropriate) and ensure these measures are not being undermined or compromised.	<p><i>"The Isles of Scilly Wildlife Trust implement access restrictions either all year round or part of the year on some Trust land to minimise human disturbance in areas important for breeding seabirds and Atlantic grey seals halichoerus grypus (The Isles of Scilly Wildlife Trust, 2019).</i></p> <p><i>There are a number of WiSe (The UK national training and accreditation scheme for minimising disturbance to marine wildlife) trained and accredited boat/tour operators in Scilly. These are available to view on the wisescheme.org website (WiSeScheme, 2019).</i></p> <p><i>To support a strategic approach to seabird management in the Isles of Scilly the organisations involved in seabird conservation (RSPB, Natural England, Isles of Scilly Wildlife Trust, Isles of Scilly Bird Group and Isles of Scilly IFCA) have produced seabird strategies since 2006. The first Isles of Scilly Seabird Conservation Strategy covered the period 2006-2008 (Lock et al., 2006), this was reviewed and updated between 2009 and 2013 (Lock et al., 2009). The current strategy covers the period 2018-2023 (Isles of Scilly Wildlife Trust et al., 2018) and sets out strategic objectives, key outcomes and a detailed 5 year work programme. It's available to view on the Isles of Scilly Wildlife Trust website (Isles of Scilly Wildlife Trust et al., 2018).</i></p> <p><i>The Site Improvement Plan for the Isles of Scilly Complex identifies invasive species (brown rats) and public access/disturbance as priority issues, affecting seabirds, for action. Actions include an extension of rat eradication to include Bryher, Tresco and St Martins and to develop marine</i></p>

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Attribute	Target	Supporting notes (Natural England, 2023b)
		<p><i>codes of conduct and supporting material to reduce disturbance effects on seabirds and grey seals (Natural England (NE), 2014).</i></p> <p><i>The target has been set using expert judgement based on knowledge of the sensitivity of the feature to activities that are occurring / have occurred on the site."</i></p>
<p>Supporting habitat: extent, distribution and availability of supporting habitat for the breeding season</p>	<p>Maintain the extent, distribution and availability of suitable habitat (either within or outside the site boundary) which supports the feature for all necessary stages of its breeding cycle (courtship, nesting, feeding). Refer to site specific supporting notes for extent details.</p>	<p><i>"This target may apply to supporting habitat which lies outside the site boundary.</i></p> <p><i>Great black-backed gulls Larus marinus have potential to breed and forage in suitable habitat across the total terrestrial area (401ha) of the SPA.</i></p> <p><i>Great black-backed gulls Larus marinus breed on 45 separate islands (Heaney and St. Pierre, 2017), the main colony being in the Eastern Isles island group.</i></p> <p><i>Current GI data held by Natural England maps the extent of the following supporting habitats as:</i></p> <ul style="list-style-type: none"> <i>• Intertidal rock 122.73ha.</i> <i>• Intertidal coarse sediment 73.92ha.</i> <i>• water column.</i> <i>• Vegetated sea cliffs of the Atlantic and Baltic coasts 155.15ha.</i> <i>• Intertidal sand and muddy sand 3.40ha.</i> <i>• Intertidal mixed sediments 0.62ha.</i> <i>• Infralittoral rock 2843.08ha.</i> <i>• Circalittoral rock 3841.47ha.</i> <i>• Intertidal seagrass beds 0.06ha.</i> <p><i>The target has been set using expert judgement based on knowledge of the sensitivity of the feature to activities that are occurring / have occurred on the site."</i></p>
<p>Supporting habitat: food availability (bird)</p>	<p>Maintain the distribution, abundance and availability of key food and prey items (eg. fish, rabbit, seabirds, nestlings, eggs) at preferred sizes.</p>	<p><i>"Further investigation into changes in food availability in Southwest waters and the factors influencing this is required.</i></p> <p><i>The target has been set using expert judgement based on knowledge of the sensitivity of the feature to activities that are occurring / have occurred on the site."</i></p>
<p>Supporting habitat: vegetation characteristics for nesting</p>	<p>Maintain vegetation heights (generally 10 to 30 cm) in areas used for nesting.</p>	<p><i>"Great black-backed gulls Larus marinus are widespread across 45 islands but with larger colonies on Annet, Gweal, Rosevear and the Eastern Isles (Heaney and St. Pierre, 2017). The relationship between vegetation cover and gull settlement and success is complicated with tall vegetation being shown to reduce predation and provide shelter however nesting can be precluded if cover becomes too thick. Dense honeysuckle and woody bramble shoots deny access to adults and chicks are unable to manoeuvre. Additionally, the non-native invasive Pittosporum crassifolium and Coprosma repens are becoming more established (Heaney and St. Pierre, 2017).</i></p> <p><i>The Isles of Scilly Seabird Conservation Strategy (2018-2023) (Isles of Scilly Wildlife Trust et al., 2018) contains habitat management actions to benefit breeding seabirds and specific actions to create potential new settlement areas for great black-backed gulls Larus marinus.</i></p>

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Attribute	Target	Supporting notes (Natural England, 2023b)
Supporting habitat: water quality - contaminants	Reduce aqueous contaminants to levels equating to High Status according to Annex VIII and Good Status according to Annex X of the Water Framework Directive, avoiding deterioration from existing levels. This target was set using the Environmental Agency 2019 water body classifications data.	<p><i>The target has been set using expert judgement based on knowledge of the sensitivity of the feature to activities that are occurring / have occurred on the site.</i></p> <p><i>“This target has been set according to Water Framework Directive (WFD) chemical status of overlapping water bodies. Scilly Isles WFD water body overlaps with 96% of Isles of Scilly SPA boundary. This water body failed WFD chemical status in the 2019 classification due to measured/assumed elevated levels of polybrominated diphenyl ether (PBDE) and mercury and its compounds. These two chemicals are persistent, bioaccumulative and toxic substances, which present risks to wildlife. In 2013, the EU Priority Substances Directive specified biota (concentrations in whole fish) Environmental Quality Standards (EQS) for these substances rather than water column EQSs, to better represent risks to wildlife. Sampling has only occurred in a subset of water bodies, but in all instances, these chemicals were found at levels above the EQSs, and therefore in the absence of additional data, the classification has been extrapolated across non-monitored waterbodies. These new standards have been used in the 2019 WFD classification for the first time, and therefore show failures where a water body may previously have been classified as good chemical status. This does not represent a decline in water quality, but rather, a result of the new, more stringent standards. The target has been set at ‘reduce’ due to the high levels of PBDE and mercury and its compounds present.</i></p> <p><i>The target has been set at ‘reduce’ due to the high levels of PBDE and mercury and its compounds present.</i></p>
Supporting habitat: water quality - dissolved oxygen	Maintain the dissolved oxygen (DO) concentration at levels equating to High Ecological Status (specifically ≥ 5.7 mg L ⁻¹ (at 35 salinity) for 95% of year) avoiding deterioration from existing levels. This target was set using the Environmental Agency 2019 water body classifications data.	<p><i>“Low run off (and therefore nutrient enrichment) from the land, in addition to the mixing of deep and surface water (Gall, 2011) mean the Isles of Scilly is not at high risk of oxygen depletion.</i></p> <p><i>There is no dissolved oxygen information available from Water Framework Directive sampling therefore expert judgement has been used to set target at 'high' as this site is a coastal marine protected area.</i></p> <p><i>The target has been set using expert judgement based on knowledge of the sensitivity of the feature to activities that are occurring / have occurred on the site.</i></p>
Supporting habitat: water quality - nutrients	Maintain water quality at mean winter dissolved inorganic nitrogen levels where biological indicators of eutrophication (opportunistic macroalgal and phytoplankton blooms) do not affect the integrity of the site and features, avoiding deterioration from existing levels. This target was set using the Environmental Agency 2019 water body classifications data.	<p><i>“The risk of eutrophication across the site has been assessed as low using the Environment Agency’s Weight of Evidence approach. This takes into account assessments of the Water Framework Directive opportunistic macroalgae and phytoplankton quality elements using the respective assessment tools. Adverse effects to integrity should be avoided. Therefore opportunistic macroalgal levels should be maintained so there is no adverse effect to the feature through limited algal cover (<15%) and low biomass (< 500 g m²) of macroalgal blooms in the available intertidal habitat, with area of available intertidal habitat affected by opportunistic macroalgae less than 15 %. There should also be limited (<5%) entrainment of algae in the underlying sediment (all accounting for seasonal variations and fluctuations in growth). Phytoplankton levels should be maintained above a WFD assessment tool score of 0.6, where there is only a minor (a) decline in species richness,</i></p>

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Attribute	Target	Supporting notes (Natural England, 2023b)
		<p>and (b) disturbance to the diatom-dinoflagellate succession in the spring bloom compared to reference conditions.</p> <p>The target has been set using expert judgement based on knowledge of the sensitivity of the feature to activities that are occurring / have occurred on the site.”</p>
Supporting habitat: water quality - turbidity	Maintain natural levels of turbidity (eg concentrations of suspended sediment, plankton and other material) across the habitat.	<p>“Water clarity in the Isles of Scilly is normally very good, with visibility usually over 5m throughout the year (Gall, 2011). There are no rivers running from the islands into the sea and minimal run off from the land.</p> <p>The target has been set using expert judgement based on knowledge of the sensitivity of the feature to activities that are occurring / have occurred on the site.”</p>

Table 1.26: Relevant supplementary advice for the lesser black-backed gull feature of the Isles of Scilly SPA (Natural England, 2023b).

Attribute	Target	Supporting notes (Natural England, 2023b)
Breeding population: abundance	Restore the size of the breeding population to a level which is above 3,608 (Apparently Occupied Sites, equivalent to pairs), whilst avoiding deterioration from its current level as indicated by the latest mean peak count or equivalent.	<p>“Lesser black-backed gulls breed on over 30 separate islands (Heaney and St. Pierre, 2017), in three main sub-colonies; Samson, St Helen’s and Gugh. All-island surveys in 2015 and 2016 returned a total of 2,485 breeding pairs, with 2,461 at sites within the SPA, equating to 1.37% of the biogeographic total of 179,000 pairs (Natural England, 2018).</p> <p>Lesser black-backed gull abundance within the Isles of Scilly SPA (Apparently Occupied Sites, equivalent to pairs) (Heaney and St. Pierre, 2017), (Natural England, 2018).</p> <ul style="list-style-type: none"> • 2000 = 3,608 • 2006 = 3,326 • 2015/16 = 2,461 <p>From the first systematic count in 1969, recording 2,500 pairs, the number of lesser black- backed gulls nesting in Scilly increased to a peak of 4,050 pairs in 1983 but has steadily declined since then (Heaney and St. Pierre, 2017). The reasons for decline are not well understood and further study is required to inform recovery actions (Heaney and St. Pierre, 2017). The decline in recent years reflects national trends.</p> <p>Additional seabird monitoring and research reports, including productivity data (Heaney, 2018), (Heaney, 2019), (Heaney, 2020), (Heaney, 2021) can be found in the Technical Reports section of the Isles of Scilly Wildlife Trust Website (Isles of Scilly Wildlife Trust, 2021).</p> <p>A restore target has been set due to a 32% decline in population abundance from designation to the most recent count in 2015/16. Consistent with other SPAs reclassified using new data, the abundance baseline target is set to data from 1999 to reflect declines in the interim period, and the ambition to reverse those declines.”</p>
Connectivity with supporting habitats	Maintain safe passage of birds moving between nesting and feeding areas.	<p>“Lesser black-backed gulls use the Isles of Scilly SPA for foraging during the breeding season, and will regularly travel around the SPA and the 30 occupied breeding islands (Heaney and St. Pierre, 2017), some of which are outside</p>

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Attribute	Target	Supporting notes (Natural England, 2023b)
		<p><i>the SPA boundary. Connectivity between feeding, roosting and breeding sites should be maintained.</i></p> <p><i>The target has been set using expert judgement based on knowledge of the sensitivity of the feature to activities that are occurring / have occurred on the site.”</i></p>
<p>Disturbance caused by human activity</p>	<p>Restrict the frequency, duration and / or intensity of disturbance affecting roosting, nesting, foraging, feeding, moulting and/or loafing birds so that they are not significantly disturbed</p>	<p><i>“Tourism is the islands' main source of jobs and income accounting for 80% of employment and 85% of the economy. Annual visitor numbers are currently around 100,000 and are increasing (Islands Partnership, 2018).</i></p> <p><i>The Isles of Scilly Wildlife Trust implement access restrictions either all year round or part of the year on some Trust land to minimise human disturbance in areas important for breeding seabirds and Atlantic grey seals Halichoerus grypus (The Isles of Scilly Wildlife Trust, 2019). This is documented on OS maps and in various seabird leaflets (Heaney and St. Pierre, 2017).</i></p> <p><i>There are a number of WiSe (The UK national training and accreditation scheme for minimising disturbance to marine wildlife) trained and accredited boat/tour operators in Scilly. These are available to view on the wisescheme.org website (WiSeScheme, 2019).</i></p> <p><i>The Site Improvement Plan for the Isles of Scilly Complex identifies public access/disturbance as a priority issue with an action to develop marine codes of conduct and supporting material to manage disturbance effects on seabirds and grey seals (Natural England (NE), 2014).</i></p> <p><i>The current range of initiatives to minimise human disturbance is precautionary, further assessment of recreational impacts is required.</i></p> <p><i>The Isles of Scilly Seabird Conservation Strategy (2018-2023) (Isles of Scilly Wildlife Trust et al., 2018) contains the following visitor management and access objectives to reduce disturbance to seabirds:</i></p> <ul style="list-style-type: none"> <i>• Provide and maintain a network of paths, particularly on the uninhabited islands that direct visitors away from important seabird breeding colonies (zoning), which help to mitigate against any negative impacts an increase in visitor numbers may have on important breeding seabird colonies</i> <i>• Expose physical boundaries and erect signage to highlight important breeding areas and inform the public of what to do/how to behave</i> <i>• Raise awareness and responsibility of dog owners and their behaviour around breeding seabird colonies. Work with key stakeholders of the Destination Management Plan on key messages/issues around 'Dog Friendly Destination'</i> <i>• Monitor distribution of seabird colonies and adjust location of paths if required</i> <i>• Raise awareness and responsibility of local boat owners, hirers, excursion providers and visitors of how to minimise recreational disturbance to breeding seabird colonies</i> <p><i>The target has been set using expert judgement based on knowledge of the sensitivity of the feature to activities that are occurring / have occurred on the site.”</i></p>

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Attribute	Target	Supporting notes (Natural England, 2023b)
Predation - all habitats	Reduce predation and disturbance caused by native and non-native predators	<p><i>“The Site Improvement Plan for the Isles of Scilly Complex identifies invasive species (brown rats) as priority issue with action to extend rat eradication to include Bryher, Tresco and St Martins (Natural England (NE), 2014).</i></p> <p><i>Since 1993 there has been an intensive rat eradication and control programme targeted at selected island groups. The threat of new incursions is always present, facilitated by the proximity of inhabited islands with populations of rats. Complete removal of rats in the winter of 2013/14 on St Agnes and Gugh by the Isles of Scilly Seabird Recovery Project (Isles of Scilly Wildlife Trust et al., 2018) has not only protected seabirds breeding on those islands but has also ensured that Annet is much less vulnerable to incursions (Heaney and St. Pierre, 2017).</i></p> <p><i>The Isles of Scilly Seabird Conservation Strategy (2018-2023) (Isles of Scilly Wildlife Trust et al., 2018) contains the following predator management objectives:</i></p> <ul style="list-style-type: none"> <i>• To ensure the Western Rocks, Annet, Norrad Rocks, St Agnes and Gugh and Round Island remain rat-free through having effective biosecurity and monitoring measures in place.</i> <i>• To trial new methods of rat control on other important seabird islands as well as inhabited islands to identify viable interim measures of control and long term biosecurity methods to protect seabird colonies and rat-free areas</i> <i>• To remove rats from the islands of Bryher, Tresco and St Martin's and associated uninhabited islands including Samson group, St Helen's and Team Group and the Eastern Isles, funding and local support permitting</i> <p><i>At present, other sources of mammalian and avian predation are not thought to exert a population level effect (Heaney and St. Pierre, 2017) but monitoring should ensure changes are detected.</i></p> <p><i>The target has been set to reduce due to known threats and impacts of mammalian predation.”</i></p>
Productivity	Maintain or recover productivity so that breeding success is maximised within the constraints of the site.	Not available.
Structure: pathogens	Restrict or reduce the introduction and spread of pathogens, including Highly Pathogenic Avian Influenza, and their impacts.	Not available.
Supporting habitat: air quality	Maintain concentrations and deposition of air pollutants to below the site-relevant Critical Load or Level values given for this feature of the site on the Air Pollution Information System	<i>“The target has been set using expert judgement based on knowledge of the sensitivity of the feature to activities that are occurring / have occurred on the site.”</i>
Supporting habitat: conservation measures	Maintain the structure, function and supporting processes associated with the feature and its supporting habitat through management or other measures (whether within	<i>“The Isles of Scilly Wildlife Trust implement access restrictions either all year round or part of the year on some Trust land to minimise human disturbance in areas important</i>

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Attribute	Target	Supporting notes (Natural England, 2023b)
	<p>and/or outside the site boundary as appropriate) and ensure these measures are not being undermined or compromised.</p>	<p>for breeding seabirds and Atlantic grey seals <i>Halichoerus grypus</i> (The Isles of Scilly Wildlife Trust, 2019).</p> <p>There are a number of WiSe (The UK national training and accreditation scheme for minimising disturbance to marine wildlife) trained and accredited boat/tour operators in Scilly. These are available to view on the wisecollege.org website (WiSeScheme, 2019).</p> <p>To support a strategic approach to seabird management in the Isles of Scilly the organisations involved in seabird conservation (RSPB, Natural England, Isles of Scilly Wildlife Trust, Isles of Scilly Bird Group and Isles of Scilly IFCA) have produced seabird strategies since 2006. The first Isles of Scilly Seabird Conservation Strategy covered the period 2006-2008 (Lock et al., 2006), this was reviewed and updated between 2009 and 2013 (Lock et al., 2009). The current strategy covers the period 2018-2023 (Isles of Scilly Wildlife Trust et al., 2018) and sets out strategic objectives, key outcomes and a detailed 5 year work programme. It's available to view on the Isles of Scilly Wildlife Trust website (Isles of Scilly Wildlife Trust et al., 2018).</p> <p>The Site Improvement Plan for the Isles of Scilly Complex identifies invasive species (brown rats) and public access/disturbance as priority issues, affecting seabirds, for action. Actions include an extension of rat eradication to include Bryher, Tresco and St Martins and to develop marine codes of conduct and supporting material to reduce disturbance effects on seabirds and grey seals (Natural England (NE), 2014).</p> <p>The target has been set using expert judgement based on knowledge of the sensitivity of the feature to activities that are occurring / have occurred on the site."</p>
<p>Supporting habitat: extent, distribution and availability of supporting habitat for the breeding season</p>	<p>Maintain the extent, distribution and availability of suitable habitat (either within or outside the site boundary) which supports the feature for all necessary stages of its breeding cycle (courtship, nesting, feeding). Refer to site specific supporting notes for extent details.</p>	<p>"This target may apply to supporting habitat which lies outside the site boundary</p> <p>The majority of Lesser black-backed gulls <i>Larus fuscus graellsii</i> in Scilly nest in three main colonies (Samson, St Helen's and Gugh) inland above beach areas amongst relatively dense ground cover (Heaney and St. Pierre, 2017). Lesser black-backed gulls <i>Larus fuscus graellsii</i> have potential to breed and forage in suitable habitat across the total terrestrial area (401ha) of the SPA. Lesser black-backed gulls are opportunistic feeders with very large foraging ranges (mean maximum 141km) (Thaxter et al., 2012).</p> <p>Current GI data held by Natural England maps the extent of the following supporting habitats as:</p> <ul style="list-style-type: none"> • Intertidal rock 122.73ha. • Intertidal coarse sediment 73.92ha. • water column. • Vegetated sea cliffs of the Atlantic and Baltic coasts 155.15ha. • Intertidal sand and muddy sand 3.40ha. • Intertidal mixed sediments 0.62ha. • Infralittoral rock 2843.08ha. • Circalittoral rock 3841.47ha. • Intertidal seagrass beds 0.06ha.

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Attribute	Target	Supporting notes (Natural England, 2023b)
		<p><i>The target has been set using expert judgement based on knowledge of the sensitivity of the feature to activities that are occurring / have occurred on the site.</i></p>
<p>Supporting habitat: food availability (bird)</p>	<p>Maintain the distribution, abundance and availability of key food and prey items (eg. voles, small seabirds, waders, sandeel, sprat, cod, herring, roach, rudd, beetles, flies, earthworm, shellfish, as appropriate) at preferred sizes.</p>	<p><i>“The main seabird declines in Scilly relate to surface feeding gulls and terns which may suggest that food availability could be an issue (Heaney and St. Pierre, 2017). Further investigation into changes in food availability in Southwest waters and the factors influencing this is required.</i></p> <p><i>The target has been set using expert judgement based on knowledge of the sensitivity of the feature to activities that are occurring / have occurred on the site.</i></p>
<p>Supporting habitat: vegetation characteristics for nesting</p>	<p>Maintain the extent and distribution of predominantly medium to tall [i.e. 20-60 cm] grassland swards.</p>	<p><i>“The majority of lesser black-backed gulls <i>Larus fuscus graellsii</i> in Scilly nest in three main colonies (Samson, St Helen’s and Gugh) inland above beach areas amongst relatively dense ground cover (Heaney and St. Pierre, 2017). Previous studies have recorded decreases in the number of birds nesting where vegetation is suppressed (by weather or other actions) such as Annet and favouring areas where vegetation has increased, such as Samson, St Helen’s and Gugh (Robinson, 2003). However, since 2006, numbers at these colonies have decreased including a total loss from Annet and birds have spread out more with smaller, yet significant, colonies (70-130 pairs) on the off-islands of Tean, Northwethel, Great Ganilly and Great Arthur, all with variable levels of cover (Heaney and St. Pierre, 2017). The relationship between vegetation cover and gull settlement and success is complicated with tall vegetation being shown to reduce predation and provide shelter however nesting can be precluded if cover becomes too thick. Dense honeysuckle and woody bramble shoots deny access to adults and chicks are unable to manoeuvre. Additionally, the non-native invasive <i>Pittosporum crassifolium</i> and <i>Coprosma repens</i> are becoming more established (Heaney and St. Pierre, 2017).</i></p> <p><i>The Isles of Scilly Seabird Conservation Strategy (2018-2023) (Isles of Scilly Wildlife Trust et al., 2018) contains habitat management actions to benefit breeding seabirds and specific actions to create potential new settlement areas for lesser black-backed gulls <i>Larus fuscus graellsii</i>.</i></p> <p><i>The target has been set using expert judgement based on knowledge of the sensitivity of the feature to activities that are occurring / have occurred on the site.</i></p>
<p>Supporting habitat: water quality - contaminants</p>	<p>Reduce aqueous contaminants to levels equating to High Status according to Annex VIII and Good Status according to Annex X of the Water Framework Directive, avoiding deterioration from existing levels. This target was set using the Environmental Agency 2019 water body classifications data.</p>	<p><i>“This target has been set according to Water Framework Directive (WFD) chemical status of overlapping water bodies. Scilly Isles WFD water body overlaps with 96% of Isles of Scilly SPA boundary. This water body failed WFD chemical status in the 2019 classification due to measured/assumed elevated levels of polybrominated diphenyl ether (PBDE) and mercury and its compounds. These two chemicals are persistent, bioaccumulative and toxic substances, which present risks to wildlife. In 2013, the EU Priority Substances Directive specified biota (concentrations in whole fish) Environmental Quality Standards (EQS) for these substances rather than water column EQSs, to better represent risks to wildlife. Sampling has only occurred in a subset of water bodies, but in all instances, these chemicals were found at levels above the EQSs, and therefore in the absence of additional data, the classification has been extrapolated across non-monitored</i></p>

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Attribute	Target	Supporting notes (Natural England, 2023b)
		<p><i>waterbodies. These new standards have been used in the 2019 WFD classification for the first time, and therefore show failures where a water body may previously have been classified as good chemical status. This does not represent a decline in water quality, but rather, a result of the new, more stringent standards. The target has been set at 'reduce' due to the high levels of PBDE and mercury and its compounds present.</i></p> <p><i>The target has been set at 'reduce' due to the high levels of PBDE and mercury and its compounds present."</i></p>
Supporting habitat: water quality - dissolved oxygen	<p>Maintain the dissolved oxygen (DO) concentration at levels equating to High Ecological Status (specifically ≥ 5.7 mg L⁻¹ (at 35 salinity) for 95 % of year) avoiding deterioration from existing levels. This target was set using the Environmental Agency 2019 water body classifications data.</p>	<p><i>"Low run off (and therefore nutrient enrichment) from the land, in addition to the mixing of deep and surface water (Gall, 2011) mean the Isles of Scilly is not at high risk of oxygen depletion.</i></p> <p><i>There is no dissolved oxygen information available from Water Framework Directive sampling therefore expert judgement has been used to set target at 'high' as this site is a coastal marine protected area.</i></p> <p><i>The target has been set using expert judgement based on knowledge of the sensitivity of the feature to activities that are occurring / have occurred on the site."</i></p>
Supporting habitat: water quality - nutrients	<p>Maintain water quality at mean winter dissolved inorganic nitrogen levels where biological indicators of eutrophication (opportunistic macroalgal and phytoplankton blooms) do not affect the integrity of the site and features, avoiding deterioration from existing levels. This target was set using the Environmental Agency 2019 water body classifications data.</p>	<p><i>"The risk of eutrophication across the site has been assessed as low using the Environment Agency's Weight of Evidence approach. This takes into account assessments of the Water Framework Directive opportunistic macroalgae and phytoplankton quality elements using the respective assessment tools. Adverse effects to integrity should be avoided. Therefore opportunistic macroalgal levels should be maintained so there is no adverse effect to the feature through limited algal cover (<15%) and low biomass (< 500 g m²) of macroalgal blooms in the available intertidal habitat, with area of available intertidal habitat affected by opportunistic macroalgae less than 15 %. There should also be limited (<5%) entrainment of algae in the underlying sediment (all accounting for seasonal variations and fluctuations in growth). Phytoplankton levels should be maintained above a WFD assessment tool score of 0.6, where there is only a minor (a) decline in species richness, and (b) disturbance to the diatom-dinoflagellate succession in the spring bloom compared to reference conditions.</i></p> <p><i>The target has been set using expert judgement based on knowledge of the sensitivity of the feature to activities that are occurring / have occurred on the site."</i></p>
Supporting habitat: water quality - turbidity	<p>Maintain natural levels of turbidity (eg concentrations of suspended sediment, plankton and other material) across the habitat.</p>	<p><i>"Water clarity in the Isles of Scilly is normally very good, with visibility usually over 5m throughout the year (Gall, 2011). There are no rivers running from the islands into the sea and minimal run off from the land.</i></p> <p><i>The target has been set using expert judgement based on knowledge of the sensitivity of the feature to activities that are occurring / have occurred on the site."</i></p>

Features in unfavourable condition

1.2.24.4 The condition of the features at this SPA have not been assessed by the SNCB to determine feature condition.

1.2.25 Seas off St Kilda SPA

Conservation Objectives

1.2.25.1 The draft conservation objectives of the Seas off St Kilda SPA are (Appendix Z; NatureScot, 2021c):

- To ensure that the qualifying features of St Kilda SPA and the Seas off St Kilda SPA are in favourable condition and make an appropriate contribution to achieving Favourable Conservation Status
- To ensure that the integrity of St Kilda SPA and the Seas off St Kilda SPA is restored in the context of environmental changes by meeting the following objectives for each qualifying feature:
 - The populations of qualifying features are viable components of St Kilda SPA and Seas off St Kilda SPA
 - The distributions of the qualifying features throughout St Kilda SPA and Seas off St Kilda SPA are maintained by avoiding significant disturbance of the species
 - The supporting habitats and processes relevant to qualifying features and their prey/food resources are maintained, or where appropriate restored, at St Kilda SPA and/or Seas off St Kilda SPA.

Features in unfavourable condition

1.2.25.2 The condition of the features at this SPA have not been assessed by the SNCB to determine feature condition.

1.2.26 Handa SPA

Conservation Objectives

1.2.26.1 The conservation objectives of the Handa SPA are (Appendix AA; NatureScot 2022c):

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

Features in unfavourable condition

1.2.26.2 Of the features included in the assessments presented in HRA Stage 2 information to support an appropriate assessment Part Three: Special Protection Areas and Ramsar

Site assessments (APP-098) the following are considered to be in unfavourable condition:

- Guillemot
- Razorbill
- Breeding seabird assemblage.

1.2.27 St Kilda SPA

Conservation Objectives

1.2.27.1 The conservation objectives of St Kilda SPA are (Appendix AB; NatureScot, 2021b):

- To ensure that the qualifying features of St Kilda SPA and the Seas off St Kilda SPA are in favourable condition and make an appropriate contribution to achieving Favourable Conservation Status
- To ensure that the integrity of St Kilda SPA and the Seas off St Kilda SPA is restored in the context of environmental changes by meeting the following objectives for each qualifying feature:
 - The populations of qualifying features are viable components of St Kilda SPA and Seas off St Kilda SPA
 - The distributions of the qualifying features throughout St Kilda SPA and Seas off St Kilda SPA are maintained by avoiding significant disturbance of the species
 - The supporting habitats and processes relevant to qualifying features and their prey/food resources are maintained, or where appropriate restored, at St Kilda SPA and/or Seas off St Kilda SPA.

Features in unfavourable condition

1.2.27.2 Of the features included in the assessments presented in HRA Stage 2 information to support an appropriate assessment Part Three: Special Protection Areas and Ramsar Site assessments (APP-098) the following are considered to be in unfavourable condition:

- Guillemot
- Fulmar
- Manx shearwater.

1.2.28 Cape Wrath SPA

Conservation Objectives

1.2.28.1 The Conservation Objectives for the Cape Wrath SPA are (Appendix AC):

- To avoid deterioration of the habitats of the qualifying species (listed below) or significant disturbance to the qualifying species, thus ensuring that the integrity of the site is maintained
- To ensure for the qualifying species that the following are maintained in the long term:
 - Population of the species as a viable component of the site

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- Distribution of the species within site
- Distribution and extent of habitats supporting the species
- Structure, function and supporting processes of habitats supporting the species
- No significant disturbance of the species.

Features in unfavourable condition

1.2.28.2 Of the features included in the assessments presented in HRA Stage 2 information to support an appropriate assessment Part Three: Special Protection Areas and Ramsar Site assessments (APP-098) the following are considered to be in unfavourable condition:

- Kittiwake.

1.2.29 Flannan Isles SPA

Conservation Objectives

1.2.29.1 The Conservation Objectives for the Flannan Isles SPA are (Appendix AD; NatureScot, 2024d):

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

Features in unfavourable condition

1.2.29.2 Of the features included in the assessments presented in HRA Stage 2 information to support an appropriate assessment Part Three: Special Protection Areas and Ramsar Site assessments (APP-098) the following are considered to be in unfavourable condition:

- Guillemot.

1.2.30 Sule Skerry and Sule Stack SPA

Conservation Objectives

1.2.30.1 The conservation objectives of Sule Skerry and Sule Stack SPA are (Appendix AE; NatureScot, 2022e):

MORGAN OFFSHORE WIND PROJECT: GENERATION ASSETS

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

Features in unfavourable condition

- 1.2.30.2 None of the features considered in HRA Stage 2 information to support an appropriate assessment Part Three: Special Protection Areas and Ramsar Site assessments (APP-098) are considered to be in unfavourable condition (they are all assessed as being in favourable condition).

1.2.31 North Rona and Sula Sgeir SPA

Conservation Objectives

- 1.2.31.1 The conservation objectives of the North Rona and Sula Sgeir SPA are (Appendix AF; NatureScot 2022f):
- To avoid deterioration of the habitats of the qualifying species (listed below) or significant disturbance to the qualifying species, thus ensuring that the integrity of the site is maintained
 - To ensure for the qualifying species that the following are maintained in the long term:
 - Population of the species as a viable component of the site
 - Distribution of the species within site
 - Distribution and extent of habitats supporting the species
 - Structure, function and supporting processes of habitats supporting the species
 - No significant disturbance of the species.

Features in unfavourable condition

- 1.2.31.2 None of the features considered in HRA Stage 2 information to support an appropriate assessment Part Three: Special Protection Areas and Ramsar Site assessments (APP-098) are considered to be in unfavourable condition (they are all assessed as being in favourable condition).

1.2.32 West Westray SPA

Conservation Objectives

1.2.32.1 The conservation objectives of the West Westray SPA are (Appendix AG; NatureScot, 2022g):

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

Features in unfavourable condition

1.2.32.2 Of the features included in the assessments presented in HRA Stage 2 information to support an appropriate assessment Part Three: Special Protection Areas and Ramsar Site assessments (APP-098) the following are considered to be in unfavourable condition:

- Kittiwake
- Breeding seabird assemblage.

1.2.33 Hermaness, Saxa Vord and Valla Field SPA

Conservation Objectives

1.2.33.1 The conservation objectives of Hermaness, Saxa Vord and Valla Field SPA are (Appendix AH; NatureScot, 2015d):

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

Features in unfavourable condition

1.2.33.2 Of the features included in the assessments presented in HRA Stage 2 information to support an appropriate assessment Part Three: Special Protection Areas and Ramsar Site assessments (APP-098) the following are considered to be in unfavourable condition:

- Breeding seabird assemblage.

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Appendix A: Morecambe Bay & Duddon Estuary SPA V2019

European Site Conservation Objectives for Morecambe Bay & Duddon Estuary Special Protection Area

Site Code: UK9020326



With regard to this SPA and the individual species and/or assemblage of species for which the site has been classified (the 'Qualifying Features'), and subject to natural change;

Ensure that the integrity of the site is maintained or restored as appropriate, and ensure that the site contributes to achieving the aims of the Wild Birds Directive, by maintaining or restoring;

- **The extent and distribution of the habitats of the qualifying features**
- **The structure and function of the habitats of the qualifying features**
- **The supporting processes on which the habitats of the qualifying features rely**
- **The population of each of the qualifying features, and,**
- **The distribution of the qualifying features within the site.**

This document should be read in conjunction with the accompanying Conservation Advice document which provides more detailed advice and information to enable the application and achievement of the Objectives set out above.

Qualifying Features

- A026 *Egretta garzetta*; Little egret (Non-breeding)
- A038 *Cygnus cygnus*; Whooper swan (Non-breeding)
- A040 *Anser brachyrhynchus*; Pink-footed goose (Non-breeding)
- A048 *Tadorna tadorna*; Common shelduck (Non-breeding)
- A054 *Anas acuta*; Northern pintail (Non-breeding)
- A130 *Haematopus ostralegus*; Eurasian oystercatcher (Non-breeding)
- A137 *Charadrius hiaticula*; Ringed plover (Non-breeding)
- A140 *Pluvialis apricaria*; European golden plover (Non-breeding)
- A141 *Pluvialis squatarola*; Grey plover (Non-breeding)
- A143 *Calidris canutus*; Red knot (Non-breeding)
- A144 *Calidris alba*; Sanderling (Non-breeding)
- A149 *Calidris alpina alpina*; Dunlin (Non-breeding)

Contd/

A151 *Philomachus pugnax*; Ruff (Non-breeding)
A156 *Limosa limosa islandica*; Black-tailed godwit (Non-breeding)
A157 *Limosa lapponica*; Bar-tailed godwit (Non-breeding)
A160 *Numenius arquata*; Eurasian curlew (Non-breeding)
A162 *Tringa totanus*; Common redshank (Non-breeding)
A169 *Arenaria interpres*; Ruddy turnstone (Non-breeding)
A176 *Larus melanocephalus*; Mediterranean gull (Non-breeding)
A183 *Larus fuscus*; Lesser black-backed gull (Non-breeding)
A183 *Larus fuscus*; Lesser black-backed gull (Breeding)
A184 *Larus argentatus*; Herring gull (Breeding)
A191 *Sterna sandvicensis*; Sandwich tern (Breeding)
A193 *Sterna hirundo*; Common tern (Breeding)
A195 *Sterna albifrons*; Little tern (Breeding)
Waterbird assemblage
Seabird assemblage

This is a European Marine Site

This SPA is a part of the Morecambe Bay European Marine Site ('EMS'). These Conservation Objectives should be used in conjunction with the Conservation Advice document for the EMS. Natural England's formal Conservation Advice for European Marine Sites can be found via [GOV.UK](https://www.gov.uk).

This is a new combined site

This SPA replaces two individual sites – Morecambe Bay SPA (UK9005081) and Duddon Estuary SPA (UK9005031).

Explanatory Notes: European Site Conservation Objectives

These Conservation Objectives are those referred to in the Conservation of Habitats and Species Regulations 2017 (as amended) ('the Habitats Regulations'). They must be considered when a competent authority is required to make a 'Habitats Regulations Assessment' including an Appropriate Assessment, under the relevant parts of this legislation.

These Conservation Objectives, and the accompanying Supplementary Advice (where this is available), will also provide a framework to inform the management of the European Site and the prevention of deterioration of habitats and significant disturbance of its qualifying features

These Conservation Objectives are set for each bird feature for a [Special Protection Area \(SPA\)](#).

Where these objectives are being met, the site will be considered to exhibit a high degree of integrity and to be contributing to achieving the aims of the Wild Birds Directive.

Publication date: 21 February 2019 (version 6). This document updates and replaces an earlier version dated 7 December 2017 to reflect the consolidation of the Habitats Regulations in 2017.

Appendix B: Ribble and Alt Estuaries SPA

European Site Conservation Objectives for Ribble and Alt Estuaries Special Protection Area Site Code: UK9005103



With regard to the SPA and the individual species and/or assemblage of species for which the site has been classified (the 'Qualifying Features' listed below), and subject to natural change;

Ensure that the integrity of the site is maintained or restored as appropriate, and ensure that the site contributes to achieving the aims of the Wild Birds Directive, by maintaining or restoring;

- **The extent and distribution of the habitats of the qualifying features**
- **The structure and function of the habitats of the qualifying features**
- **The supporting processes on which the habitats of the qualifying features rely**
- **The population of each of the qualifying features, and,**
- **The distribution of the qualifying features within the site.**

This document should be read in conjunction with the accompanying *Supplementary Advice* document, which provides more detailed advice and information to enable the application and achievement of the Objectives set out above.

Qualifying Features:

- A037 *Cygnus columbianus bewickii*; Bewick's swan (Non-breeding)
- A038 *Cygnus cygnus*; Whooper swan (Non-breeding)
- A040 *Anser brachyrhynchus*; Pink-footed goose (Non-breeding)
- A048 *Tadorna tadorna*; Common shelduck (Non-breeding)
- A050 *Anas penelope*; Eurasian wigeon (Non-breeding)
- A052 *Anas crecca*; Eurasian teal (Non-breeding)
- A054 *Anas acuta*; Northern pintail (Non-breeding)
- A130 *Haematopus ostralegus*; Eurasian oystercatcher (Non-breeding)
- A137 *Charadrius hiaticula*; Ringed plover (Non-breeding)
- A140 *Pluvialis apricaria*; European golden plover (Non-breeding)
- A141 *Pluvialis squatarola*; Grey plover (Non-breeding)
- A143 *Calidris canutus*; Red knot (Non-breeding)

Contd/

A144 *Calidris alba*; Sanderling (Non-breeding)
A149 *Calidris alpina alpina*; Dunlin (Non-breeding)
A151 *Philomachus pugnax*; Ruff (Breeding)
A156 *Limosa limosa islandica*; Black-tailed godwit (Non-breeding)
A157 *Limosa lapponica*; Bar-tailed godwit (Non-breeding)
A162 *Tringa totanus*; Common redshank (Non-breeding)
A183 *Larus fuscus*; Lesser black-backed gull (Breeding)
A193 *Sterna hirundo*; Common tern (Breeding)
Waterbird assemblage
Seabird assemblage

This is a European Marine Site

This SPA is a part of the Ribble and Alt Estuaries European Marine Site (EMS). These Conservation Objectives should be used in conjunction with the Conservation Advice document for the EMS. Natural England's formal Conservation Advice for European Marine Sites can be found via [GOV.UK](https://www.gov.uk).

Explanatory Notes: European Site Conservation Objectives

These Conservation Objectives are those referred to in the Conservation of Habitats and Species Regulations 2017 (as amended) ('the Habitats Regulations'). They must be considered when a competent authority is required to make a 'Habitats Regulations Assessment' including an Appropriate Assessment, under the relevant parts of this legislation.

These Conservation Objectives, and the accompanying Supplementary Advice (where this is available), will also provide a framework to inform the management of the European Site and the prevention of deterioration of habitats and significant disturbance of its qualifying features

These Conservation Objectives are set for each bird feature for a [Special Protection Area \(SPA\)](#).

Where these objectives are being met, the site will be considered to exhibit a high degree of integrity and to be contributing to achieving the aims of the Wild Birds Directive.

Publication date: 21 February 2019 (version 4). This document updates and replaces an earlier version dated 30 June 2014 to reflect the consolidation of the Habitats Regulations in 2017.

Appendix C: Irish Sea Front SPA



Irish Sea Front
Special Protection Area
UK site: UK9020328

Conservation Objectives and Advice on Operations

March 2023

Advice under Regulation 21 of The Conservation of
Offshore Marine Habitats and Species Regulations 2017

Summary

The Conservation Objectives and Advice on Operations for Irish Sea Special Protection Area (SPA) provided in this document are based on best available evidence and should be read in conjunction with [wider site information](#). The site occurs entirely within UK offshore waters (beyond 12 nautical miles of coast) and thus the Joint Nature Conservation Committee (JNCC) has advisory responsibilities under the Conservation of Offshore Marine Habitats and Species Regulations 2017 (as amended). The advice is site- and feature-specific and has been developed using the best-available scientific information and expert interpretation as of March 2023. The advice provided here will be subject to change as our knowledge about the site, its feature and the impacts of human activities develops over time. The Advice on Operations has been generated through a broad assessment of sensitivity of the feature of interest and their supporting habitats to physical, chemical and biological pressures associated with human activity.

Management actions should enable the site to support the regularly occurring migratory species Manx shearwater (*Puffinus puffinus*) in the Irish Sea Front SPA (subject to natural change) by ensuring the natural processes and supporting habitats, and therefore prey populations are maintained. Detailed Conservation Objectives (with attributes) are provided in this document. Manx shearwaters are Amber listed in both the [REDACTED] (Stanbury *et al.* 2021) and in the [REDACTED] (Gilbert *et al.* 2021).

To fulfil the Conservation Objectives for the feature and their supporting habitat for this SPA, competent authorities¹ should consider whether any human activities whose control is within their remit might affect the site and the Conservation Objectives of the site as described. Any human activities likely to have an adverse impact on the listed feature within the site, including activities likely to affect processes on which the population is dependent as outlined in the Conservation Objectives in Section 2 of this document, should be assessed against the Conservation Objectives and may require management measures to enable the feature to meet their Conservation Objectives.

¹ Defined by [Regulation 5](#) of the Conservation of Offshore Marine Habitats and Species Regulations 2017 (as amended) as:

- (a) a Minister of the Crown, government department, public or statutory undertaker, or public body of any description or person holding a public office;
- (b) the Scottish Ministers;
- (c) the Welsh Ministers;
- (d) any Northern Ireland department; and
- (e) any person exercising any function of a person or body referred to in sub-paragraphs (a) to (d).

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Glossary

AIS – Automatic Identification System

AOS – Apparently Occupied Sites

CR – Chick-rearing period of the breeding season

ESAS – European Seabirds at Sea

GPS – Global Positioning System

HRA – Habitats Regulations Assessment

INC – Incubation period of the breeding season

ISF – Irish Sea Front

IUCN – International Union for the Conservation of Nature

JNCC – Joint Nature Conservation Committee

MPA – Marine Protected Area

MCZ – Marine Conservation Zone

MoD – Ministry of Defence

SAC – Special Area of Conservation

SMP – Seabird Monitoring Programme

SPA – Special Protection Area

SST – Sea Surface Temperature

1 Introduction

1.1 Background and context to the site

The Irish Sea Front (ISF) SPA was classified in 2017 under the Conservation of Offshore Marine Habitats and Species Regulations 2017 (as amended) (hereafter ‘Offshore Regulations’) for its importance as a foraging location for Manx shearwaters listed in Annex 1 of the EU Birds Directive (2009/147/EC). Post EU-Exit these regulations have been superseded by The Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019 which ensure that the habitat and species protection and standards derived from EU law continue to apply. The SPA is located in the Irish Sea and coincides with part of a tidal front in the western Irish Sea which is known to be an important foraging location for Manx shearwaters.

This document presents JNCC’s advice as required under Regulation 21 of the Offshore Regulations for the Irish Sea Front SPA. The obligations of competent authorities and organisations under such designations and legislation are not affected by the advice contained in this document. Supporting information is also provided for transparency and to aid interpretation. For more information on JNCC’s responsibilities under the Offshore Regulations, see [Regulation 21](#).

Irish Sea Front SPA has been classified to protect one species of breeding seabird, Manx shearwater, and contributes to the Favourable Conservation Status of this species in the Atlantic biogeographic region. The Irish Sea Front SPA forms part of the UK and OSPAR MPA networks, supporting the conservation of the wider marine environment, and progress towards Good Environmental Status within the North-East Atlantic marine region.

The Conservation Objectives form the framework for establishing appropriate management measures and assessing all future plans and projects that have the potential to affect the protected feature of the SPA.

1.2 Overlapping designations

The Irish Sea Front SPA sits within the [North Anglesey Marine/ Gogledd Môn Forol](#) Special Area of Conservation (SAC), which was designated in 2019. This SAC was designated as it is an area of importance for harbour porpoise (*Phocoena phocoena*), supporting 2.4% of the UK Celtic and Irish Seas Management Unit (MU) population. The protection afforded to this site may also benefit Manx shearwaters as there is overlap between diets of the two species, including herring (*Clupea harengus*), sand eel (*Ammodytes sp*) and sprat (*Sprattus sprattus*). There are no apparent management conflicts between the classified/designated features of the SPA and the SAC.

To the north-west of the Irish Sea Front SPA is a Marine Conservation Zone (MCZ), [Queenie Corner](#), which does not overlap with the SPA but lies around 2 km from the north-west corner. This site was designated in 2019 for the features subtidal mud, sea-pen and burrowing megafauna, which support a wide range of species including the economically important Norwegian lobster (*Nephrops norvegicus*) and a variety of other crustaceans. Mud habitats such as this are very important sites for biodiversity and can be a source of mud to other MPAs within the Irish Sea.

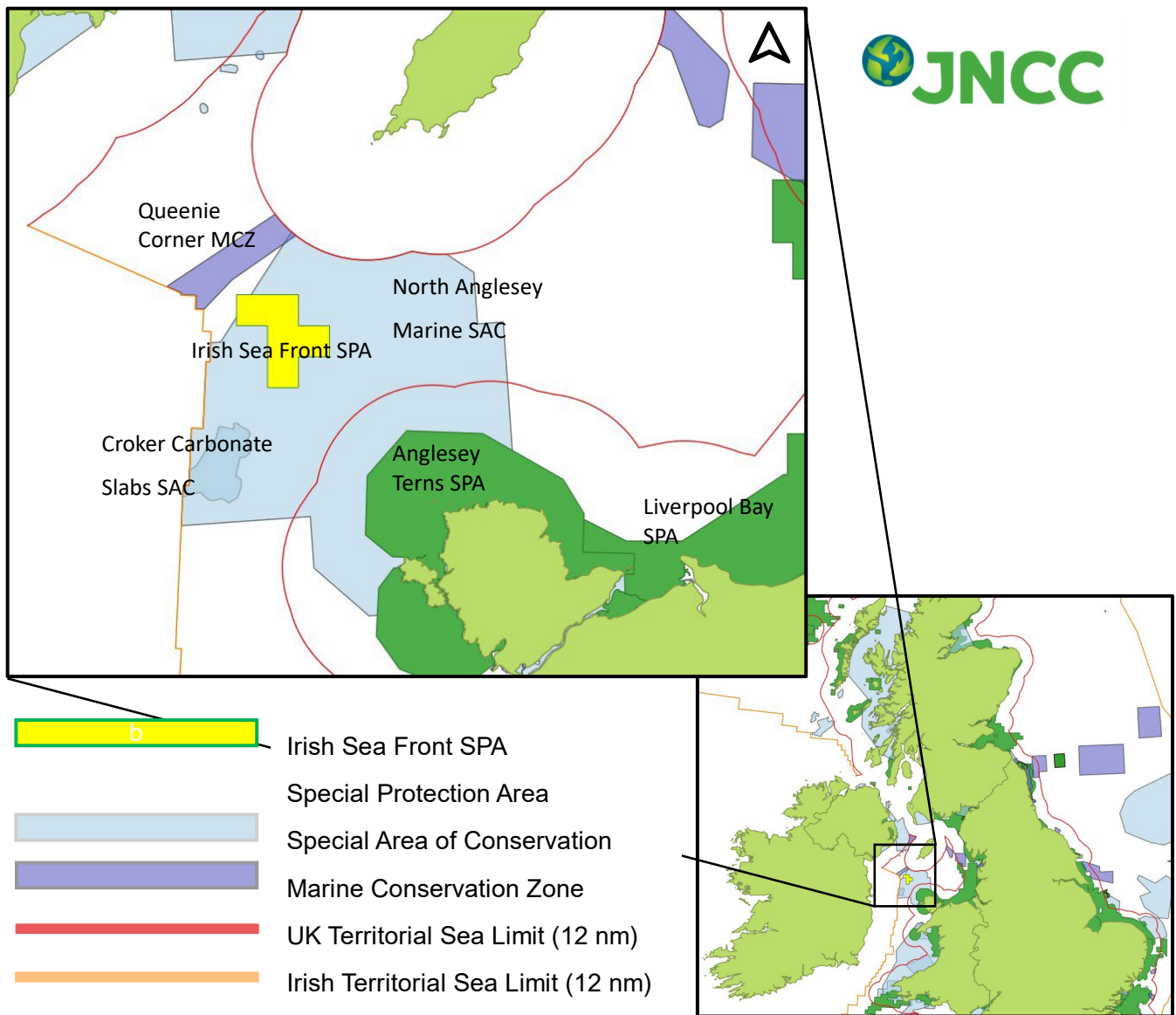


Figure 1. Location of the Irish Sea Front SPA together with other Marine Protected Areas in the region.

1.3 The role of Conservation Objectives

The role of the Conservation Objectives is to ensure that the obligations of the relevant Habitats Regulations are met by ensuring the integrity of the site is maintained, or where necessary restored, and that the qualifying feature, Manx shearwater, makes an appropriate contribution to favourable conservation status (FCS) at the national level. Conservation Objectives constitute a necessary reference for defining what will maintain the favourable condition of the feature or restore it to FCS. They provide the basis for advice on any site-based conservation or management measures and inform the consideration of whether plans and projects are likely to have significant effect on the site; the scope and conclusions of appropriate assessments; and the determination of whether plans or projects will adversely affect the integrity of the site. Advice should be referred to if you:

- undertake Habitat Regulations Assessments (HRAs) to identify and assess the potential impacts of plans or projects that could impact the site;
- provide information for an HRA;

- respond to specific measures to support delivery of the conservation objectives for the site; and
- consider the need to put new or additional management measures in place.

The key role of an HRA is to establish whether a plan or project, individually or in combination with other plans/projects, will affect the site's integrity (i.e. its ability to achieve its Conservation Objectives and consequently contribute to Favourable Conservation Status).

Manx shearwaters are protected throughout UK waters by virtue of the Offshore Regulations. This site has been classified for its significance as a foraging location for breeding Manx shearwaters and the aim of the Conservation Objectives is to maintain this function. It is not appropriate to set a population level target for this site, as usually applied in SPAs adjacent to breeding colonies, for two reasons:

- There is an inherent strong variability of numbers of Manx shearwaters present at the Irish Sea Front due to the nature of the site. The formation of the Irish Sea Front, the feature creating the favourable foraging conditions for Manx shearwaters, is annual and the timing and strength can vary between years, meaning that its value as a resource for Manx shearwaters may not be consistent and numbers of birds at the site fluctuate. Manx shearwaters have an extensive foraging range (Woodward *et al.* 2019) and previous studies have shown that at-sea foraging distribution varies between individuals and between years. For this highly mobile species this site is one of several possible foraging locations, although an important one, and they travel between sites depending on environmental conditions. Tracking data indicates that individuals from multiple colonies consistently use the front, but that the overall at-sea distribution varies between years (Dean *et al.* 2015; Guilford *et al.* 2008).
- Population level targets have already been set for this species at its SPA-protected colonies. Numbers at colonies will be more stable than at the Irish Sea Front SPA and monitoring of population sizes is more feasible at colonies. As these are the colonies from which the individuals feeding at the Irish Sea Front SPA are likely to originate, including but not limited to the [Skomer, Skokholm and Seas of Pembrokeshire SPA](#), [REDACTED] and [REDACTED], maintaining the population sizes at colonies should also maintain the individuals foraging at the Irish Sea Front SPA, if the Irish Sea Front SPA is kept intact as an attractive and available foraging area.

The Conservation Objectives for the Irish Sea Front SPA therefore focus on maintaining the foraging habitat, its important prey resources, and the access to those, such that Manx shearwaters from breeding colonies can continue to utilise the site.

2 Conservation Objectives for the Irish Sea Front SPA

2.1 Background to Conservation Objectives

The Conservation Objectives are designed to ensure that the obligations under the Offshore Regulations can be met; that is, deterioration or significant disturbance of the qualifying feature or to the habitat upon which they rely should be avoided. Meeting such obligations will ensure that the site achieves Favourable Conservation Status for its feature, Manx shearwater, and contributes to the UK Marine Strategy vision of “clean, healthy, safe, productive and biologically diverse oceans and seas”.

The Conservation Objectives include both a general statement in Section 3.2 setting out the overall objectives for the site, supplemented with advice on specific attributes which can help measure if the objectives are met, and which are important to ensure the site contributes

appropriately to the status of the wider populations of the bird feature. Section 7 (Table 2) lists these attributes.

As described before, no population abundance target has been set for the site itself, with the focus being on the relevant, linked populations from colony SPAs and the supporting habitats and processes. Population estimates of Manx shearwaters in colonies where a link has been established to the Irish Sea Front region through tracking can be used as indicators of whether the overall population size of Manx shearwaters has changed over the time. Shearwater population estimates from these colonies suggest in most cases an increase of these populations. In the absence of any other evidence to the contrary and at the time of writing, JNCC considers the current level of use by Manx shearwaters of Irish Sea Front SPA is comparable to the scale of that originally estimated at classification based on the analysis of the ESAS data.

The Conservation Objectives seek to *maintain* the protected SPA feature where evidence exists that the feature is in favourable condition in the site, or where there is uncertainty concerning the assessed condition of the feature but no reason to suspect deterioration in condition since classification. The objectives were set by reviewing the existing evidence on Manx shearwater distribution and abundance, both at sea and at colonies, based on established databases such as the ESAS programme and the Seabird Monitoring Programme (SMP). In addition, publications using the targeted deployment of Global Positioning System (GPS) tags have been reviewed to establish links between specific colonies of the feature and the site itself.

2.2 Irish Sea Front SPA Conservation Objectives

The qualifying feature of the Irish Sea Front SPA is:

- Manx shearwater *Puffinus puffinus* (breeding)

The Conservation Objectives for the Irish Sea Front SPA are:

Site conservation objective:

To avoid significant deterioration of the habitats used by the qualifying species, or significant disturbance to the qualifying species, subject to natural change, thus ensuring that the integrity of the site is maintained in the long term and makes an appropriate contribution to achieving the aims of the Conservation of Habitats and Species Regulations 2017.

This contribution would be achieved through delivering the following objectives for the site's qualifying feature:

- A. Avoid significant disturbance of the qualifying feature within the site, so that the ability of the species to use the site is maintained in the long-term;**
- B. Maintain the habitats, processes and food resources of the qualifying feature in favourable condition;**
- C. Ensure connectivity between the site and its supporting habitats and Manx shearwater breeding colonies is maintained.**

The explanatory notes with supplementary advice on the Conservation Objectives for Irish Sea Front SPA provide more site-specific detail.

Explanatory notes:

General

Marine bird species are exposed to a range of wider drivers of change. Some of these are natural (e.g. population fluctuations/ shifts or habitat changes resulting from natural processes) and are not a direct result of human influences. Such changes in the qualifying species' distribution and use of the site which are brought about by entirely natural drivers, directly or indirectly, are considered compatible with the site's Conservation Objectives.

There may also be wide scale anthropogenic impacts driving change within the site, such as climate change, ocean acidification or dispersed pollution, which cannot be managed effectively at site level. Where impacts can be identified a review of the definition of favourable condition may be appropriate.

A) **Avoid significant disturbance of the qualifying feature within the site, such that the ability of the species to use the site is maintained in the long-term.**

The purpose of this objective is to protect the qualifying feature from significant disturbance (mortality, injury or removal) that can lead to a long-term decline of the feature within the site, including continued access to all areas within the site required for feeding, loafing and other maintenance activities. It protects the feature from significant risk of incidental killing and injury from activities both within and outside the site. Impacts and effects are considered 'significant' where they could result in a permanent reduction or continued decline in the population. It should be ensured that the qualifying features are protected from anthropogenic pressures that could lead to a significant long-term decline in numbers using the site, such that recovery cannot be expected.

This site has been selected because evidence indicates it is a hotspot for Manx shearwaters and important in supporting the wider population of this species. The viability of the species within the Irish Sea Front SPA is linked to their ability to access and use breeding habitat in areas of functionally linked land outside the site, in addition to the ability of the site to support breeding adult survival and chick rearing. Disturbance of these birds within the site would have a detrimental effect on the contribution that this site makes to wider populations, including those in breeding colony SPAs, and therefore should be avoided.

There is no site-specific population target for this site and therefore any effects should be apportioned to breeding colonies. The relevant breeding colonies to which to refer to for references populations are:

- [REDACTED] (Rum SPA)
- [Copeland Islands](#) (Copeland Islands SPA)
- [Skomer Island](#) (Skomer, Skokholm and Seas off Pembrokeshire / Sgomer, Sgogwm a Moroedd Penfro SPA)
- [Skokholm Island](#) (Skomer, Skokholm and Seas off Pembrokeshire / Sgomer, Sgogwm a Moroedd Penfro SPA)
- [REDACTED] (Glannau Aberdaron ac Ynys Enlli / Aberdaron Coast and Bardsey Island SPA)
- [REDACTED] (Lundy SSSI)

This is not an exhaustive list of all the possible breeding colonies with connectivity (i.e. within species-specific foraging range, which is extensive for this species; mean maximum foraging range of 1,346.8 +/- 1,018.7 km), however it is based on evidence from tracking data and provides a starting point for those carrying out plan or project assessments. Species-specific foraging ranges were taken from Woodward *et al.* 2019.

All birds require energy, which they obtain from food, to survive and to breed. Significant disturbance can impair the birds' ability to obtain energy or minimize the loss of energy which could detrimentally affect productivity, adult condition and potentially survival. Impacts such as displacement, the exclusion of birds from a site, and barrier effects, preventing birds accessing a site, can increase energy expenditure. Where such disturbance is brought about by human activities which affect the qualifying species' distribution and use of the site, such that their ability to survive and/or breed is compromised in the longer term, it is considered significant.

For this site "significant" is taken to mean anthropogenic disturbance that affects the qualifying species' distribution within and use of the site such that recovery either cannot be expected or would only occur in the long-term (full recovery expected within 10–25 years, based on long lifespan, deferred maturity, low natural mortality and low reproductive output (FeAST, Rogerson *et al.* 2021)).

B) To maintain the supporting habitats, processes and food resources of the qualifying feature in favourable condition.

Manx shearwaters using the site require sufficient, high-quality food resources to be available during the breeding season. Their diet consists of a variety of pelagic or benthic prey and these prey species should be maintained at a level that is able to materially contribute to supporting healthy populations in Favourable Conservation Status. Where prey species have particular habitat requirements and these can be identified, management measures may be needed to ensure the extent and quality of the habitats are sufficient to maintain these prey species in the longer term.

C) Ensure connectivity between the site and its supporting habitats and Manx shearwater breeding colonies is maintained.

For Manx shearwaters to be able to continue using the site as delineated, it is important that they continue to have access to the site for foraging within the breeding season, ensuring safe movements between the site and spatially disjointed breeding colonies, and ensuring no significant increase in energetic costs for the birds in those movements.

3 The role of Advice on Operations

JNCC's Advice on Operations identifies operations (human activities) that may cause damage or deterioration of the qualifying species for which the site has been classified or of their supporting habitats. The aim of this advice is to enable the competent/relevant authorities and practitioners to conduct and prioritise the management of activities within and out-with the site in order to reduce/minimise the potential threat to Manx shearwaters within the SPA.

Our advice is divided into two sections. Section 4 – advice on operations – lists activities that might adversely impact the feature of the SPA because the best-available evidence indicates that Manx shearwaters are moderately, or highly, sensitive to associated pressures as described in FEAST (Rogerson *et al.* 2021). This advice includes operations that may not currently be occurring in the Irish Sea Front SPA. The second section (4.1) – advice on existing operations – lists operations that are currently occurring in the Irish Sea Front SPA and where best available evidence indicates the feature is moderately or highly sensitive to them.

The lists provide a basis for discussion about the nature and extent of the operations taking place that may have an impact on the feature of interest. The advice should also be used to identify the extent to which existing measures of control, management and forms of use are,

or can be made, consistent with the Conservation Objectives, and thereby highlights to relevant authorities the areas that may need management measures.

The Offshore Regulations require that where an authority concludes that a development proposal is incompatible with the nature conservation management of a site and is likely to have a significant effect on that site, it must undertake an appropriate assessment of the implications for the qualifying feature of interest for which the area has been classified.

Competent authorities are required by the Offshore Regulations to undertake a review of all consents and permissions for activities affecting the site as soon as reasonably practicable after it becomes a European site.

4 Advice on Operations

JNCC's advice covers a range of different human activities and infrastructural developments that could occur in the marine environment but is not exhaustive. By stating those activities and their associated pressures to which the feature is considered to be sensitive, our advice focuses on where we consider there could be a risk of the feature not achieving its Conservation Objectives for the site should these activities occur in or near the SPA. This section does not attempt to cover all possible future activities or eventualities (e.g. as a result of accidents), and does not consider likely cumulative effects that could result from different types of activities being carried out simultaneously within or outside of the SPA. This advice is not a prohibition, but rather indicates that some form of management measure(s) may be required, or further measures may be required where actions are already in force. The advice is indicative and does not remove the need for formal consultation on individual plans and projects.

The pressures and activities identified in the Advice on Operations package have been extracted from the [REDACTED] (FeAST) which has been developed by NatureScot (available on request) (Rogerson *et al.* 2021). This tool investigates the sensitivity of marine features to anthropogenic activities with a focus on Scottish waters, although the same pressures exist throughout the UK. The activities exerting pressures were identified using the [Marine Pressures Activity Database](#).

Manx shearwater is thought to be sensitive to a number of direct and indirect pressures at sea which can be exerted by a number of activities:

- Extraction of living resources
- Extraction of non-living resources
- Energy generation (renewable and hydrocarbon)
- Transport (shipping)
- Recreation and leisure
- Defence and national security
- Waste management
- Other man-made structures
- Research

For more information on the sensitivities and pressures see the [Advice on Operations spreadsheet](#).

Given the importance of prey availability as a supporting feature, pressures which impact on abundance and availability of prey species are also important. It is likely that removal of target species is an important pressure for prey species which are of commercial interest (such as herring, sprat, sand eels and cephalopods). Removal of non-target species is also an important pressure for any non-commercial prey species that are bycaught during fishing activities. Fishing types that have the greatest bycatch risk are demersal longlines and

< 10 m set nets (gillnets) which occur at very low levels within the site (Anderson *et al.* 2022). The effect of this pressure is increased mortality. Benthic, surface and water column feeders represent the species guilds most susceptible to entanglement in nets due to their foraging strategies. In the UK, offshore demersal longline and < 10 m static nets (gillnets) have been observed to be the greatest cause of seabird bycatch, particularly for fulmar (*Fulmarus glacialis*) and guillemot (*Uria aalge*) in longlines and gillnets respectively. Entanglement can occur during net setting, hauling, trawls, most often when birds are foraging/scavenging around nets. One of the prey species, herring, are targeted using pelagic trawls and purse seine fisheries within the Irish Sea, however this only occurs at low levels in the north and north-west of the site respectively and very low levels throughout the rest of the site (based on VMS data 2009–2020). The level of fishing activity for most other gear types is either low or negligible, with the exception of beam trawls where overall activity levels are low to moderate (VMS data). However, beam trawls are not expected to target the key prey species of Manx shearwater.

Any activity that can cause a pressure or pressures to which the feature and supporting habitats or species may be sensitive could present a risk to the feature of not achieving the conservation objectives and should be assessed against the attributes listed in Table 2.

The next section looks at which of the potentially damaging activities which can cause pressures to which Manx shearwater are sensitive. This is provided to highlight where JNCC advises that more immediate management effort be focused.

4.1 Advice on existing operations

This section provides advice on those activities that might impact the species and are known to occur, or are planned to occur, within the SPA at present (March 2023). It lists the most important activities and potential associated pressures as identified by FeAST and provides advice on operations. The activities, pressures and further information can be found in the associated [Advice on Operations spreadsheet](#). Our advice does not go into detail about the level of exposure to associated pressures caused by these activities and hence the level of impact that might be expected on the species. This section should therefore be considered as the starting point for discussions about the appropriate management actions relating to the SPA. Detailed information on current exposure levels held by the relevant authorities responsible for management should be used to inform the management of any activity that might impact upon the site's integrity.

The comments below are general and should not be considered definitive. They are made without prejudice to any comments JNCC may provide or any assessment that may be required for individual plans or projects to be considered by a competent or relevant authority. The level of any impact will depend on the location, intensity and duration of the specific activity. The advice is provided to assist and focus the authorities on their consideration of the management of these operations.

Military activity

MOD operations could occur in and around the site and may include low-flying aircraft, firing munitions and exploding ordinance, high speed vessel manoeuvres or military exercises which could cause disturbance to the feature.

Fisheries

Fishing activity of various types (beam trawl, demersal trawl, dredges, demersal seine, pelagic trawls, pots and traps, hooks and lines, gillnets and purse seines) occur within or close to the site and may exert direct pressure on the feature through disturbance from vessels, mortality through bycatch and removal of prey species.

Cables

Telecommunications cables pass through the north-west of the site and power cables pass close to the southern edge of the site. Impacts to the feature are only likely to occur during maintenance activities.

4.1.1 Supporting habitats and processes

As set out in Objective B of the Conservation Objectives, key supporting processes that are vital for the formation and functioning of the Irish Sea Front need to be maintained. In the Irish Sea, deep water and reduced tidal flows to the south-west of the Isle of Man result in annual seasonal stratification. This causes the formation of a cyclonic, seasonal gyre which has a significant impact on water circulation in the region and separates the well-mixed waters from stratified ones (Gowen *et al.* 1995; Hill *et al.* 1994; O'Reilly *et al.* 2014; Trimmer *et al.* 1999). One key feature of the gyre and its circulatory nature is its function in retaining planktonic larvae, juvenile and larval fish, and zooplankton (Hill *et al.* 1994; Dickey-Collas *et al.* 1996; 1997). The timing of formation and stability of the Irish Sea Front is vital to maintaining the site's reliable and productive characteristics.

The only current issue possibly affecting the timing, formation and stability of the front is climate change, which is not something that can be managed at a site level. Climate change is likely to have a variety of impacts including increases in sea surface temperature (SST) and more frequent extreme events, evidence has shown that severe gales can have an impact on stratification of the Irish Sea (Scrope-Howe and Jones 1985). In addition, construction of sub-surface infrastructure, in particular to the north-west where the seasonal gyre forms which is vital for the retention of prey, could be of concern. Such structures can have impacts on the currents/water flow and sediment regime of the seabed. Alterations to the hydrodynamic regime (tidal flows/seasonal stratification & seasonal gyre formation) have the potential to affect larval recruitment and the availability of food and oxygen, and waste removal (De Dominicis *et al.* 2017; Dickey-Collas *et al.* 1996; Hill *et al.* 1994 & 1997; O'Reilly *et al.* 2014; Trimmer *et al.* 2003).

4.1.2 Prey

As outlined above, the physical processes present within and in the areas surrounding the SPA are vital for the accumulation and retention of prey species within the Irish Sea Front and the SPA itself. Given the lack of data and certainty around the diet of Manx shearwaters, the potential reproductive activity of fish within and in the vicinity of the site and the origin of prey species occurring within the SPA, assessing the impact of activities on prey species is not straightforward. Therefore at this time of writing, we cannot provide evidence-based management advice concerning the prey species themselves.

4.1.3 Advice on Seasonality

Manx shearwaters spend the winter in the southern hemisphere, arriving back to their breeding colonies in the UK at the beginning of March, and they have an extended breeding period with chicks still present in the burrow into September. Table 1 indicates the months in which significant numbers of Manx shearwater are most likely to be present at the site during a typical calendar year, as well as months where the species is known to be present during a typical calendar year but in fewer numbers (adapted from Waggitt *et al.* 2020).

Applicants considering plans or projects scheduled in the periods where Manx shearwater are most likely to be present at the site during a typical calendar year would benefit from early consultation with JNCC given the greater scope for there to be likely significant effects that require consideration. The months outside these periods are not ones in which the feature is necessarily absent, rather that the feature may be present in less significant

numbers in typical years, but there may still be a significant effect. Please note that this period can vary between years and that in any one year considerable numbers may be present outside of the months indicated below. Any assessment of potential impacts on the feature must be based on up-to-date count data and take account of population trends evident from these data and any other available information. Additional surveys may be required.

Table 1. Seasonality table showing the months where Manx shearwater are most likely to be present at the site during a typical calendar year. Dark shading (**) represents months where significant numbers of Manx shearwater are likely to be present (April to September inclusive). Paler shading (*) represents months where the species is present, but in fewer numbers (March, October) (adapted from Waggitt *et al.* 2020).

Feature name	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Manx shearwater, breeding			*	**	**	**	**	**	**	*		

5 Links to wider conservation strategy for the species

Any seabird conservation strategies in the four devolved nations will directly inform the conservation advice presented in this document. The strategies assess the most important pressures for each species and across different seasons, based on assessments of existing evidence and informed by expert opinions. Manx shearwater assessments from each of the country strategies will be relevant as birds from colonies in England (Lundy), Wales (Skomer), Scotland (Rum) and Northern Ireland (Copeland) use the Irish Sea Front during the breeding season (Dean *et al.* 2015).

The seabird strategies also provide a broader context and address the wider issues affecting this species that cannot be covered within this conservation advice package, such as those covered in the Advice on operations (Section 4). They also provide some contextual discussion on issues such as climate change and prey availability which will act via multiple pathways, such as sea surface temperature, extreme weather and changes in species distribution and composition.

6 Supplementary information on the Conservation Objectives

Table 2. Additional evidence for the Conservation Objectives

Objective	Action	Additional Evidence
<p>A. Avoid significant disturbance of the qualifying feature within the site, such that the ability of the species to use the site is maintained in the long-term.</p>	<p>Ensure Manx shearwaters are not at significant risk from disturbance within the breeding season</p>	<p>An area as outlined in Figure 1 has been identified as an aggregation hotspot for Manx shearwater (Kober <i>et al.</i> 2010, 2012). Tracking data has shown that birds from Skomer, Skokholm, Bardsey, Rum, Copeland and Lundy all use the Irish Sea Front region for foraging during the breeding season (Dean <i>et al.</i> 2013; Guilford <i>et al.</i> 2008). ESAS data suggest that shearwaters are present throughout the site between March and September. They will mainly be using this site for foraging, although it may also be an important site for maintenance behaviours and resting/roosting as demonstrated by tracking data collected by Dean <i>et al.</i> (2015).</p> <p>There is high uncertainty surrounding assessments of various forms of disturbance, for example shearwaters have been observed within the footprint of a windfarm in the Celtic Sea, but there is little evidence of their occurrence within other established windfarms (Dierschke <i>et al.</i> 2016; Furness <i>et al.</i> 2013; Wade <i>et al.</i> 2016). Surveys before, during and post-construction at the Robin Rigg windfarm found numbers within the windfarm did appear to decrease during operational years compared with pre- and during-construction, however numbers were always relatively low (Canning <i>et al.</i> 2013).</p>
<p>B. Maintain the habitats, processes and food resources of the qualifying feature in favourable condition</p>	<p>Maintain the variety and abundance of food resources</p>	<p>In the UK, Manx shearwater diet studies are few and the forage species listed here are based on the only diet study identified through review and other opportunistic studies. Manx shearwater diet may mainly consist of small fish, particularly clupeids, including herring and sprat, as well as sand eels and a variety of cephalopod species (Brooke 1990; Camphuysen 2005; Cramp and Brooks 1992; Stone <i>et al.</i> 1995; Tasker and Furness 1996; Thompson 1987; Warham 1990). They tend to forage more on fish during the chick rearing period and fledging weight (which is related to survival) has shown to be significantly linked to the quality of herring stocks, therefore the abundance and quality of forage fish stocks during the chick rearing period of end of June to September will be vital for breeding success (Riou <i>et al.</i> 2011; Perrins <i>et al.</i> 1973; Thompson 1987). Manx shearwater breeding success has been assessed to have a very low vulnerability to a reduction in prey in the vicinity of the colony, due to their extensive foraging range, low flight costs, flexible daily energy budget and varied diet (Furness and Tasker 2000). This study was conducted in the North Sea and focussed on sand eels therefore the sensitivity to reduction in other prey species (herring) in the Irish Sea may not be the same.</p>

Objective	Action	Additional Evidence
<p>B. Maintain the habitats, processes and food resources of the qualifying feature in favourable condition <i>(continued)</i></p>	<p>and the condition of supporting habitats</p>	<p>Atlantic herring are benthic spawners, they tend to spawn in discreet beds and require substrates such as gravel, stones, shells and/or flat rock, see Appendix 2 Figures 1 & 2 (Breslin 1998; Campanella and van der Kooij 2021; Hay <i>et al.</i> 2001; Townsend 1992). They prefer to spawn at depths of around 15–40 m, in well-mixed, “high energy environments”, at these sites they can spawn at very high densities (BEIS 2016; Maravelias <i>et al.</i> 2000; O’Sullivan <i>et al.</i> 2013). Key spawning areas that contribute juvenile herring to the Irish Sea were identified as the east coast of the Isle of Man, the south coast of Ireland and a small area off the south-west of Pembrokeshire, although these data may need updating (Coull <i>et al.</i> 1998; BEIS 2016; Ellis 2012).</p> <p>A recent review, which used adult herring density as a proxy for spawning activity, identified a hotspot in the northern Irish Sea around the Isle of Man (Campanella & van der Kooij 2021). The spawning grounds around the coast of Isle of Man and Pembrokeshire are partially protected by Marine Nature Reserves and SACs, however, the waters off Ireland do not appear to have any protections in place and therefore may be vulnerable to anthropogenic impacts (Isle of Man Government 2021; NRW & JNCC 2017).</p> <p>Alongside spawning grounds which ensure the replenishment of prey for shearwaters, fish nursery grounds play an important role for prey availability to seabirds and research has shown that shearwaters favour juvenile fish (Riou <i>et al.</i> 2011; Thompson 1987). Herring stay in nursery grounds until they are between 2 and 3 years old when they migrate to their spawning grounds (Hay <i>et al.</i> 2001). The northern part of the Irish Sea, particularly the Liverpool Bay area, is an important nursery ground for juvenile herring hatched in the Celtic Sea around the South and West coasts of Ireland. They can form dense aggregations, often associating with sprats (BEIS 2016; Brophy and Danilowicz 2002; Dickey-Collas <i>et al.</i> 2015; Hay <i>et al.</i> 2001). In a recent study, all these main nursery areas have been confirmed by the presence of juvenile herring, and in addition a new nursery ground in the Bristol Channel has been identified (Campanella & van der Kooij 2021).</p> <p>The Irish Sea Front SPA overlaps low intensity spawning grounds for sand eel (<i>Ammodytidae</i> species) and high intensity nursery areas located to the south-west (Campanella & van der Kooij 2021; Ellis 2012) (See Appendix 2). Sand eels are reliant on favourable sandy benthic habitats, preferring sandy seabeds with high proportion of coarse and medium sand particles (Greenstreet <i>et al.</i> 2010, Holland <i>et al.</i> 2005). Sand eels are highly site-faithful and non-migratory, with large-scale dispersal only possible during larval phase and this is generally to a limited extent (Proctor <i>et al.</i> 1998; Christensen <i>et al.</i> 2008 & 2009; Van Deurs <i>et al.</i> 2010). Therefore, sand eel seabed habitats in or linked to the Irish Sea Front SPA should be maintained in favourable condition.</p>

Objective	Action	Additional Evidence
B. Maintain the habitats, processes and food resources of the qualifying feature in favourable condition <i>(continued)</i>	and the condition of supporting habitats <i>(continued)</i>	Sprat are prevalent across the entire Irish Sea region; they spawn pelagic eggs in batches around the entire UK coast between May-August, near the coast or up to 100 km offshore between depths 10–20 m (De Silva 1973; Dickey-Collas <i>et al.</i> 2015; Gordon 2006). The most recent study did not identify egg data, adult density of adults was used as a proxy and the main spawning areas were distributed along the English coast of the western English Channel and in coastal waters of the northern Irish Sea (Campanella and van der Kooij 2021).
	and associated processes	<p>Seasonal stratification in the western Irish Sea is a key factor controlling the production, distribution and fate of marine organic matter (O'Reilly <i>et al.</i> 2014). The timing of formation and stability of the Irish Sea Front is vital to maintaining its reliable and productive characteristics. Early stratification and the formation of a stable front has been associated with significantly higher concentrations of plankton in the Irish Sea when compared with years of later stratification. A further study showed that when disrupted by severe gales, a breakdown in stratification led to a decrease in zooplankton abundance (Lee <i>et al.</i> 2005; Scrope-Howe and Jones 1985). A similar association was found in the north-eastern North Sea where a weakened frontal structure was linked to a decrease in gadoid larvae (Munk <i>et al.</i> 1999).</p> <p>Tidal fronts are areas of high primary productivity and subsequently attract and support a wide range of other organisms throughout the food chain. Ichthyoplankton surveys off the coast of the Isle of Man found that the frontal waters were the preferred habitat of both clupeids and sand eel larvae (Lee <i>et al.</i> 2005). The front attracts large aggregations of fish, such as herring, which are a key forage species for seabirds such as Manx shearwaters (Begg and Reid 1997; Fernandes 1993; Hardy 1936; Maravelias <i>et al.</i> 2000). Manx shearwaters can cover vast distances searching for food, however, tracking studies have shown that birds breeding on Skomer carry out most of their foraging within 100 km of fronts (Shoji <i>et al.</i> 2015).</p>

Objective	Action	Additional Evidence
<p>B. Maintain the habitats, processes and food resources of the qualifying feature in favourable condition (continued)</p>	<p>Existing water quality should be maintained any increase in nutrients, turbidity or contaminants where this could reduce supporting habitats and/or prey, should be avoided.</p>	<p>Seasonal stratification in the western Irish Sea is a key factor controlling the production, distribution and fate of marine organic matter (O'Reilly <i>et al.</i> 2014). Long periods of increased turbidity, caused by persistent high levels of suspended sediments, could potentially affect Manx shearwaters directly and indirectly. Prey availability can be affected through reduced primary productivity, as well as the impacts on the health of fish and other organisms within the habitat. As shearwaters are visual predators, increased turbidity may impair their ability to locate prey patches within the environment (Ainley 1977; Baduini <i>et al.</i> 2001; Eriksson 1985; Hanley and Stone 1988; Lovvorn <i>et al.</i> 2001). Evidence collected using biologgers attached to Manx shearwaters suggests that visual cues are vital for successful foraging and that fine-scale prey capture was constrained by the detectability of prey underwater (Darby <i>et al.</i> 2022).</p>
<p>C. Ensure connectivity between the site and its supporting habitats and Manx shearwater breeding colonies is maintained</p>	<p>Ensure Manx shearwaters continue to have access to and utilise the site for foraging within the breeding season and avoid significant disturbance to Manx shearwaters to ensure individuals can move safely between the site and their breeding colonies</p>	<p>Given the extensive foraging ranges of Manx shearwaters during the breeding season (mean maximum foraging range of 1,346.8 +/- 1,018.7 km but the maximum foraging distance recorded can be over 2,890 km), there are 57 colonies in the UK with the ability to forage within the SPA, although the number of colonies with individuals that regularly use this area is more likely to be between 16 - 21 (Woodward <i>et al.</i> 2019). Manx shearwaters show moderate displacement towards offshore activities such as wind, wave and tidal development, low displacement from dredging, aggregates, oil and gas activities and very low displacement from vessel activities such as traffic, fishing and transport (Dierschke <i>et al.</i> 2016; MMO 2018). Currently there are no operational wind farms that may act as a barrier for shearwaters accessing the site, although noting the planned floating and fixed wind projects off Pembrokeshire, Northern Ireland, Ireland, the ScotWind plan areas and Round 4 sites off the coast of Wales and Cumbria. Potential impacts on the Irish Sea Front SPA will be considered as part of the impact assessment process for these projects.</p>

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Appendix 1. Supplementary information

Ecology and life-history – Manx shearwater

Manx shearwaters are transatlantic migrants, spending the winter off the coast of South America before returning to the UK to breed in early spring (February/March). They can be found on their breeding grounds from the end of February and begin their return migration at the end of September (Brooke 1990). These efficient fliers are able to cover vast distances in search of prey or on their migration.

Manx shearwaters are listed as “Least Concern” by International Union for Conservation of Nature (IUCN) at both a global and European level of assessment (BirdLife International 2015; 2018). Within the UK they are listed as a species of Least Concern by the IUCN due to their large range and current population estimates (BirdLife International 2021). However, the UK has a special responsibility for this species as the majority of the world population of Manx shearwaters breed in the UK, where they are mainly restricted to small offshore islands. They are extremely site faithful and often return to their natal colony to breed, often to the same burrow and partner as in previous years. Studies have shown that many seabirds, including Manx shearwaters, become more successful breeders with age and the longer partners have been together (Brooke 1978 & 1990; Mauck *et al.* 2018; Riou *et al.* 2011).

Manx shearwater is a long-lived species. The oldest known bird was re-trapped on Bardsey in 2003, having been ringed there as an adult (> 5 years old) in 1953, making it at least 55 years old (Clark *et al.* 2004). Like many other seabird species, they invest heavily in a single egg, which they lay in a burrow, usually acquired from a rabbit or puffin (*Fratercula arctica*), although they are capable of digging burrows themselves. Both parents contribute to incubating the egg until it hatches after around 51 days and then continue to feed the chick for around 10 weeks until fledging. Shearwaters display a dual-foraging strategy; parents make either short trips to gather food for the chick or longer excursions to improve their own body condition (Shoji *et al.* 2015).

Manx shearwaters are ungainly on land due to their physiological adaptations to life at sea with their legs situated very far back on their bodies. They therefore only come back to land at night to avoid the risk of predation from large gulls, raptors and corvids. Being nocturnal can have disadvantages, for example in poor weather conditions they can become disorientated by light. This is of particular concern for fledging juveniles as they can easily become grounded on large vessels or on the mainland where they are very vulnerable to predation, vehicle collision or starvation as they struggle to take off again.

Manx shearwater feeding behaviour

Manx shearwaters can travel vast distances to find prey. On average they travel 136.1 +/- 88.7 km, and they can change their feeding strategy by making either short or long trips from the colony (Guilford *et al.* 2008; Shoji *et al.* 2015; Woodward *et al.* 2019). The mean maximum foraging range is 1,346.8 +/- 1,018.7 km when associated with a breeding colony, but the maximum foraging distance recorded can be over 2,890 km in the breeding period (Woodward *et al.* 2019).

They are visual predators, grabbing prey at the surface or beneath the surface by pursuit-plunging or pursuit-diving, using their feet and wings to propel themselves beneath the water (Cramp and Simmons 1977; Shoji *et al.* 2016). They routinely make shallow dives of around 7 m but can dive up to 55 m in pursuit of prey (Shoji *et al.* 2016).

Distribution

Given their extensive foraging range, individuals from all UK colonies will have the ability to forage within the Irish Sea Front SPA. The majority of UK colonies are along the west coast of the UK and Ireland and almost exclusively on islands. In the latest UK wide census (Seabird 2000), 57 potential colonies were identified and surveyed. Skomer holds the biggest single colony, with its estimated 350,000 Apparently Occupied Sites (AOS) being nearly three times the size of the next biggest colony on Rum (120,000) (Murray *et al.* 2003; Perrins *et al.* 2020). The most concentrated area in the UK for Manx shearwaters is off the southwest coast of Pembrokeshire, where the islands of Skomer, Skokholm and Middleholm are estimated to hold 456,000 AOS (Perrins *et al.* 2020).

The Irish Sea Front

The Irish Sea Front is a tidal front which forms every year in early summer (Lee *et al.* 2005). This type of front forms at the transition between an area of low tidal energy, where waters become stratified, and an area of high tidal energy with well mixed water (Franks 1992). Stratification causes a thermal gradient, with surface waters up to 3°C warmer than the rest of the water column. This stratification in turn causes the formation of a cyclonic, seasonal gyre; a dome of cold, dense bottom water in the western Irish Sea Basin, which has a significant impact on circulation in the region and separates the well-mixed regions from stratified ones (Hill *et al.* 1994; O'Reilly *et al.* 2014; Trimmer *et al.* 1999).

Manx shearwater use of the site

Tracking data collected from several colonies over multiple years have demonstrated that Manx shearwaters use the Irish Sea Front region, and by extension likely use the SPA itself in a variety of ways. Behavioural states data can be interpreted using GPS tracks, based on flight speed and/or variation in turning angle or in combination with other devices such as immersion loggers or time-depth recorders (TDR) (Dean *et al.* 2013; 2015). Interrogation of such data presented in research papers has demonstrated that Manx shearwaters use the Irish Sea Front region for foraging and resting as well as passing through the area whilst commuting between foraging locations and their colonies (Dean *et al.* 2013; 2015; Guilford *et al.* 2008). The data are not all publicly available (although some is via the [REDACTED]), and therefore it is not possible to definitively outline the use of and behaviours expressed within the SPA. However, it is likely that it is used for vital feeding, maintenance and transiting activities by Manx shearwaters.

Appendix 2

Herring juveniles

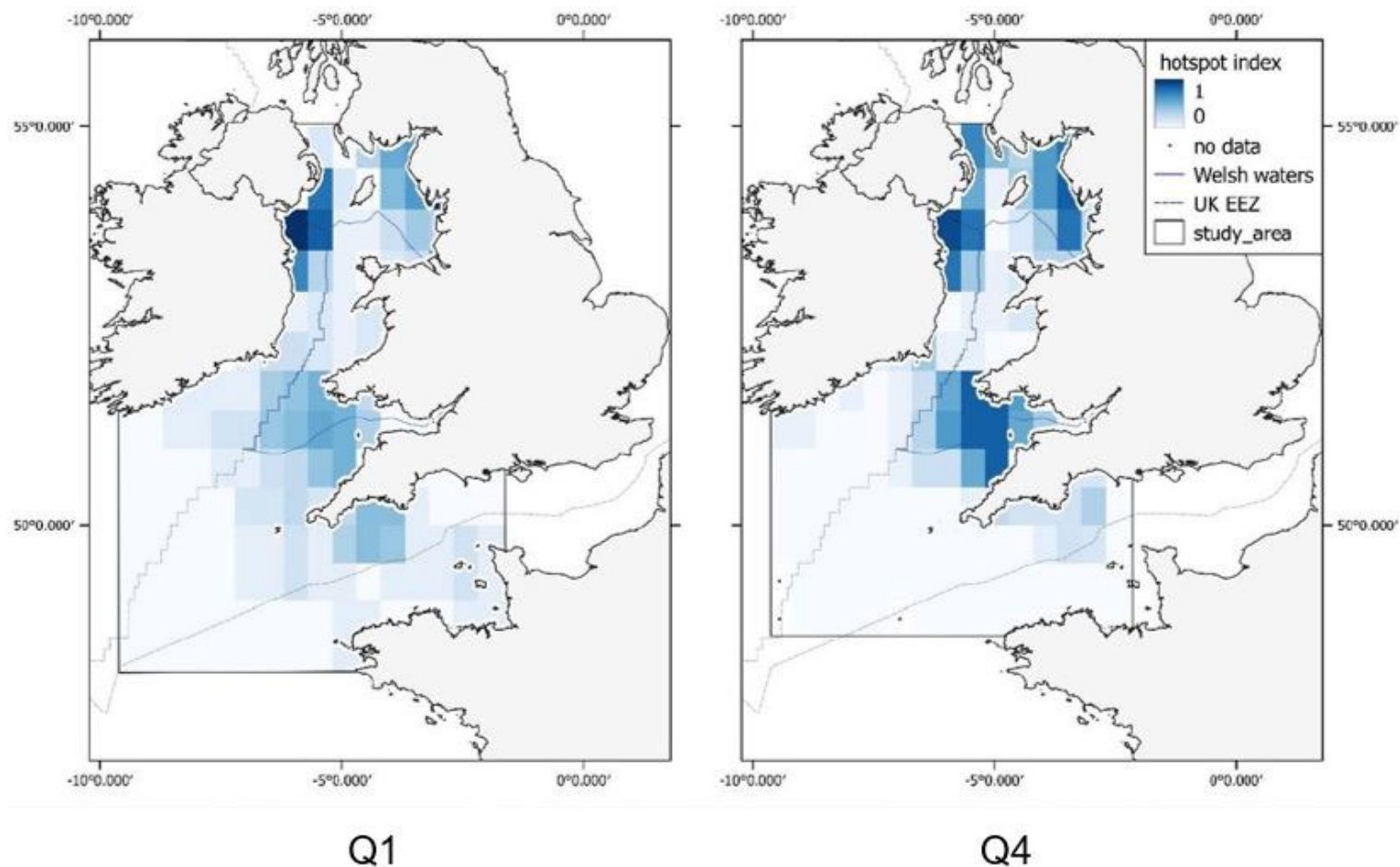


Figure 2. Hotspot maps of juvenile herring (*Clupea harengus*) in Welsh and surrounding waters in Quarters 1 (February to April) and 4 (September to December). Please note that Grid-cells for which no data were available in a particular Quarter are left blank with a point in the centre. Figure taken from Cefas Project Report for RSPB (Campanella and Van der Kooij 2021).

Herring adults

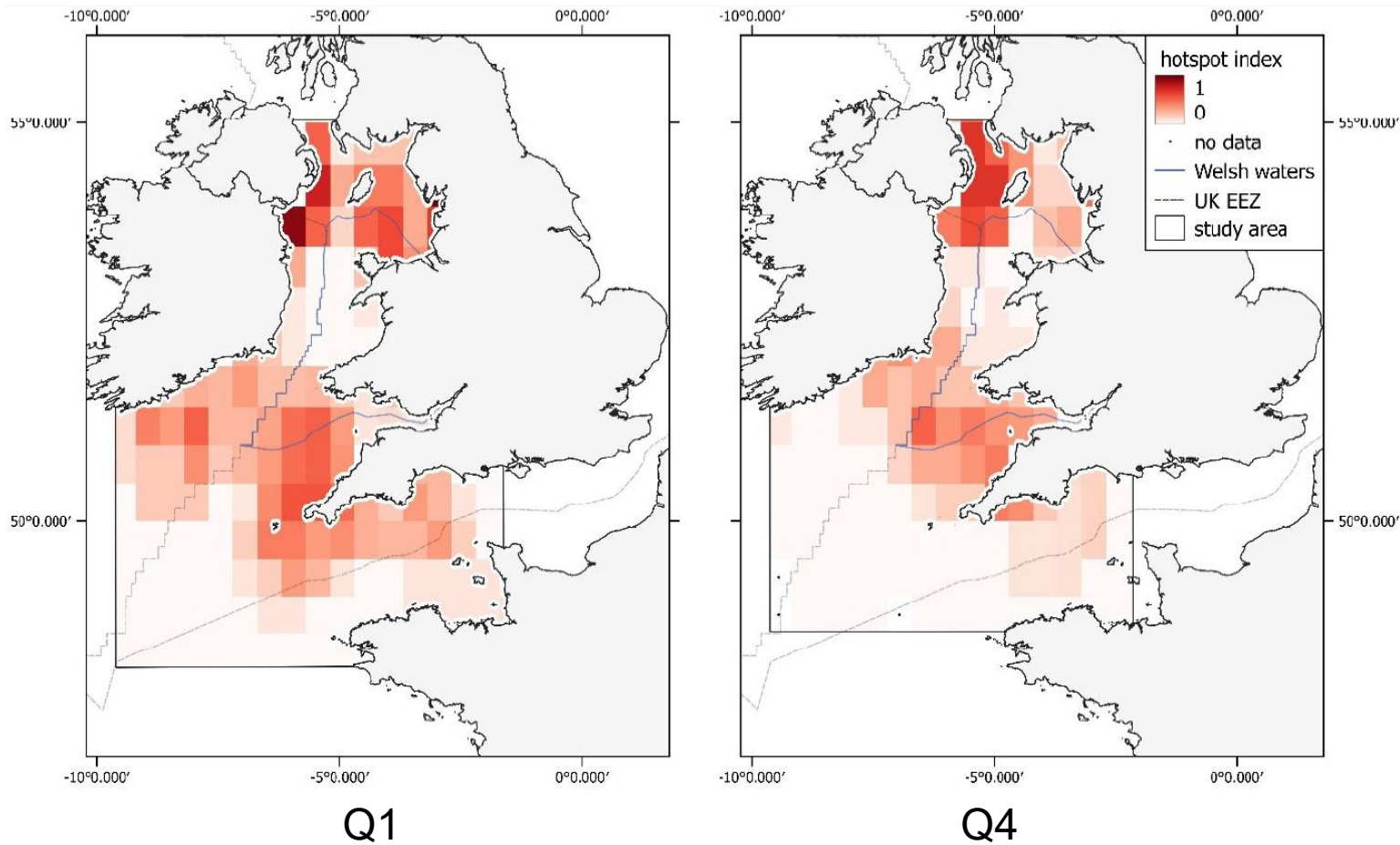


Figure 1. Hotspot maps of adult herring (*Clupea harengus*) in Welsh and surrounding waters in Quarters 1 (February to April) and 4 (September to December). Please note that grid-cells for which no data were available in a particular Quarter are left blank with a point in the centre. Figure taken from Cefas Project Report for RSPB (Campanella and Van der Kooij 2021).

Appendix D: Bowland Fells SPA

European Site Conservation Objectives for Bowland Fells Special Protection Area and potential Special Protection Area Site Code: UK9005151



With regard to the SPA and potential SPA, and the individual species and/or assemblage of species for which the site has been or may be classified (the 'Qualifying Features' including the 'Additional Qualifying Features' listed below), and subject to natural change;

Ensure that the integrity of the site is maintained or restored as appropriate, and ensure that the site contributes to achieving the aims of the Wild Birds Directive, by maintaining or restoring;

- **The extent and distribution of the habitats of the qualifying features**
- **The structure and function of the habitats of the qualifying features**
- **The supporting processes on which the habitats of the qualifying features rely**
- **The population of each of the qualifying features, and,**
- **The distribution of the qualifying features within the site.**

This document should be read in conjunction with the accompanying Supplementary Advice document (where available), which provides more detailed advice and information to enable the application and achievement of the Objectives set out above.

Qualifying Features:

A082 *Circus cyaneus*; Hen harrier (Breeding)

A098 *Falco columbarius*; Merlin (Breeding)

Additional Qualifying Features*

A183. *Larus fuscus*; Lesser black-backed gull (Breeding)

*Government has undertaken public consultation on the scientific case for the classification of these additional features as part of this Special Protection Area (SPA).

Explanatory Notes: European Site Conservation Objectives

These Conservation Objectives are those referred to in the Conservation of Habitats and Species Regulations 2017 (as amended) ('the Habitats Regulations'). They must be considered when a competent authority is required to make a 'Habitats Regulations Assessment' including an Appropriate Assessment, under the relevant parts of this legislation.

These Conservation Objectives, and the accompanying Supplementary Advice (where this is available), will also provide a framework to inform the management of the European Site and the prevention of deterioration of habitats and significant disturbance of its qualifying features

These Conservation Objectives are set for each bird feature for a [Special Protection Area \(SPA\)](#).

Where these objectives are being met, the site will be considered to exhibit a high degree of integrity and to be contributing to achieving the aims of the Wild Birds Directive.

This is a potential Special Protection Area (pSPA)

This site is also a pSPA because Government has previously undertaken a [public consultation on the scientific case for the classification of breeding lesser black-backed gull](#) as an additional qualifying feature of this Special Protection Area (SPA). As a matter of Government policy, potential SPAs and their features are treated as if they are formally classified. The provisions of the Habitats Regulations therefore apply to them (see above).

Publication date: 21 February 2019 (version 4). This document updates and replaces an earlier version dated 13 July 2018 to reflect the consolidation of the Habitats Regulations in 2017.

Appendix E: North West Irish Sea SPA

National Parks and Wildlife Service

Conservation Objectives Series

North-west Irish Sea SPA 004236



NPWS

An tSeirbhís Páirceanna
Náisiúnta agus Fiadhúlra
National Parks and Wildlife
Service

**National Parks and Wildlife Service,
Department of Housing, Local Government and Heritage,
90 King Street North, Dublin 7, D07 N7CV, Ireland.**



Citation:

**NPWS (2023) Conservation Objectives: North-west Irish Sea SPA 004236.
Version 1. National Parks and Wildlife Service, Department of Housing, Local
Government and Heritage.**

Series Editors: 

ISSN 2009-4086

Introduction

The overall aim of the Habitats Directive is to maintain or restore the favourable conservation status of habitats and species of community interest. These habitats and species are listed in the Habitats and Birds Directives and Special Areas of Conservation and Special Protection Areas are designated to afford protection to the most vulnerable of them. These two designations are collectively known as the Natura 2000 network.

European and national legislation places a collective obligation on Ireland and its citizens to maintain habitats and species in the Natura 2000 network at favourable conservation condition. The Government and its agencies are responsible for the implementation and enforcement of regulations that will ensure the ecological integrity of these sites.

A site-specific conservation objective aims to define favourable conservation condition for a particular habitat or species at that site.

The maintenance of habitats and species within Natura 2000 sites at favourable conservation condition will contribute to the overall maintenance of favourable conservation status of those habitats and species at a national level.

Favourable conservation status of a habitat is achieved when:

- its natural range, and area it covers within that range, are stable or increasing, and
- the specific structure and functions which are necessary for its long-term maintenance exist and are likely to continue to exist for the foreseeable future, and
- the conservation status of its typical species is favourable.

The favourable conservation status of a species is achieved when:

- population dynamics data on the species concerned indicate that it is maintaining itself on a long-term basis as a viable component of its natural habitats, and
- the natural range of the species is neither being reduced nor is likely to be reduced for the foreseeable future, and
- there is, and will probably continue to be, a sufficiently large habitat to maintain its populations on a long-term basis.

Notes/Guidelines:

1. The targets given in these conservation objectives are based on best available information at the time of writing. As more information becomes available, targets for attributes may change. These will be updated periodically, as necessary.
2. An appropriate assessment based on these conservation objectives will remain valid even if the targets are subsequently updated, providing they were the most recent objectives available when the assessment was carried out. It is essential that the date and version are included when objectives are cited.
3. Assessments cannot consider an attribute in isolation from the others listed for that habitat or species, or for other habitats and species listed for that site. A plan or project with an apparently small impact on one attribute may have a significant impact on another.
4. Please note that the maps included in this document do not necessarily show the entire extent of the habitats and species for which the site is listed. This should be borne in mind when appropriate assessments are being carried out.
5. When using these objectives, it is essential that the relevant backing/supporting documents are consulted, particularly where instructed in the targets or notes for a particular attribute.

Qualifying Interests

* indicates a priority habitat under the Habitats Directive

004236	North-west Irish Sea SPA
A001	Red-throated Diver <i>Gavia stellata</i>
A003	Great Northern Diver <i>Gavia immer</i>
A009	Fulmar <i>Fulmarus glacialis</i>
A013	Manx Shearwater <i>Puffinus puffinus</i>
A017	Cormorant <i>Phalacrocorax carbo</i>
A018	Shag <i>Phalacrocorax aristotelis</i>
A065	Common Scoter <i>Melanitta nigra</i>
A179	Black-headed Gull <i>Chroicocephalus ridibundus</i>
A182	Common Gull <i>Larus canus</i>
A183	Lesser Black-backed Gull <i>Larus fuscus</i>
A184	Herring Gull <i>Larus argentatus</i>
A187	Great Black-backed Gull <i>Larus marinus</i>
A188	Kittiwake <i>Rissa tridactyla</i>
A192	Roseate Tern <i>Sterna dougallii</i>
A193	Common Tern <i>Sterna hirundo</i>
A194	Arctic Tern <i>Sterna paradisaea</i>
A195	Little Tern <i>Sterna albifrons</i>
A199	Guillemot <i>Uria aalge</i>
A200	Razorbill <i>Alca torda</i>
A204	Puffin <i>Fratercula arctica</i>
A862	Little Gull <i>Hydrocoloeus minutus</i>

For all overlapping or adjoining SPA and SACs, see map 2

Supporting documents, relevant reports & publications

Supporting documents, NPWS reports and publications are available for download from: www.npws.ie/Publications

NPWS Documents

Year :	2018
Title :	The seasonal distribution and abundance of seabirds in the western Irish Sea 2016
Author :	Jessopp, M.; Mackey, M.; Luck, C.; Critchley, E.; Bennison, A.; Rogan, E.
Series :	Report to Department of Communications, Climate Action and Environment, and National Parks & Wildlife Service, Department of Culture, Heritage & the Gaeltacht, Ireland
Year :	2019
Title :	The status of Ireland's breeding seabirds: Birds Directive article 12 reporting 2013 – 2018
Author :	Cummins, S.; Lauder, C.; Lauder, A.; Tierney, T. D.
Series :	Irish Wildlife Manual No. 114
Year :	2021
Title :	Estimated foraging ranges of the breeding seabirds of Ireland's marine special protected area network
Author :	Power, A.; McDonnell, P.; Tierney, T.D.
Series :	Unpublished NPWS report
Year :	2022
Title :	Rockabill Tern Report, 2022
Author :	Allbrook, D.; Dunne, S.; Fink, A.; Newton, S.
Series :	BirdWatch Ireland Seabird Conservation Report to NPWS
Year :	2022
Title :	Kilcoole Little Tern Conservation Project Report, 2022
Author :	Johnson, G.C.; Kavanagh, P.; Burke, B.
Series :	BirdWatch Ireland Seabird Conservation Report to NPWS
Year :	2022
Title :	Spatial utilisation of marine areas as foraging resources for Roseate and Common Terns at Rockabill SPA
Author :	Power, A.; O'Connor, I.; Tierney, T.D.
Series :	Unpublished report by NPWS and ATU
Year :	2022
Title :	Determining the use of coastal waters by breeding Little Terns in Kilcoole through boat-based visual tracking and line transects
Author :	Power, A.; O'Connor, I.; Berrow, S.; O'Meara, S.; Acampora, H.; Monaghan, J.; Clarke, D.; Tierney, T.D.
Series :	Unpublished report by NPWS and ATU
Year :	2022
Title :	Baltray Little Tern Colony Report, 2022
Author :	Louth Nature Trust
Series :	Unpublished report to NPWS

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Title :	The Manx Shearwater
Author :	Brooke, M.
Series :	Poyser, London

Year :	1997
Title :	The status and distribution of breeding sandwich, roseate, common, arctic and little terns in Ireland in 1995
Author :	Hannon, C.; Berrow, S.D.; Newton, S.F.
Series :	Irish Birds, 6: 1-22
Year :	1998
Title :	Flexible foraging techniques in breeding cormorants <i>Phalacrocorax carbo</i> and shags <i>Phalacrocorax aristotelis</i> : benthic or pelagic feeding?
Author :	Grémillet, D.; Argentin, G.; Schulte, B.; Culik, B.M.
Series :	Ibis, 140(1), pp.113-119
Year :	1999
Title :	Diet of the northern fulmar <i>Fulmarus glacialis</i> : reliance on commercial fisheries?
Author :	Phillips, R.A.; Petersen, M.K.; Lilliendahl, K.; Solmundsson, J.; Hamer, K.C.; Camphuysen, C.J.; Zonfrillo, B.
Series :	Marine Biology, 135 (1), pp.159-170
Year :	2003
Title :	Implications for seaward extensions to existing breeding seabird colony Special Protection Areas
Author :	McSorley, C.A.; Dean, B.J.; Webb, A.; Reid J.B.
Series :	JNCC Report No. 329
Year :	2004
Title :	Seabird populations of Britain and Ireland
Author :	Mitchell, P.I.; Newton, S.F.; Ratcliffe, N.; Dunn, T.E.
Series :	Poysner, London
Year :	2005
Title :	Generic guidelines for seaward extensions to existing breeding northern fulmar <i>Fulmarus glacialis</i> colony Special Protection Areas
Author :	McSorley, C.A.; Webb, A.; Dean, B.J.; Reid J.B.
Series :	JNCC Report No. 358
Year :	2006
Title :	Distribution and behaviour of Common Scoter <i>Melanitta nigra</i> relative to prey resources and environmental parameters
Author :	Kaiser, M.J.; Galanidi, M.; Showler, D.A.; Elliott, A.J.; Caldow, R.W.; Rees, E.I.S.; Stillman, R.A.; Sutherland, W.J.
Series :	Ibis, 148, pp.110-128
Year :	2012
Title :	Integrating Irish Marine Protected Areas: the FAME Seabird Tracking Project
Author :	Baer, J.; Newton, S.
Series :	Unpublished BirdWatch Ireland report
Year :	2015
Title :	Simultaneous multi-colony tracking of a pelagic seabird reveals cross-colony utilization of a shared foraging area
Author :	Dean, B.; Kirk, H.; Fayet, A.; Shoji, A.; Freeman, R.; Leonard, K.; Perrins, C.M.; Guilford, T.
Series :	Marine Ecology Progress Series, 538, pp.239-248
Year :	2016
Title :	Assessing the Movements and Usage of Irish Sea Birds using Innovative Technology: A report on phase 1, Seabirds
Author :	Moss, E.; Tierney, N.; Crowe, O.
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Year :	2019
Title :	Desk-based revision of seabird foraging ranges used for HRA screening
Author :	Woodward, I.; Thaxter, C. B.; Owen, E.; Cook, A. S. C. P.
Series :	BTO Research Report No. 724.
Year :	2019
Title :	Visual tracking of Roseate Tern <i>Sterna dougallii</i> from Rockabill: area utilisation and sample size
Author :	Harwood, A.; Perrow, M.; Berridge R.
Series :	ECON report for RSPB
Year :	2019
Title :	Digital video aerial surveys of Common Scoter at Gormanstown: Final report for December 2018 to March 2019
Author :	Hi-Def
Series :	Report produced for Marine Institute
Year :	2019
Title :	The diet of red-throated divers (<i>Gavia stellata</i>) overwintering in the German Bight (North Sea) analysed using molecular diagnostics
Author :	Kleinschmidt, B.; Burger, C.; Dorsch, M.; Nehls, G.; Heinänen, S.; Morkūnas, J.; Žydelis, R.; Moorhouse-Gann, R.J.; Hipperson, H.; Symondson, W.O.; Quillfeldt, P.
Series :	Marine Biology, 166, pp.1-18
Year :	2020
Title :	Arctic tern (<i>Sterna paradisaea</i>), version 1.0. In Birds of the World (S. M. Billerman, Editor)
Author :	Hatch, J. J.; Gochfeld, M.; Burger, J.; Garcia, E. F. J.
Series :	Cornell Lab of Ornithology, Ithaca, NY, USA
Year :	2020
Title :	Great Cormorant (<i>Phalacrocorax carbo</i>), version 1.0. In Birds of the World (S. M. Billerman, Editor)
Author :	Hatch, J.J.; Brown, K.M.; Hogan, G.G.; Morris, R.D.; Orta, J.; Garcia, E.F.J.; Jutglar, F.; Kirwan, G.M.; Boesman, P.F.D.
Series :	Cornell Lab of Ornithology, Ithaca, NY, USA
Year :	2020
Title :	Black-headed Gull (<i>Chroicocephalus ridibundus</i>), version 1.0. In Birds of the World (J. del Hoyo, A. Elliott, J. Sargatal, D. A. Christie, and E. de Juana, Editors)
Author :	Burger, J.; Gochfeld, M.; Kirwan, G. M.; Christie, D. A.; Garcia, E. F. J.
Series :	Cornell Lab of Ornithology, Ithaca, NY, USA
Year :	2020
Title :	Lesser Black-backed Gull (<i>Larus fuscus</i>), version 1.0. In Birds of the World (J. del Hoyo, A. Elliott, J. Sargatal, D. A. Christie, and E. de Juana, Editors)
Author :	Burger, J.; Gochfeld, M.; Kirwan, G. M.; Christie, D. A.; de Juana, E
Series :	Cornell Lab of Ornithology, Ithaca, NY, USA
Year :	2020
Title :	Results from the first three years of monitoring post-breeding tern aggregations in Ireland
Author :	Burke, B.; Fitzgerald, N.; Boland, H.; Murray, T.; Gittings, T.; Tierney, T.D
Series :	Irish Birds 42: 35-44
Year :	2020
Title :	Great Black-backed Gull (<i>Larus marinus</i>), version 1.0. In Birds of the World (S. M. Billerman, Editor)
Author :	Good, T. P.
Series :	Cornell Lab of Ornithology, Ithaca, NY, USA

Year :	2020
Title :	Little Gull (<i>Hydrocoloeus minutus</i>), version 1.0. In Birds of the World (S. M. Billerman, Editor)
Author :	Ewins, P. J.; Weseloh, D. V.
Series :	Cornell Lab of Ornithology, Ithaca, NY, USA
Year :	2020
Title :	Black-legged Kittiwake (<i>Rissa tridactyla</i>), version 1.0. In Birds of the World (S. M. Billerman, Editor)
Author :	Hatch, S. A.; Robertson, G. J.; Baird, P. H.
Series :	Cornell Lab of Ornithology, Ithaca, NY, USA
Year :	2020
Title :	Razorbill (<i>Alca torda</i>), version 1.0. In Birds of the World (S. M. Billerman, Editor)
Author :	Lavers, J.; Hipfner, J. M.; G. Chapdelaine, G.
Series :	Cornell Lab of Ornithology, Ithaca, NY, USA
Year :	2020
Title :	Atlantic Puffin (<i>Fratercula arctica</i>), version 1.0. In Birds of the World (S. M. Billerman, Editor)
Author :	Lowther, P. E.; Diamond, A. W.; Kress, S. W.; Robertson, G. J.; Russell, K.; Nettleship, D. N.; Kirwan, G. M.; Christie, D. A.; Sharpe, C. J.; Garcia, E. F. J.; Boesman, P. F. D.
Series :	Cornell Lab of Ornithology, Ithaca, NY, USA
Year :	2020
Title :	Herring Gull (<i>Larus argentatus</i>), version 1.0. In Birds of the World (S. M. Billerman, Editor)
Author :	Weseloh, D. V.; Hebert, C. E.; Mallory, M. L.; Poole, A. F.; Ellis, J. C.; Pyle, P.; Patten, M. A.
Series :	Cornell Lab of Ornithology, Ithaca, NY, USA
Year :	2021
Title :	Common Murre (<i>Uria aalge</i>), version 2.0. In Birds of the World (S. M. Billerman, P. G. Rodewald, and B. K. Keeney, Editors)
Author :	Ainley, D. G.; Nettleship, D. N.; Storey, A. E.
Series :	Cornell Lab of Ornithology, Ithaca, NY, USA
Year :	2021
Title :	Common Gull (<i>Larus canus</i>), version 1.1. In Birds of the World (S. M. Billerman, Editor)
Author :	Moskoff, W., Bevier, L. R.; Rasmussen, P. C.
Series :	Cornell Lab of Ornithology, Ithaca, NY, USA
Year :	2021
Title :	European Shag (<i>Gulosus aristotelis</i>), version 1.2. In Birds of the World (B. K. Keeney, Editor)
Author :	Orta, J., Garcia, E. F. J.; Jutglar, F.; Kirwan, G. M.; Boesman, P. F. D.
Series :	Cornell Lab of Ornithology, Ithaca, NY, USA
Year :	2021
Title :	Common Loon (<i>Gavia immer</i>), version 2.0. In Birds of the World (P. G. Rodewald and B. K. Keeney, Editors)
Author :	Paruk, J. D., Evers, D. C.; McIntyre, J. W.; Barr, J. F.; Mager, J.; Piper, W. H.
Series :	Cornell Lab of Ornithology, Ithaca, NY, USA
Year :	2022
Title :	Dublin Bay Birds Project: Dublin Port Tern Conservation Project
Author :	Boland, H.; Adcock, T.; Burke, B
Series :	Unpublished Birdwatch Ireland report

Conservation Objectives for : North-west Irish Sea SPA [004236]

A001 Red-throated Diver *Gavia stellata*

To maintain the favourable conservation condition of red-throated diver at North-west Irish Sea SPA, which is defined by the following list of attributes and targets:

Attribute	Measure	Target	Notes
Non-breeding population size	Number	No significant decline	North-west Irish Sea SPA provides essential resources for adjacent seabird colonies. Red-throated diver is a Special Conservation Interest (SCI) for this site. During the non-breeding period divers (primarily great northern and red-throated divers) in the western Irish Sea are known to concentrate in the shallower coastal areas, with a clear preference for waters of 5-20m (Jessopp et al., 2018). One series of surveys focused on waters off Gormanstown, which overlaps with this SPA, found that the numbers of red-throated diver peaked in the February survey and estimated the population to be 2,140 ($\pm 95\%$ confidence interval of 1,429 – 2,957) individuals (HiDef, 2019); the North-west Irish Sea SPA overlaps with this area. A population of 827 individuals was estimated based on December 29th 2019 HiDef data (NPWS unpublished data analysis). Red-throated diver can be quite mobile and it is likely that there is interchange between the designated (e.g. Dundalk Bay SPA) and undesignated waters
Spatial distribution	Hectares, time and intensity of use	Sufficient number of locations, area, and availability (in terms of timing and intensity of use) of suitable habitat to support the population	Distribution encapsulates the number of locations and area of potentially suitable habitat for the wintering population and its availability for use. The suitability and availability of habitat areas may vary throughout the season. This will affect the spatio-temporal patterns of use of the habitats by the non-breeding population
Forage spatial distribution, extent and abundance	Location and hectares, and forage biomass	Sufficient number of locations, area of suitable habitat and available forage biomass to support the population target	The diet of this piscivorous diver is poorly known outside of the breeding season but one study from the German Bight indicates that red-throated diver is a generalist opportunistic feeder but pelagic schooling fish that have a high energetic value might be favoured (Kleinschmidt et al., 2019)
Disturbance across the site	Intensity, frequency, timing and duration	The intensity, frequency, timing and duration of disturbance occurs at levels that do not significantly impact the achievement of targets for population size and spatial distribution	The impact of any significant disturbance (direct or indirect) to the non-breeding population will ultimately affect the achievement of targets for population size and/or spatial distribution. Disturbance contributes to increased energetic expenditure which can result in increased likelihood of over-winter mortality or reduced fitness (if energy expenditure is greater than energy gain) and, in turn, negatively impact population trends. Factors such as intensity, frequency, timing and duration of a (direct or indirect) disturbance source must be taken into account to determine the potential impact upon the targets for population size and spatial distribution
Barriers to connectivity and site use	Number; location; shape; area (hectares)	The number, location, shape and area of barriers do not significantly impact the site population's access to the SPA or other ecologically important sites outside the SPA	Barriers limiting the population's access to this SPA or ecologically important sites outside the SPA will ultimately affect the achievement of targets for population trend and/or spatial distribution. Factors such as the number, location, shape and area of potential barriers must be taken into account to determine their potential impact. Access to ecologically important sites outside the SPA must also be considered as a single SPA may not satisfy all the ecological requirements of the non-breeding population, and it may require access to other SPAs or undesignated sites for certain activities, such as additional foraging when preferred foraging areas are unavailable due to disturbance, prey availability, or other factors

A003 Great Northern Diver *Gavia immer*

To maintain the favourable conservation condition of great northern diver at North-west Irish Sea SPA, which is defined by the following list of attributes and targets:

Attribute	Measure	Target	Notes
Non-breeding population size	Number	No significant decline	During the non-breeding period divers (primarily great northern diver and red-throated diver (<i>Gavia stellata</i>)) in the western Irish Sea are known to concentrate in the shallower coastal areas, with a clear preference for waters of 5-20m (Jessopp et al., 2018). One series of surveys focused on waters off Gormanstown, which overlaps with this SPA, found that the numbers of great northern diver peaked in the March survey and estimated the population to be 1,279 (±95% confidence interval of 676 – 2,084) individuals (HiDef, 2019); the North-west Irish Sea SPA overlaps with this area. A population of 176 individuals was estimated based on December 29th 2019 HiDef data (NPWS unpublished data analysis). Great northern diver can be quite mobile and it is likely that there is interchange between the designated (e.g. Dundalk Bay SPA) and undesignated waters
Spatial distribution	Hectares, time and intensity of use	Sufficient number of locations, area, and availability (in terms of timing and intensity of use) of suitable habitat to support the population	Distribution encapsulates the number of locations and area of potentially suitable habitat for the wintering population and its availability for use. The suitability and availability of habitat areas may vary throughout the season. This will affect the spatio-temporal patterns of use of the habitats by the non-breeding population
Forage spatial distribution, extent and abundance	Location and hectares, and forage biomass	Sufficient number of locations, area of suitable habitat and available forage biomass to support the population target	Largely piscivorous, foraging over the benthos as well as throughout the water column, but will also frequently eat marine invertebrates (Paruk et al., 2021)
Disturbance across the site	Intensity, frequency, timing and duration	The intensity, frequency, timing and duration of disturbance occurs at levels that do not significantly impact the achievement of targets for population size and spatial distribution	The impact of any significant disturbance (direct or indirect) to the non-breeding population will ultimately affect the achievement of targets for population size and/or spatial distribution. Disturbance contributes to increased energetic expenditure which can result in increased likelihood of over-winter mortality or reduced fitness (if energy expenditure is greater than energy gain) and, in turn, negatively impact population trends. Factors such as intensity, frequency, timing and duration of a (direct or indirect) disturbance source must be taken into account to determine the potential impact upon the targets for population size and spatial distribution
Barriers to connectivity and site use	Number; location; shape; area (hectares)	The number, location, shape and area of barriers do not significantly impact the site population's access to the SPA or other ecologically important sites outside the SPA	Barriers limiting the population's access to this SPA or ecologically important sites outside the SPA will ultimately affect the achievement of targets for population trend and/or spatial distribution. Factors such as the number, location, shape and area of potential barriers must be taken into account to determine their potential impact. Access to ecologically important sites outside the SPA must also be considered as a single SPA may not satisfy all the ecological requirements of the non-breeding population, and it may require access to other SPAs or undesignated sites for certain activities, such as additional foraging when preferred foraging areas are unavailable due to disturbance, prey availability, or other factors

A009 Fulmar *Fulmarus glacialis*

To restore the favourable conservation condition of fulmar in North-west Irish Sea SPA, which is defined by the following list of attributes and targets:

Attribute	Measure	Target	Notes
Population Size	Number	Long term SPA population trend is stable or increasing	Fulmar is present within the SPA throughout the year. Breeding fulmar is a SCI of Lambay Island SPA (004069), which declined by 36% over the period 1999-2015 to 375 pairs (Mitchell et al., 2000; and Cummins et al., 2019). These birds exploit the marine waters of the North-west Irish Sea SPA during the breeding season. As fulmar can range large distances from their nest sites during the breeding season it is likely that the North-west Irish Sea SPA does not contain all relevant foraging resources for the Lambay Island SPA breeding population (Power et al., 2021). Fulmar breeding at other colonies and non-breeding individuals may also use the North-west Irish Sea SPA during the breeding period. Fulmar winter at sea and Jessopp et al. (2018) showed a broad distribution in the winter survey. Based on Jessopp et al. (2018) data for summer, autumn and winter surveys of the western Irish Sea an estimated 214, 11,260 and 506 individuals occurred in the SPA respectively
Spatial distribution	Hectares, time and intensity of use	Sufficient number of locations, area, and availability (in terms of timing and intensity of use) of suitable habitat to support the population	Distribution encapsulates the number of locations and area of potentially suitable habitat for the population and its availability for use. The suitability and availability of habitat areas may vary through time. This will affect the spatio-temporal patterns of use of the habitats by fulmar. Jessopp et al. (2018) recorded fulmar throughout the western Irish Sea survey area showing a clear preference for deeper waters; a high aggregation was noted in the eastern half of the North-west Irish Sea SPA during the autumn survey. Based on several studies, Woodward et al. (2019) estimates (i.e. overall mean; mean of maximum distances across all studies; and maximum distance recorded) of fulmar foraging ranges from the nest site during the breeding season, which are 135; 542; and 2,736km respectively (see Power et al., 2021)
Forage spatial distribution, extent, abundance and availability	Location and hectares, and forage biomass	Sufficient number of locations, area of suitable habitat and available forage biomass to support the population target	The colonisation of Ireland and Britain by fulmar over the last two centuries has been largely attributed to their close association with fisheries, but contemporary dietary studies indicate they also feed on a wide variety of prey including sandeels, crustaceans and squid (Philips et al., 1999)
Disturbance across the site	Intensity, frequency, timing and duration	The intensity, frequency, timing and duration of disturbance occurs at levels that do not significantly impact the achievement of targets for population size and spatial distribution	The impact of any significant disturbance (direct or indirect) to the population will ultimately affect the achievement of targets for population size and/or spatial distribution. Disturbance contributes to increased energetic expenditure which can result in increased likelihood of mortality or reduced fitness (if energy expenditure is greater than energy gain) and, in turn, negatively impact population trends. Factors such as intensity, frequency, timing and duration of a (direct or indirect) disturbance source must be taken into account to determine the potential impact upon the targets for population size and spatial distribution. Seabird species can make extensive use of the marine waters adjacent to their breeding colonies for non site-specific maintenance behaviours as defined in McSorley et al. (2003). Studies in the UK found the highest densities of fulmar performing these behaviours occurred within 2km of the breeding colony (McSorley et al., 2005)

Barriers to connectivity	Number; location; shape; area (hectares)	The number, location, shape and area of barriers do not significantly impact the site population's access to the SPA or other ecologically important sites outside the SPA	Fulmar require regular access to marine waters ecologically connected to their colonies during the breeding season and on migration. Barriers limiting the population's access to this SPA or ecologically important sites outside the SPA will ultimately affect the achievement of targets for population trend and/or spatial distribution. Factors such as the number, location, shape and area of potential barriers must be taken into account to determine their potential impact. Access to ecologically important sites outside the SPA must also be considered as a single SPA may not satisfy all the ecological requirements of the population, and it may require access to other SPAs or undesignated sites for certain activities, such as breeding and additional foraging locations when preferred foraging areas are unavailable due to disturbance, prey availability, or other factors
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Conservation Objectives for : North-west Irish Sea SPA [004236]

A013 Manx Shearwater *Puffinus puffinus*

To maintain the favourable conservation condition of manx shearwater in North-west Irish Sea SPA, which is defined by the following list of attributes and targets:

Attribute	Measure	Target	Notes
Breeding population size	Number	No significant decline	Dean et al. (2015) identifies an area of marine waters near the Irish Sea front and the stratified waters of the western Irish Sea as being an important foraging resource for manx shearwater breeding in several colonies located around the periphery of the Irish Sea; the North-west Irish Sea SPA overlaps with this area. One summer aerial survey, conducted in 2016, estimated 13,010 individual manx shearwater within the SPA (Jessopp et al., 2018, NPWS unpublished data analysis). A follow up survey in September 2016 provides an estimate of 457 individuals occurring in the SPA
Spatial distribution	Hectares, time and intensity of use	Sufficient number of locations, area, and availability (in terms of timing and intensity of use) of suitable habitat to support the population	Distribution encapsulates the number of locations and area of potentially suitable habitat for the population and its availability for use. The suitability and availability of habitat areas may vary through time. This will affect the spatio-temporal patterns of use of the habitats by manx shearwater. Jessopp et al. (2018) noted that particularly during the summer survey manx shearwater were sighted throughout the survey area, but were not observed in the nearshore waters, instead generally being recorded at least 4km from the shore. Manx shearwaters had a clear preference for deeper waters in the survey area, with a marked absence of this species over shallow areas and sandbars with less than 20m water depth
Forage spatial distribution, extent, abundance and availability	Location and hectares, and forage biomass	Sufficient number of locations, area of suitable habitat and available forage biomass to support the population target	Primarily clupeiform fish, during the chick rearing period; outside of this period squid and other marine invertebrates may form a larger part of the manx shearwater's diet (Brooke, 1990)
Disturbance across the site	Intensity, frequency, timing and duration	The intensity, frequency, timing and duration of disturbance occurs at levels that do not significantly impact the achievement of targets for population size and spatial distribution	The impact of any significant disturbance (direct or indirect) to the breeding population will ultimately affect the achievement of targets for population size and/or spatial distribution. Disturbance contributes to increased energetic expenditure which can result in increased likelihood of mortality or reduced fitness (if energy expenditure is greater than energy gain) and, in turn, negatively impact population trends. Factors such as intensity, frequency, timing and duration of a (direct or indirect) disturbance source must be taken into account to determine the potential impact upon the targets for population size and spatial distribution. Seabird species can make extensive use of the marine waters adjacent to their breeding colonies for non sites-specific maintenance behaviours (e.g. courtship, bathing, preening) as defined in McSorley et al. (2003)

Barriers to connectivity	Number; location; shape; area (hectares)	The number, location, shape and area of barriers do not significantly impact the site population's access to the SPA or other ecologically important sites outside the SPA	Manx shearwater require regular access to marine waters ecologically connected to their colonies during the breeding season and on migration. Barriers limiting the population's access to this SPA or ecologically important sites outside the SPA will ultimately affect the achievement of targets for population trend and/or spatial distribution. Factors such as the number, location, shape and area of potential barriers must be taken into account to determine their potential impact. Access to ecologically important sites outside the SPA must also be considered as a single SPA may not satisfy all the ecological requirements of the population, and it may require access to other SPAs or undesignated sites for certain activities, such as breeding and additional foraging locations when preferred foraging areas are unavailable due to disturbance, prey availability, or other factors
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Conservation Objectives for : North-west Irish Sea SPA [004236]

A017 Cormorant *Phalacrocorax carbo*

To restore the favourable conservation condition of cormorant in North-west Irish Sea SPA, which is defined by the following list of attributes and targets:

Attribute	Measure	Target	Notes
Breeding Population Size	Number	Long term population trend within the SPA is stable or increasing	Breeding cormorant is a SCI of Lambay Island SPA (004069), Ireland's Eye SPA (004117) and Skerries Islands SPA (004122). These breeding populations exploit the North-west Irish Sea SPA to varying degrees. Trend analysis over the period 1999-2015 show that the estimated population of Lambay Island decreased by 58% to 282 and the Ireland's Eye population is estimated to have increased by 39% to 424. Limited recent data exists for the Skerries Island SPA population but a minimum count of 125 in 2022 indicated that the population has decreased by 78% since 1999 (NPWS unpublished data). As cormorant can range some distance from their nest sites during the breeding season it is likely that the North-west Irish Sea SPA does not contain all relevant foraging resources for the populations of the aforementioned SPAs (Power et al., 2021). Conversely, cormorant breeding at other colonies and non-breeding individuals may also use the North-west Irish Sea SPA during the breeding period
Spatial distribution	Hectares, time and intensity of use	Sufficient number of locations, area, and availability (in terms of timing and intensity of use) of suitable habitat to support the population	Distribution encapsulates the number of locations and area of potentially suitable habitat for the population and its availability for use. The suitability and availability of habitat areas may vary through time. This will affect the spatio-temporal patterns of use of the habitats by cormorant. Aerial surveys of the western Irish Sea (Jessopp et al., 2018) did not differentiate shag (<i>Phalacrocorax aristotelis</i>) and cormorant by eye and they were grouped together. There was a clear peak in the distribution of sightings over water depths around 10m indicating a preference for shallow waters, with very few observations occurring over water depths in excess of 20m
Forage spatial distribution, extent, abundance and availability	Location and hectares, and forage biomass	Sufficient number of locations, area of suitable habitat and available forage biomass to support the population target	The cormorant's diet consists predominantly of small benthic and pelagic fish which are captured by pursuit diving, typically over shallow (<10m) freshwater, estuarine and marine environments (Gremillet et al., 1998; Hatch et al., 2020). Based on several studies, Woodward et al. (2019) provides estimates (i.e. overall mean; mean of maximum distances across all studies; and maximum distance recorded) of cormorant foraging ranges from the nest site during the breeding season, which are 7, 26, and 35km respectively (see Power et al., 2021)
Disturbance across the site	Intensity, frequency, timing and duration	The intensity, frequency, timing and duration of disturbance occurs at levels that do not significantly impact the achievement of targets for population size and spatial distribution	The impact of any significant disturbance (direct or indirect) to the breeding population will ultimately affect the achievement of targets for population size and/or spatial distribution. Disturbance contributes to increased energetic expenditure which can result in increased likelihood of mortality or reduced fitness (if energy expenditure is greater than energy gain) and, in turn, negatively impact population trends. Factors such as intensity, frequency, timing and duration of a (direct or indirect) disturbance source must be taken into account to determine the potential impact upon the targets for population size and spatial distribution. Seabird species can make extensive use of the marine waters adjacent to their breeding colonies for non site-specific maintenance behaviours (e.g. display, bathing, preening) as defined in McSorley et al. (2003)

Barriers to connectivity	Number; location; shape; area (hectares)	The number, location, shape and area of barriers do not significantly impact the site population's access to the SPA or other ecologically important sites outside the SPA	Cormorant require regular access to marine waters ecologically connected to their colonies during the breeding season and on migration. Barriers limiting the population's access to this SPA or ecologically important sites outside the SPA will ultimately affect the achievement of targets for population trend and/or spatial distribution. Factors such as the number, location, shape and area of potential barriers must be taken into account to determine their potential impact. Access to ecologically important sites outside the SPA must also be considered as a single SPA may not satisfy all the ecological requirements of the population, and it may require access to other SPAs or undesignated sites for certain activities, such as breeding and additional foraging locations when preferred foraging areas are unavailable due to disturbance, prey availability, or other factors
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A018 Shag *Phalacrocorax aristotelis*

To restore the favourable conservation condition of shag in North-west Irish Sea SPA, which is defined by the following list of attributes and targets:

Attribute	Measure	Target	Notes
Breeding population size	Number	Long term SPA population trend is stable or increasing	Breeding shag is a SCI of Lambay Island SPA (004069) and Skerries Islands SPA (004122). These breeding populations exploit, to varying degrees, the adjacent marine waters of this SPA. 2015 survey results show that the estimated population of Lambay Island decreased by 58% to 469 pairs since 1999 (Cummins et al., 2019). Limited recent data exists for the Skerries Island SPA population but it is estimated that only a small number (<5 pairs) may persist from an estimated population of 100 pairs in 1999 (Mitchell et al., 2000; Cummins et al., 2019). As shag can range some distances from their nest sites during the breeding season it is likely that the North-west Irish Sea does not contain all relevant foraging resources for the populations of the aforementioned SPAs (Baer and Newton, 2012; Moss et al., 2016; Woodward et al., 2019). Conversely shag, breeding at other colonies and non-breeding individuals will use the North-west Irish Sea SPA during the breeding period
Spatial distribution	Hectares, time and intensity of use	Sufficient number of locations, area, and availability (in terms of timing and intensity of use) of suitable habitat to support the population	Distribution encapsulates the number of locations and area of potentially suitable habitat for the population and its availability for use. The suitability and availability of habitat areas may vary through time. This will affect the spatio-temporal patterns of use of the habitats by shag. Aerial surveys of the western Irish Sea (Jessopp et al., 2018) did not differentiate shag and cormorant by eye and they were grouped together. There was a clear peak in the distribution of sightings over water depths around 10m indicating a preference for shallow waters, with very few observations occurring over water depths in excess of 20m. Baer and Newton (2012) and Moss et al. (2016) provide telemetry based foraging information of this species relevant to this particular area
Forage spatial distribution, extent, abundance and availability	Location and hectares, and forage biomass	Sufficient number of locations, area of suitable habitat and available forage biomass to support the population target	The diet of shag is almost exclusively fish, taken chiefly near sea bed or at intermediate depths, and principally of the families Ammodytidae (sandeels), Gadidae, Clupeidae, Cottidae and Labridae, but a wide range of species taken, perhaps opportunistically (Orta et al., 2021). Based on several studies, Woodward et al. (2019) provides estimates of foraging ranges from the nest site during the breeding season (i.e. overall mean, mean of maximum distances across all studies, and maximum distance recorded) for shag, which are 9, 13, and 46km respectively (see Power et al., 2021). Baer and Newton (2012) and Moss et al. (2016) provide telemetry based foraging information of this species relevant to this particular area

Disturbance across the site	Intensity, frequency, timing and duration	The intensity, frequency, timing and duration of disturbance occurs at levels that do not significantly impact the achievement of targets for population size and spatial distribution	The impact of any significant disturbance (direct or indirect) to the breeding population will ultimately affect the achievement of targets for population size and/or spatial distribution. Disturbance contributes to increased energetic expenditure which can result in increased likelihood of mortality or reduced fitness (if energy expenditure is greater than energy gain) and, in turn, negatively impact population trends. Factors such as intensity, frequency, timing and duration of a (direct or indirect) disturbance source must be taken into account to determine the potential impact upon the targets for population size and spatial distribution. Seabird species can make extensive use of the marine waters adjacent to their breeding colonies for non site-specific maintenance behaviours (e.g. courtship, bathing, preening) as defined in McSorley et al. (2003)
Barriers to connectivity	Number; location; shape; area (hectares)	The number, location, shape and area of barriers do not significantly impact the population's access to the SPA or other ecologically important sites outside the SPA	Shag require regular access to marine waters ecologically connected to their colonies during the breeding season and on migration. Barriers limiting the population's access to this SPA or ecologically important sites outside the SPA will ultimately affect the achievement of targets for population trend and/or spatial distribution. Factors such as the number, location, shape and area of potential barriers must be taken into account to determine their potential impact. Access to ecologically important sites outside the SPA must also be considered as a single SPA may not satisfy all the ecological requirements of the population, and it may require access to other SPAs or undesignated sites for certain activities, such as breeding and additional foraging locations when preferred foraging areas are unavailable due to disturbance, prey availability, or other factors

A065 Common Scoter *Melanitta nigra*

To maintain the favourable conservation condition of common scoter at North-west Irish Sea SPA, which is defined by the following list of attributes and targets:

Attribute	Measure	Target	Notes
Non-breeding population size	Number	No significant decline	Common scoter utilise the shallow nearshore coastal waters of the wider North-west Irish sea region across the non-breeding period (Jessopp et al., 2018). One series of surveys focused on waters off Gormanstown, which overlaps with this SPA, found that the numbers of common scoter peaked in the second part of December and estimated the population to be 14,612 (±95% confidence interval of 1,038 – 39,694) individuals (HiDef, 2019); the North-west Irish Sea SPA overlaps with this area. A population of 14,567 individuals was estimated based on December 29th 2019 HiDef data (NPWS unpublished data analysis). Common scoter flocks can be quite mobile and it is likely the that there is interchange between the designated (e.g. Dundalk Bay SPA (004026)) and undesignated waters
Spatial distribution	Hectares, time and intensity of use	Sufficient number of locations, area, and availability (in terms of timing and intensity of use) of suitable habitat to support the population	Distribution encapsulates the number of locations and area of potentially suitable habitat for the wintering population and its availability for use. The suitability and availability of habitat areas may vary throughout the season. This will affect the spatio-temporal patterns of use of the habitats by the non-breeding population
Forage spatial distribution, extent and abundance	Location and hectares, and forage biomass	Sufficient number of locations, area of suitable habitat and available forage biomass to support the population target	Common scoter is a diving duck that feed on prey species that live upon or within the upper few centimetres of the substratum. Common scoter diet primarily comprises of bivalve molluscs with other species (e.g. crabs, small fishes and gastropods) incorporated less frequently (Kaiser et al., 2006)
Disturbance across the site	Intensity, frequency, timing and duration	The intensity, frequency, timing and duration of disturbance occurs at levels that do not significantly impact the achievement of targets for population size and spatial distribution	The impact of any significant disturbance (direct or indirect) to the non-breeding population will ultimately affect the achievement of targets for population size and/or spatial distribution. Disturbance contributes to increased energetic expenditure which can result in increased likelihood of over-winter mortality or reduced fitness (if energy expenditure is greater than energy gain) and, in turn, negatively impact population trends. Factors such as intensity, frequency, timing and duration of a (direct or indirect) disturbance source must be taken into account to determine the potential impact upon the targets for population size and spatial distribution
Barriers to connectivity and site use	Number; location; shape; area (hectares)	The number, location, shape and area of barriers do not significantly impact the site population's access to the SPA or other ecologically important sites outside the SPA	Barriers limiting the population's access to this SPA or ecologically important sites outside the SPA will ultimately affect the achievement of targets for population trend and/or spatial distribution. Factors such as the number, location, shape and area of potential barriers must be taken into account to determine their potential impact. Access to ecologically important sites outside the SPA must also be considered as a single SPA may not satisfy all the ecological requirements of the non-breeding population, and it may require access to other SPAs or undesignated sites for certain activities, such as additional foraging when preferred foraging areas are unavailable due to disturbance, prey availability, or other factors

Conservation Objectives for : North-west Irish Sea SPA [004236]

A179 Black-headed Gull *Chroicocephalus ridibundus*

To maintain the favourable conservation condition of black-headed gull at North-west Irish Sea SPA, which is defined by the following list of attributes and targets:

Attribute	Measure	Target	Notes
Non-breeding population size	Number	No significant decline	Jessopp et al. (2018) undertook surveys across the western Irish Sea during summer, autumn and winter with black-headed gull occurring in all three seasons. Jessopp et al. (2018) noted that there was no association between black-headed gull and ocean depth profile. Based on Jessopp et al. (2018) it is estimated that 508 individuals occurred in the SPA in winter (NPWS unpublished data analysis). Non-breeding black-headed gull are a SCI for Dundalk Bay SPA (004026) and North Bull Island SPA (004006)
Spatial distribution	Hectares, time and intensity of use	Sufficient number of locations, area, and availability (in terms of timing and intensity of use) of suitable habitat to support the population	Distribution encapsulates the number of locations and area of potentially suitable habitat for the wintering population and its availability for use. The suitability and availability of habitat areas may vary throughout the season. This will affect the spatio-temporal patterns of use of the habitats by the non-breeding population. HiDef aerial surveys (2018, 2019) were conducted from December to March and the survey area overlaps with the SPA. Peak observations of this species were recorded in the second December survey and distribution patterns were coastal in all surveys, always south of Dundalk Bay
Forage spatial distribution, extent and abundance	Location and hectares, and forage biomass	Sufficient number of locations, area of suitable habitat and available forage biomass to support the population target	Diet varies by location and season. Birds foraging in marine environments feed on fish and marine invertebrates (Moskoff et al., 2021). The diet of black-headed gull is extremely broad and opportunistic. Coastal birds may feed on marine invertebrates and to lesser extent on fish, sometimes following fishing vessels (Burger et al., 2020). HiDef aerial surveys showed the distribution patterns were coastal in all surveys, always south of Dundalk Bay
Disturbance across the site	Intensity, frequency, timing and duration	The intensity, frequency, timing and duration of disturbance occurs at levels that do not significantly impact the achievement of targets for population size and spatial distribution	The impact of any significant disturbance (direct or indirect) to the non-breeding population will ultimately affect the achievement of targets for population size and/or spatial distribution. Disturbance contributes to increased energetic expenditure which can result in increased likelihood of over-winter mortality or reduced fitness (if energy expenditure is greater than energy gain) and, in turn, negatively impact population trends. Factors such as intensity, frequency, timing and duration of a (direct or indirect) disturbance source must be taken into account to determine the potential impact upon the targets for population size and spatial distribution
Barriers to connectivity and site use	Number; location; shape; area (hectares)	The number, location, shape and area of barriers do not significantly impact the site population's access to the SPA or other ecologically important sites outside the SPA	Barriers limiting the population's access to this SPA or ecologically important sites outside the SPA will ultimately affect the achievement of targets for population trend and/or spatial distribution. Factors such as the number, location, shape and area of potential barriers must be taken into account to determine their potential impact. Access to ecologically important sites outside the SPA must also be considered as a single SPA may not satisfy all the ecological requirements of the non-breeding population, and it may require access to other SPAs or undesignated sites for certain activities, such as additional foraging when preferred foraging areas are unavailable due to disturbance, prey availability, or other factors

A182 Common Gull *Larus canus*

To maintain the favourable conservation condition of common gull at North-west Irish Sea SPA, which is defined by the following list of attributes and targets:

Attribute	Measure	Target	Notes
Non-breeding population size	Number	No significant decline	Jessopp et al. (2018) undertook aerial surveys during summer, autumn and winter of the western Irish Sea in 2016. Common and herring gulls could not be differentiated and were grouped together for the purposes of analysis. However, winter aerial surveys conducted by HiDef in a similar area did differentiate between species and indicates that while common gull numbers are significant in the winter herring gull (<i>Larus argentatus</i>) is the more abundant species. Based on Jessopp et al. (2018) and using HiDef to approximate the proportion of individual species populations it is estimated that 2,866 common gull individuals occurred in the SPA in the winter (NPWS unpublished data analysis). Non-breeding common gull is a SCI for Dundalk Bay SPA (004026)
Spatial distribution	Hectares, time and intensity of use	Sufficient number of locations, area, and availability (in terms of timing and intensity of use) of suitable habitat to support the population	Distribution encapsulates the number of locations and area of potentially suitable habitat for the wintering population and its availability for use. The suitability and availability of habitat areas may vary throughout the season. This will affect the spatio-temporal patterns of use of the habitats by the non-breeding population. HiDef aerial surveys (2018, 2019) were conducted from December to March and the survey area overlaps with the SPA. Peak observations of this species were recorded in the second December survey and concentrations were mainly in coastal habitats
Forage spatial distribution, extent and abundance	Location and hectares, and forage biomass	Sufficient number of locations, area of suitable habitat and available forage biomass to support the population target	Diet varies by location and season. Birds foraging in marine environments feed on fish and marine invertebrates (Moskoff et al., 2021). The diet of black-headed gull is extremely broad and opportunistic. Coastal birds may feed on marine invertebrates and to lesser extent on fish, sometimes following fishing vessels (Burger et al., 2020). HiDef surveys showed that concentrations of this species were mainly in coastal habitats
Disturbance across the site	Intensity, frequency, timing and duration	The intensity, frequency, timing and duration of disturbance occurs at levels that do not significantly impact the achievement of targets for population size and spatial distribution	The impact of any significant disturbance (direct or indirect) to the non-breeding population will ultimately affect the achievement of targets for population size and/or spatial distribution. Disturbance contributes to increased energetic expenditure which can result in increased likelihood of over-winter mortality or reduced fitness (if energy expenditure is greater than energy gain) and, in turn, negatively impact population trends. Factors such as intensity, frequency, timing and duration of a (direct or indirect) disturbance source must be taken into account to determine the potential impact upon the targets for population size and spatial distribution

Barriers to connectivity and site use	Number; location; shape; area (hectares)	The number, location, shape and area of barriers do not significantly impact the site population's access to the SPA or other ecologically important sites outside the SPA	Barriers limiting the population's access to this SPA or ecologically important sites outside the SPA will ultimately affect the achievement of targets for population trend and/or spatial distribution. Factors such as the number, location, shape and area of potential barriers must be taken into account to determine their potential impact. Access to ecologically important sites outside the SPA must also be considered as a single SPA may not satisfy all the ecological requirements of the non-breeding population, and it may require access to other SPAs or undesignated sites for certain activities, such as additional foraging when preferred foraging areas are unavailable due to disturbance, prey availability, or other factors
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A183 Lesser Black-backed Gull *Larus fuscus*

To maintain the favourable conservation condition of lesser black-backed gull in North-west Irish Sea SPA, which is defined by the following list of attributes and targets:

Attribute	Measure	Target	Notes
Breeding population size	Number	No significant decline	Breeding lesser black-backed gull is a SCI of Lambay Island SPA. This population exploits the surrounding marine waters of North-west Irish Sea SPA during the breeding season. The breeding lesser black-backed gull population is estimated to have increased by 12% over the period 1999-2015 from 309 to 345 pairs (Mitchell et al., 2000; NPWS unpublished data). As lesser black-backed gull can range large distances from their nest sites during the breeding season it is likely that the North-west Irish Sea SPA does not contain all relevant foraging resources for the Lambay Island SPA breeding population (Moss et al., 2016; Power et al., 2021; Woodward et al., 2019). Conversely lesser black-backed gull, breeding at other colonies and non-breeding individuals will use the North-west Irish Sea SPA during the breeding period
Spatial distribution	Hectares, time and intensity of use	Sufficient number of locations, area, and availability (in terms of timing and intensity of use) of suitable habitat to support the population	Distribution encapsulates the number of locations and area of potentially suitable habitat for the population and its availability for use. The suitability and availability of habitat areas may vary through time. This will affect the spatio-temporal patterns of use of the habitats by lesser black-backed gull. Sightings of black-backed gulls by Jessopp et al. (2018) were normally of single individuals with some larger groups observed. Black-backed gulls showed no clear water depth preference although relatively more observations of lesser black-backed gulls occurred over shallower depths
Forage spatial distribution, extent, abundance and availability	Location and hectares, and forage biomass	Sufficient number of locations, area of suitable habitat and available forage biomass to support the population target	The diet of lesser black-backed gull is diverse and opportunistic. This species can forage over both terrestrial and aquatic habitats. Frequent prey items include small fish, aquatic invertebrates, birds' eggs and chicks, trawler discards, rodents and berries (Burger et al., 2020). Based on several studies, Woodward et al. (2019) provides estimates of foraging ranges from the nest site during the breeding season (i.e. overall mean, mean of maximum distances across all studies, and maximum distance recorded) for lesser black-backed gull, which are 43km, 127km, and 533km respectively (see Power et al., 2021)
Disturbance across the site	Intensity, frequency, timing and duration	The intensity, frequency, timing and duration of disturbance occurs at levels that do not significantly impact the achievement of targets for population size and spatial distribution	The impact of any significant disturbance (direct or indirect) to the breeding population will ultimately affect the achievement of targets for population size and/or spatial distribution. Disturbance contributes to increased energetic expenditure which can result in increased likelihood of mortality or reduced fitness (if energy expenditure is greater than energy gain) and, in turn, negatively impact population trends. Factors such as intensity, frequency, timing and duration of a (direct or indirect) disturbance source must be taken into account to determine the potential impact upon the targets for population size and spatial distribution. Seabird species can make extensive use of the marine waters adjacent to their breeding colonies for non site-specific maintenance behaviours (e.g. courtship, bathing, preening) as defined in McSorley et al. (2003)

Barriers to connectivity	Number; location; shape; area (hectares)	The number, location, shape and area of barriers do not significantly impact the site population's access to the SPA or other ecologically important sites outside the SPA	Lesser black-backed gull require regular access to marine waters ecologically connected to their colonies during the breeding season and on migration. Barriers limiting the population's access to this SPA or ecologically important sites outside the SPA will ultimately affect the achievement of targets for population trend and/or spatial distribution. Factors such as the number, location, shape and area of potential barriers must be taken into account to determine their potential impact. Access to ecologically important sites outside the SPA must also be considered as a single SPA may not satisfy all the ecological requirements of the population, and it may require access to other SPAs or undesignated sites for certain activities, such as breeding and additional foraging locations when preferred foraging areas are unavailable due to disturbance, prey availability, or other factors
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A184 Herring Gull *Larus argentatus*

To restore the favourable conservation condition of herring gull in North-west Irish Sea SPA, which is defined by the following list of attributes and targets:

Attribute	Measure	Target	Notes
Population size	Number	Long term SPA population trend is stable or increasing	Herring gull is present within the North-west Irish Sea SPA throughout the year. Breeding herring gull is a SCI for Lambay Island, Ireland’s Eye and Skerries Islands SPAs. Over the period 1999-2015, the herring gull breeding population are estimated to have decreased by 50% to 906 pairs at Lambay and increased by 29% to 318 pairs on Ireland’s Eye (Cummins et al., 2019). The population was estimated to be 300 pairs in 1999. As herring gull can range large distances from their nest sites during the breeding season it is likely that this SPA does not contain all relevant foraging resources for the aforementioned SPAs’ breeding populations (Power et al., 2021). Herring gull, breeding at other colonies and non-breeding individuals will use the North-west Irish Sea SPA during the breeding period. Based on survey data of Jessopp et al. (2018) and by HiDef (2019) it is estimated that 6,893 herring gull individuals occurred in the SPA in the winter
Spatial distribution	Hectares, time and intensity of use	Sufficient number of locations, area, and availability (in terms of timing and intensity of use) of suitable habitat to support the population	Distribution encapsulates the number of locations and area of potentially suitable habitat for the population and its availability for use. The suitability and availability of habitat areas may vary throughout the season. This will affect the spatio-temporal patterns of use of the habitats by herring gull. Jessopp et al. (2018) survey of the western Irish Sea did not distinguish between common gull and herring gull – these gulls occurred across the range of available water depths in the survey area but more observations were noted in depths less than 50m. Winter HiDef aerial surveys (2018, 2019) were conducted from December to March and the survey area overlaps with the SPA. This survey showed that herring gull was mainly concentrated along the coast south of Dundalk Bay
Forage spatial distribution, extent, abundance and availability	Location and hectares, and forage biomass	Sufficient number of locations, area of suitable habitat and available forage biomass to support the population target	Herring gull is a generalist and opportunistic feeder and can forage over both terrestrial and aquatic habitats. Its diet includes fish, fish offal, bivalves, gastropods, crustaceans, squid, insects, other seabirds, small landbirds, small mammals, terrestrial insects, earthworms, berries, carrion, and a wide variety of human refuse (Weseloh et al., 2020). Based on several studies, Woodward et al. (2019) provides estimates (i.e. overall mean, mean of maximum distances across all studies, and maximum distance recorded) of herring gull foraging ranges from the nest site during the breeding season, which are 15, 59, and 92km respectively (see Power et al., 2021)

Disturbance across the site	Intensity, frequency, timing and duration	The intensity, frequency, timing and duration of disturbance occurs at levels that do not significantly impact the achievement of targets for population size and spatial distribution	The impact of any significant disturbance (direct or indirect) to the population will ultimately affect the achievement of targets for population size and/or spatial distribution. Disturbance contributes to increased energetic expenditure which can result in increased likelihood of mortality or reduced fitness (if energy expenditure is greater than energy gain) and, in turn, negatively impact population trends. Factors such as intensity, frequency, timing and duration of a (direct or indirect) disturbance source must be taken into account to determine the potential impact upon the targets for population size and spatial distribution. Seabird species can make extensive use of the marine waters adjacent to their breeding colonies for non site-specific maintenance behaviours (e.g. courtship, bathing, preening) as defined in McSorley et al. (2003)
Barriers to connectivity	Number; location; shape; area (hectares)	The number, location, shape and area of barriers do not significantly impact the site population's access to the SPA or other ecologically important sites outside the SPA	Herring gull require regular access to marine waters ecologically connected to their colonies during the breeding season and on migration. Barriers limiting the population's access to this SPA or ecologically important sites outside the SPA will ultimately affect the achievement of targets for population trend and/or spatial distribution. Factors such as the number, location, shape and area of potential barriers must be taken into account to determine their potential impact. Access to ecologically important sites outside the SPA must also be considered as a single SPA may not satisfy all the ecological requirements of the non-breeding population, and it may require access to other SPAs or undesignated sites for certain activities, such as breeding and additional foraging locations when preferred foraging areas are unavailable due to disturbance, prey availability, or other factors

A187 Great Black-backed Gull *Larus marinus*

To maintain the favourable conservation condition of great black-backed gull at North-west Irish Sea SPA, which is defined by the following list of attributes and targets:

Attribute	Measure	Target	Notes
Non-breeding population size	Number	No significant decline	Jessopp et al. (2018) undertook an aerial survey of the western Irish Sea in 2016. Not all sightings of great black-backed gulls and lesser black-backed gulls (<i>Larus fuscus</i>) could be differentiated and were grouped together for the purposes of analysis. However, winter aerial surveys conducted by HiDef (2019) in a similar area did differentiate between species and indicates that great black-backed gull was significantly more abundant than lesser black-backed gull in the winter. Based on Jessopp et al. (2018) and using HiDef to approximate the proportion of individual species populations it is estimated that 2,096 great black-backed gull individuals occurred in the SPA in the winter (NPWS unpublished analysis)
Spatial distribution	Hectares, time and intensity of use	Sufficient number of locations, area, and availability (in terms of timing and intensity of use) of suitable habitat to support the population	Distribution encapsulates the number of locations and area of potentially suitable habitat for the wintering population and its availability for use. The suitability and availability of habitat areas may vary throughout the season. This will affect the spatio-temporal patterns of use of the habitats by the non-breeding population. Sightings of black-backed gulls by Jessopp et al. (2018) were normally of single individuals with some larger groups observed. HiDef aerial surveys (2018, 2019) were conducted from December to March and the survey area overlaps with the SPA. Peak observations for great black-backed gull were recorded in early December, the spatial distribution was varied in surveys in December and January but more concentrated in the north of the survey area in February and March
Forage spatial distribution, extent and abundance	Location and hectares, and forage biomass	Sufficient number of locations, area of suitable habitat and available forage biomass to support the population target	The great black-backed gull is a generalist predator that feeds on fish, both pelagic and intertidal marine invertebrates, mammals, insects, seabirds and waterfowl as well as their eggs and chicks. Great black-backed gulls also scavenge on fish, carrion, human refuse and will follow fishing vessels in search of fisheries discard. Great black-backed gulls will forage in widely scattered groups at sea and join other groups when concentrations of prey are located (Good, 2020). HiDef surveys detected more concentrated numbers of this species the north of the survey area in February and March
Disturbance across the site	Intensity, frequency, timing and duration	The intensity, frequency, timing and duration of disturbance occurs at levels that do not significantly impact the achievement of targets for population size and spatial distribution	The impact of any significant disturbance (direct or indirect) to the non-breeding population will ultimately affect the achievement of targets for population size and/or spatial distribution. Disturbance contributes to increased energetic expenditure which can result in increased likelihood of over-winter mortality or reduced fitness (if energy expenditure is greater than energy gain) and, in turn, negatively impact population trends. Factors such as intensity, frequency, timing and duration of a (direct or indirect) disturbance source must be taken into account to determine the potential impact upon the targets for population size and spatial distribution

Barriers to connectivity and site use	Number; location; shape; area (hectares)	The number, location, shape and area of barriers do not significantly impact the wintering population's access to the SPA or other ecologically important sites outside the SPA	Barriers limiting the population's access to this SPA or ecologically important sites outside the SPA will ultimately affect the achievement of targets for population trend and/or spatial distribution. Factors such as the number, location, shape and area of potential barriers must be taken into account to determine their potential impact. Access to ecologically important sites outside the SPA must also be considered as a single SPA may not satisfy all the ecological requirements of the non-breeding population, and it may require access to other SPAs or undesignated sites for certain activities, such as additional foraging when preferred foraging areas are unavailable due to disturbance, prey availability, or other factors
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A188 Kittiwake *Rissa tridactyla*

To restore the favourable conservation condition of kittiwake in North-west Irish Sea SPA, which is defined by the following list of attributes and targets:

Attribute	Measure	Target	Notes
Population size	Number	Long term SPA population trend is stable or increasing	Kittiwake is present within the North-west Irish Sea SPA throughout the year. Breeding kittiwake is a SCI for Lambay Island (004069), Howth Head (004113) and Ireland's Eye (004117) SPAs; all of which declined over the period 1999-2015 (19% to 3,320 pairs; 22% to 1,773 pairs; 52% to 455 pairs respectively) (Cummins et al., 2019). It is likely that this SPA does not contain all relevant foraging resources for all of the aforementioned SPAs (Baer and Newton, 2012; Moss et al., 2016; Power et al., 2021). Conversely kittiwake, breeding at other colonies and non-breeding individuals may use the North-west Irish Sea SPA during the breeding period. Based on Jessopp et al. (2018) data for summer, autumn and winter surveys of the western Irish Sea 1,632, 2,858, and 944 individuals are estimated to have occurred in the SPA, respectively
Spatial distribution	Hectares, time and intensity of use	Sufficient number of locations, area, and availability (in terms of timing and intensity of use) of suitable habitat to support the population	Distribution encapsulates the number of locations and area of potentially suitable habitat for the population and its availability for use. The suitability and availability of habitat areas may vary through time. This will affect the spatio-temporal patterns of use of the habitats by kittiwake. Jessopp et al. (2018) noted that sightings occurred throughout the western Irish Sea survey area, however, there was a distinct change in the distribution of sightings between the summer breeding season and the subsequent autumn and winter periods. In contrast to other gull species, and in all three seasons, areas of high sightings density occurred some distance from the coast. Based on several studies, Woodward et al. (2019) provides estimates of foraging ranges from the nest site during the breeding season (i.e. overall mean, mean of maximum distances across all studies, and maximum distance recorded) for kittiwake, which are 55km, 156km, and 770km respectively (see Power et al., 2021)
Forage spatial distribution, extent, abundance and availability	Location and hectares, and forage biomass	Sufficient number of locations, area of suitable habitat and available forage biomass to support the population target	Kittiwake is a surface feeding seabird and primarily piscivorous (e.g. sandeels, herring, gadoids) with some invertebrates (e.g. euphausiids, amphipods) in the diet also recorded (Hatch et al., 2020)
Disturbance across the site	Intensity, frequency, timing and duration	The intensity, frequency, timing and duration of disturbance occurs at levels that do not significantly impact the achievement of targets for population size and spatial distribution	The impact of any significant disturbance (direct or indirect) to the population will ultimately affect the achievement of targets for population size and/or spatial distribution. Disturbance contributes to increased energetic expenditure which can result in increased likelihood of mortality or reduced fitness (if energy expenditure is greater than energy gain) and, in turn, negatively impact population trends. Factors such as intensity, frequency, timing and duration of a (direct or indirect) disturbance source must be taken into account to determine the potential impact upon the targets for population size and spatial distribution. Seabird species can make extensive use of the marine waters adjacent to their breeding colonies for non site-specific maintenance behaviours (e.g. courtship, bathing, preening) as defined in McSorley et al. (2003)

Barriers to connectivity	Number; location; shape; area (hectares)	The number, location, shape and area of barriers do not significantly impact the site population's access to the SPA or other ecologically important sites outside the SPA	Kittiwake require regular access to marine waters ecologically connected to their colonies during the breeding season and on migration. Barriers limiting the population's access to this SPA or ecologically important sites outside the SPA will ultimately affect the achievement of targets for population trend and/or spatial distribution. Factors such as the number, location, shape and area of potential barriers must be taken into account to determine their potential impact. Access to ecologically important sites outside the SPA must also be considered as a single SPA may not satisfy all the ecological requirements of the non-breeding population, and it may require access to other SPAs or undesignated sites for certain activities, such as breeding and additional foraging locations when preferred foraging areas are unavailable due to disturbance, prey availability, or other factors
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A192 **Roseate Tern *Sterna dougallii***

To maintain the favourable conservation condition of roseate tern in North-west Irish Sea SPA, which is defined by the following list of attributes and targets:

Attribute	Measure	Target	Notes
Breeding population size	Number	No significant decline	Breeding roseate tern is also a SCI of Rockabill SPA. Since 1995 the Rockabill population has increased by 231% to 1,834 pairs (Allbrook et al., 2022; Hannon et al., 1997). Studies indicate that the waters of Rockabill SPA and the North-west Irish Sea SPA contain the majority of the foraging habitat for the Rockabill population (Power et al., 2022; Harwood et al., 2019; Power et al., 2021). At the latter stages of breeding season, and prior to migration, tern species can form large aggregations at terrestrial and intertidal roost sites along the coast (Burke et al., 2020). Notable concentrations have been recorded at South Dublin Bay and River Tolka Estuary SPA (004024) and Dalkey Islands SPA (004172) and are a SCI for these SPAs. More recent work has identified further areas along the east coast (Burke et al., 2020)
Spatial distribution	Hectares, time and intensity of use	Sufficient number of locations, area, and availability (in terms of timing and intensity of use) of suitable habitat to support the population	Distribution encapsulates the number of locations and area of potentially suitable habitat for the population and its availability for use. The suitability and availability of habitat areas may vary through time. This will affect the spatio-temporal patterns of use of the habitats by roseate tern. Boat based, visual tracking of roseate terns nesting on Rockabill Island, along coastal areas of north County Dublin, Louth and Meath as well as coastal areas from Skerries (immediately west of Rockabill Island) south to Donabate. Additionally, during the fledging period roseate terns foraged in deeper water offshore, immediately east of the colony (Harwood et al., 2019; Power et al., 2022)
Forage spatial distribution, extent, abundance and availability	Location and hectares, and forage biomass	Sufficient number of locations, area of suitable habitat and available forage biomass to support the population target	Roseate Tern is largely piscivorous; studies from Rockabill SPA show that sandeels (<i>Ammodytes</i> spp) along with clupeids and, to a lesser extent, gadoids can form important prey bases (e.g. Allbrook et al., 2022). Breeding birds forage over marine waters often some distance from the colony (see Harwood et al., 2019; Power et al., 2021; Power et al., 2022)
Disturbance across the site	Intensity, frequency, timing and duration	The intensity, frequency, timing and duration of disturbance occurs at levels that do not significantly impact the achievement of targets for population size and spatial distribution	The impact of any significant disturbance (direct or indirect) to the breeding population will ultimately affect the achievement of targets for population size and/or spatial distribution. Disturbance contributes to increased energetic expenditure which can result in increased likelihood of mortality or reduced fitness (if energy expenditure is greater than energy gain) and, in turn, negatively impact population trends. Factors such as intensity, frequency, timing and duration of a (direct or indirect) disturbance source must be taken into account to determine the potential impact upon the targets for population size and spatial distribution. Seabird species can make extensive use of the marine waters adjacent to their breeding colonies for non site-specific maintenance behaviours as defined in McSorley et al. (2003). At latter stages of the breeding season tern species form large aggregations at terrestrial and intertidal roost sites along the coast (Burke et al., 2020)

Barriers to connectivity	Number; location; shape; area (hectares)	The number, location, shape and area of barriers do not significantly impact the site population's access to the SPA or other ecologically important sites outside the SPA	Roseate tern require regular access to marine waters ecologically connected to their colonies during the breeding season and on migration. Barriers limiting the population's access to this SPA or ecologically important sites outside the SPA will ultimately affect the achievement of targets for population trend and/or spatial distribution. Factors such as the number, location, shape and area of potential barriers must be taken into account to determine their potential impact. Access to ecologically important sites outside the SPA must also be considered as a single SPA may not satisfy all the ecological requirements of the population, and it may require access to other SPAs or undesignated sites for certain activities, such as breeding and additional foraging locations when preferred foraging areas are unavailable due to disturbance, prey availability, or other factors
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A193 Common Tern *Sterna hirundo*

To maintain the favourable conservation condition of common tern in North-west Irish Sea SPA, which is defined by the following list of attributes and targets:

Attribute	Measure	Target	Notes
Breeding population size	Number	No significant decline	Breeding common tern is also a SCI of two other SPAs. Between 1995-2022 the populations has increased by 328% to 1,503 pairs at Rockabill SPA (004014) and by 45% to 138 on the ESB Dolphin nesting platform (part of South Dublin and River Tolka Estuary SPA (004024)) by 45% to 138 pairs with a further 417 pairs located nearby on two structures outside of the SPA (Boland et al., 2022). Common tern can range up to 30km from nest sites it is likely that Rockabill SPA and the North-west Irish Sea SPA contain the majority of foraging habitat for the Rockabill population but a significantly lesser proportion for the Dublin Port colony (Power et al., 2021). Towards the end of the breeding season, and prior to migration, tern species form large aggregations at roost sites along the coast (Burke et al., 2020). Notable concentrations have been recorded at South Dublin Bay and River Tolka Estuary SPA and Dalkey Islands SPA (004172) and common tern is listed as an SCI for these SPAs
Spatial distribution	Hectares, time and intensity of use	Sufficient number of locations, area, and availability (in terms of timing and intensity of use) of suitable habitat to support the population	Distribution encapsulates the number of locations and area of potentially suitable habitat for the population and its availability for use. The suitability and availability of habitat areas may vary through time. This will affect the spatio-temporal patterns of use of the habitats by common tern. Aerial surveys of the western Irish Sea (Jessopp et al., 2018) did not differentiate common and Arctic tern by eye and they were grouped together. While sightings occurred across a large range of sea depths, they occurred more frequently over shallow areas of sea in the central transects of the survey area during the summer breeding season, with some sightings also concentrated further south
Forage spatial distribution, extent, abundance and availability	Location and hectares, and forage biomass	Sufficient number of locations, area of suitable habitat and available forage biomass to support the population target	Common tern are largely piscivorous. Studies from Rockabill SPA show that sandeels (<i>Ammodytes</i> spp) along with Clupeidae (herrings) and, to a lesser extent, Gadidae (cods, pollacks) can form important prey bases (e.g. Allbrook et al., 2022). Breeding birds forage over marine waters often some distance from the colony (see Power et al., 2021, Power et al., 2022)
Disturbance across the site	Intensity, frequency, timing and duration	The intensity, frequency, timing and duration of disturbance occurs at levels that do not significantly impact the achievement of targets for population size and spatial distribution	The impact of any significant disturbance (direct or indirect) to the breeding population will ultimately affect the achievement of targets for population size and/or spatial distribution. Disturbance contributes to increased energetic expenditure which can result in increased likelihood of mortality or reduced fitness (if energy expenditure is greater than energy gain) and, in turn, negatively impact population trends. Factors such as intensity, frequency, timing and duration of a (direct or indirect) disturbance source must be taken into account to determine the potential impact upon the targets for population size and spatial distribution. Seabird species can make extensive use of the marine waters adjacent to their breeding colonies for non site-specific maintenance behaviours as defined in McSorley et al. (2003). At latter stages of the breeding season tern species form large aggregations at terrestrial and intertidal roost sites along the coast (Burke et al., 2020)

Barriers to connectivity	Number; location; shape; area (hectares)	The number, location, shape and area of barriers do not significantly impact the site population's access to the SPA or other ecologically important sites outside the SPA	Common tern require regular access to marine waters ecologically connected to their colonies during the breeding season and on migration. Barriers limiting the population's access to this SPA or ecologically important sites outside the SPA will ultimately affect the achievement of targets for population trend and/or spatial distribution. Factors such as the number, location, shape and area of potential barriers must be taken into account to determine their potential impact. Access to ecologically important sites outside the SPA must also be considered as a single SPA may not satisfy all the ecological requirements of the population, and it may require access to other SPAs or undesignated sites for certain activities, such as breeding and additional foraging locations when preferred foraging areas are unavailable due to disturbance, prey availability, or other factors
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Conservation Objectives for : North-west Irish Sea SPA [004236]

A194 Arctic Tern *Sterna paradisaea*

To maintain the favourable conservation condition of Arctic tern in North-west Irish Sea SPA, which is defined by the following list of attributes and targets:

Attribute	Measure	Target	Notes
Breeding population size	Number	No significant decline	Breeding Arctic tern is a SCI for Rockabill SPA (004014). Population size at Rockabill has fluctuated over the years. However, the population size in 2022 (estimate of 49 - 60 pairs), was similar to that in 1995 (49 pairs) (Allbrook et al., 2022; Hannon et al., 1997). Arctic tern can range up to 46km from their nest sites during the breeding season, so it is likely that Rockabill SPA and the North-west Irish Sea SPA contain the majority of the foraging habitat for this population (Power et al., 2021; Woodward et al., 2019). Towards the end of the breeding season, and prior to migration, tern species form large aggregations at roost sites along the coast (Burke et al., 2020). Notable concentrations have been recorded at South Dublin Bay and River Tolka Estuary SPA (004024) and Dalkey Islands SPA (004172) and Arctic tern is listed as an SCI for these SPAs
Spatial distribution	Hectares, time and intensity of use	Sufficient number of locations, area, and availability (in terms of timing and intensity of use) of suitable habitat to support the population	Distribution encapsulates the number of locations and area of potentially suitable habitat for the population and its availability for use. The suitability and availability of habitat areas may vary through time. This will affect the spatio-temporal patterns of use of the habitats by Arctic tern. Aerial surveys of the western Irish Sea (Jessopp et al., 2018) did not differentiate common and Arctic tern by eye and so they were grouped together. While sightings occurred across a large range of sea depths, they occurred more frequently over shallow areas of sea in the central transects of the survey area during the summer breeding season, with some sightings also concentrated further south
Forage spatial distribution, extent, abundance and availability	Location and hectares, and forage biomass	Sufficient number of locations, area of suitable habitat and available forage biomass to support the population target	Arctic tern are largely piscivorous. Most frequent fish prey are small, schooling species commonly caught in open water, at tide rips, and over predators (e.g. jellyfish and marine mammals). These are usually 1- or 2-year-old fish, including from the Clupeidae (herrings), Gadidae (cods, pollocks) and Ammodytidae (sandeels) families (Hatch et al., 2020). Based on several studies, Woodward et al. (2019) provides estimates of foraging ranges from the nest site during the breeding season (i.e. overall mean; mean of maximum distances across all studies; and maximum distance recorded) for Arctic tern, which are 6, 26, and 46km respectively (see Power et al., 2021)

Disturbance across the site	Intensity, frequency, timing and duration	The intensity, frequency, timing and duration of disturbance occurs at levels that do not significantly impact the achievement of targets for population size and spatial distribution	The impact of any significant disturbance (direct or indirect) to the breeding population will ultimately affect the achievement of targets for population size and/or spatial distribution. Disturbance contributes to increased energetic expenditure which can result in increased likelihood of mortality or reduced fitness (if energy expenditure is greater than energy gain) and, in turn, negatively impact population trends. Factors such as intensity, frequency, timing and duration of a (direct or indirect) disturbance source must be taken into account to determine the potential impact upon the targets for population size and spatial distribution. Seabird species can make extensive use of the marine waters adjacent to their breeding colonies for non site-specific maintenance behaviours as defined in McSorley et al. (2003). At latter stages of the breeding season tern species form large aggregations at terrestrial and intertidal roost sites along the coast (Burke et al., 2020)
Barriers to connectivity	Number; location; shape; area (hectares)	The number, location, shape and area of barriers do not significantly impact the site population's access to the SPA or other ecologically important sites outside the SPA	Arctic tern require regular access to marine waters ecologically connected to their colonies during the breeding season and on migration. Barriers limiting the population's access to this SPA or ecologically important sites outside the SPA will ultimately affect the achievement of targets for population trend and/or spatial distribution. Factors such as the number, location, shape and area of potential barriers must be taken into account to determine their potential impact. Access to ecologically important sites outside the SPA must also be considered as a single SPA may not satisfy all the ecological requirements of the population, and it may require access to other SPAs or undesignated sites for certain activities, such as breeding and additional foraging locations when preferred foraging areas are unavailable due to disturbance, prey availability, or other factors

A195 Little Tern *Sterna albifrons*

To maintain the favourable conservation condition of little tern in North-west Irish Sea SPA, which is defined by the following list of attributes and targets:

Attribute	Measure	Target	Notes
Breeding population size	Number	No significant decline	Breeding little tern is a SCI of Boyne Estuary SPA (004080). Population size at Baltray, Co. Louth has fluctuated over the years but the 2022 estimate of 84 pairs represents an increase of some 500% from the 1995 All-Ireland Tern Survey (Moënner and Hartigan, 2022; Hannon et al., 1997). The foraging range of breeding little tern from the colony is relatively small and therefore it is likely that all feeding resources for this colony during the breeding season are included within the Boyne Estuary SPA and North-west Irish Sea SPA (Woodward et al., 2019; Power et al., 2021; Power et al., 2022). However there is likely to be interchange of birds from other colonies around the Irish Sea during the breeding season and on passage
Spatial distribution	Hectares, time and intensity of use	Sufficient number of locations, area, and availability (in terms of timing and intensity of use) of suitable habitat to support the population	Distribution encapsulates the number of locations and area of potentially suitable habitat for the population and its availability for use. The suitability and availability of habitat areas may vary through time. This will affect the spatio-temporal patterns of use of the habitats by little tern. Breeding birds forage over marine and brackish waters quite close (<5km) to the colony (see Power et al., 2021; Power et al., 2022)
Forage spatial distribution, extent, abundance and availability	Location and hectares, and forage biomass	Sufficient number of locations, area of suitable habitat and available forage biomass to support the population target	Little tern are largely piscivorous. Studies from a more southerly Irish colony show that sandeels (<i>Ammodytes</i> spp.) along with clupeids and, to a lesser extent, gadoids can form important prey bases (Johnson et al., 2022). Breeding birds forage over marine and brackish waters quite close (<5km) to the colony (see Power et al., 2021; Power et al., 2022)
Disturbance across the site	Intensity, frequency, timing and duration	The intensity, frequency, timing and duration of disturbance occurs at levels that do not significantly impact the achievement of targets for population size and spatial distribution	The impact of any significant disturbance (direct or indirect) to the breeding population will ultimately affect the achievement of targets for population size and/or spatial distribution. Disturbance contributes to increased energetic expenditure which can result in increased likelihood of mortality or reduced fitness (if energy expenditure is greater than energy gain) and, in turn, negatively impact population trends. Factors such as intensity, frequency, timing and duration of a (direct or indirect) disturbance source must be taken into account to determine the potential impact upon the targets for population size and spatial distribution. Seabird species can make extensive use of the marine waters adjacent to their breeding colonies for non site-specific maintenance behaviours as defined in McSorley et al. (2003). At latter stages of the breeding season tern species form large aggregations at terrestrial and intertidal roost sites along the coast (Burke et al., 2020)

Barriers to connectivity	Number; location; shape; area (hectares)	The number, location, shape and area of barriers do not significantly impact the site population's access to the SPA or other ecologically important sites outside the SPA	Little tern require regular access to marine waters ecologically connected to their colonies during the breeding season and on migration. Barriers limiting the population's access to this SPA or ecologically important sites outside the SPA will ultimately affect the achievement of targets for population trend and/or spatial distribution. Factors such as the number, location, shape and area of potential barriers must be taken into account to determine their potential impact. Access to ecologically important sites outside the SPA must also be considered as a single SPA may not satisfy all the ecological requirements of the population, and it may require access to other SPAs or undesignated sites for certain activities, such as breeding and additional foraging locations when preferred foraging areas are unavailable due to disturbance, prey availability, or other factors
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A199 Guillemot *Uria aalge*

To maintain the favourable conservation condition of guillemot in North-west Irish Sea SPA, which is defined by the following list of attributes and targets:

Attribute	Measure	Target	Notes
Population size	Number	No significant decline	Guillemot occur in the SPA throughout the year. Breeding guillemot is a SCI of Lambay Island and Ireland’s Eye SPAs. From 1999-2015, individual population estimates at Lambay of 59,983 remained stable (-1%), and Ireland's Eye increased by 101% to 4,410 (Cummins et al., 2019). These birds exploit this SPA during the breeding season. As birds can range large distances from the colony during the breeding season it is likely that this SPA does not contain all relevant foraging resources for these populations (Baer and Newton, 2012; Power et al., 2021). Guillemot from other colonies and non-breeding individuals may also use this SPA during the breeding period. Jessopp et al. (2018) undertook summer, autumn and winter surveys of the western Irish Sea; razorbill (<i>Alca torda</i>) and guillemot were categorised together. Based on this 18,621, 93,191, and 18,553 individuals are estimated to have occurred in the SPA respectively; it is likely that guillemot formed the majority of these
Spatial distribution	Hectares, time and intensity of use	Sufficient number of locations, area, and availability (in terms of timing and intensity of use) of suitable habitat to support the population	Distribution encapsulates the number of locations and area of potentially suitable habitat for the population and its availability for use. The suitability and availability of habitat may vary through time. This will affect the spatio-temporal patterns of use of the habitats by the guillemot. Jessopp et al. (2018) noted that during the summer, guillemot/razorbill sightings concentrated around the central transect lines, while during autumn surveys, large numbers of sightings occurred in the northernmost transects. There was no obvious association between the occurrence of razorbills/guillemots and bathymetric features. HiDef (2019) undertook surveys off Gormanstown and noted that most areas were used regularly by guillemot, but were present at the highest density in the east of the study area. Woodward et al. (2019) provides estimates (i.e. mean, mean of max distances across all studies, and max distance) of guillemot movements from the colony, which are 33, 73, and 338km respectively
Forage spatial distribution, extent, abundance and availability	Location and hectares, and forage biomass	Sufficient number of locations, area of suitable habitat and available forage biomass to support the population target	The diet of guillemot consists of micronektonic prey, 2–25cm in length (mainly 6–10cm), including fish, euphausiids, large copepods, and squid. In summer mainly fish, especially when feeding chicks, in contrast to a more diverse diet during non-breeding period, with euphausiids in particular more important (Ainley et al., 2021). Based on several studies, Woodward et al. (2019) provides estimates of foraging ranges from the nest site during the breeding season (i.e. overall mean, mean of maximum distances across all studies, and maximum distance recorded) for guillemot, which are 33, 72, and 338km respectively (see Power et al., 2021)

Disturbance across the site	Intensity, frequency, timing and duration	The intensity, frequency, timing and duration of disturbance occurs at levels that do not significantly impact the achievement of targets for population size and spatial distribution	The impact of any significant disturbance (direct or indirect) to the breeding population will ultimately affect the achievement of targets for population size and/or spatial distribution. Disturbance contributes to increased energetic expenditure which can result in increased likelihood of mortality or reduced fitness (if energy expenditure is greater than energy gain) and, in turn, negatively impact population trends. Factors such as intensity, frequency, timing and duration of a (direct or indirect) disturbance source must be taken into account to determine the potential impact upon the targets for population size and spatial distribution. Seabird species can make extensive use of the marine waters adjacent to their breeding colonies for non site-specific maintenance behaviours as defined in McSorley et al. (2003). Studies in the UK found the highest densities of guillemot performing these behaviours occurred within 1km of the breeding colony (McSorley et al., 2003)
Barriers to connectivity	Number; location; shape; area (hectares)	The number, location, shape and area of barriers do not significantly impact the site population's access to the SPA or other ecologically important sites outside the SPA	Guillemot require regular access to marine waters ecologically connected to their colonies during the breeding season and on migration. Barriers limiting the population's access to this SPA or ecologically important sites outside the SPA will ultimately affect the achievement of targets for population trend and/or spatial distribution. Factors such as the number, location, shape and area of potential barriers must be taken into account to determine their potential impact. Access to ecologically important sites outside the SPA must also be considered as a single SPA may not satisfy all the ecological requirements of the population, and it may require access to other SPAs or undesignated sites for certain activities, such as breeding and additional foraging locations when preferred foraging areas are unavailable due to disturbance, prey availability, or other factors

Conservation Objectives for : North-west Irish Sea SPA [004236]

A200 Razorbill *Alca torda*

To maintain the favourable conservation condition of razorbill in North-west Irish Sea SPA, which is defined by the following list of attributes and targets:

Attribute	Measure	Target	Notes
Population size	Number	No significant decline	Razorbill occur in the SPA throughout the year. Breeding razorbill is a SCI of Lambay Island and Ireland's Eye SPAs. From 1999-2015, individual population estimates at Lambay of 7,353 increased by 70%, and Ireland's Eye increased by 207% to 1,600 (Cummins et al., 2019). These birds exploit this SPA during the breeding season. As birds can range large distances from the colony during the breeding season it is likely that this SPA does not contain all relevant foraging resources for these populations (Baer and Newton, 2012; Power et al., 2021). Razorbill from other colonies and non-breeding individuals may use this SPA during the breeding period. Jessopp et al. (2018) undertook summer, autumn and winter surveys of the western Irish Sea; razorbill and guillemot were categorised together. Based on this 18,621, 93,191, and 18,553 individuals are estimated to have occurred in the SPA respectively; it is likely that razorbill formed a significant minority of these
Spatial distribution	Hectares, time and intensity of use	Sufficient number of locations, area, and availability (in terms of timing and intensity of use) of suitable habitat to support the population	Distribution encapsulates the number of locations and area of potentially suitable habitat for the population and its availability for use. The suitability and availability of habitat may vary through time. This will affect the spatio-temporal patterns of use of the habitats by razorbill. Jessopp et al. (2018) noted that during the summer, guillemot/razorbill sightings were concentrated around the central transect lines, while during autumn surveys, large numbers of sightings occurred in the northernmost transects. There was no obvious association between the occurrence of razorbills/guillemots and bathymetric features. HiDef (2019) undertook surveys off Gormanstown and noted that razorbill varied across the survey area, with most areas being used, except the most coastal of habitats. Woodward et al. (2019) provides estimates (i.e. mean, mean of max distances across all studies, and max distance) of razorbill movements from the colony, which are 61km, 89km, and 313km respectively
Forage spatial distribution, extent, abundance and availability	Location and hectares, and forage biomass	Sufficient number of locations, area of suitable habitat and available forage biomass to support the population target	The diet of razorbill comprises schooling fish including herring and sandeel. Crustaceans and polychaetes may also be important in adult diets (Lavers et al., 2020). Based on several studies, Woodward et al. (2019) provides estimates of foraging ranges from the nest site during the breeding season (i.e. overall mean, mean of maximum distances across all studies, and maximum distance recorded) for razorbill, which are 61km, 89km, and 313km respectively (see Power et al., 2021)

Disturbance across the site	Intensity, frequency, timing and duration	The intensity, frequency, timing and duration of disturbance occurs at levels that do not significantly impact the achievement of targets for population size and spatial distribution	The impact of any significant disturbance (direct or indirect) to the population will ultimately affect the achievement of targets for population size and/or spatial distribution. Disturbance contributes to increased energetic expenditure which can result in increased likelihood of mortality or reduced fitness (if energy expenditure is greater than energy gain) and, in turn, negatively impact population trends. Factors such as intensity, frequency, timing and duration of a (direct or indirect) disturbance source must be taken into account to determine the potential impact upon the targets for population size and spatial distribution. Seabird species can make extensive use of the marine waters adjacent to their breeding colonies for non site-specific maintenance behaviours as defined in McSorley et al. (2003). Studies in the UK found the highest densities of razorbill performing these behaviours occurred within 1km of the breeding colony (McSorley et al., 2003)
Barriers to connectivity	Number; location; shape; area (hectares)	The number, location, shape and area of barriers do not significantly impact the population's access to the SPA or other ecologically important sites outside the SPA	Razorbill require regular access to marine waters ecologically connected to their colonies during the breeding season and on migration. Barriers limiting the population's access to this SPA or ecologically important sites outside the SPA will ultimately affect the achievement of targets for population trend and/or spatial distribution. Factors such as the number, location, shape and area of potential barriers must be taken into account to determine their potential impact. Access to ecologically important sites outside the SPA must also be considered as a single SPA may not satisfy all the ecological requirements of the breeding population, and it may require access to other SPAs or undesignated sites for certain activities, such as breeding and additional foraging locations when preferred foraging areas are unavailable due to disturbance, prey availability, or other factors

A204 Puffin *Fratercula arctica*

To restore the favourable conservation condition of puffin in North-west Irish Sea SPA, which is defined by the following list of attributes and targets:

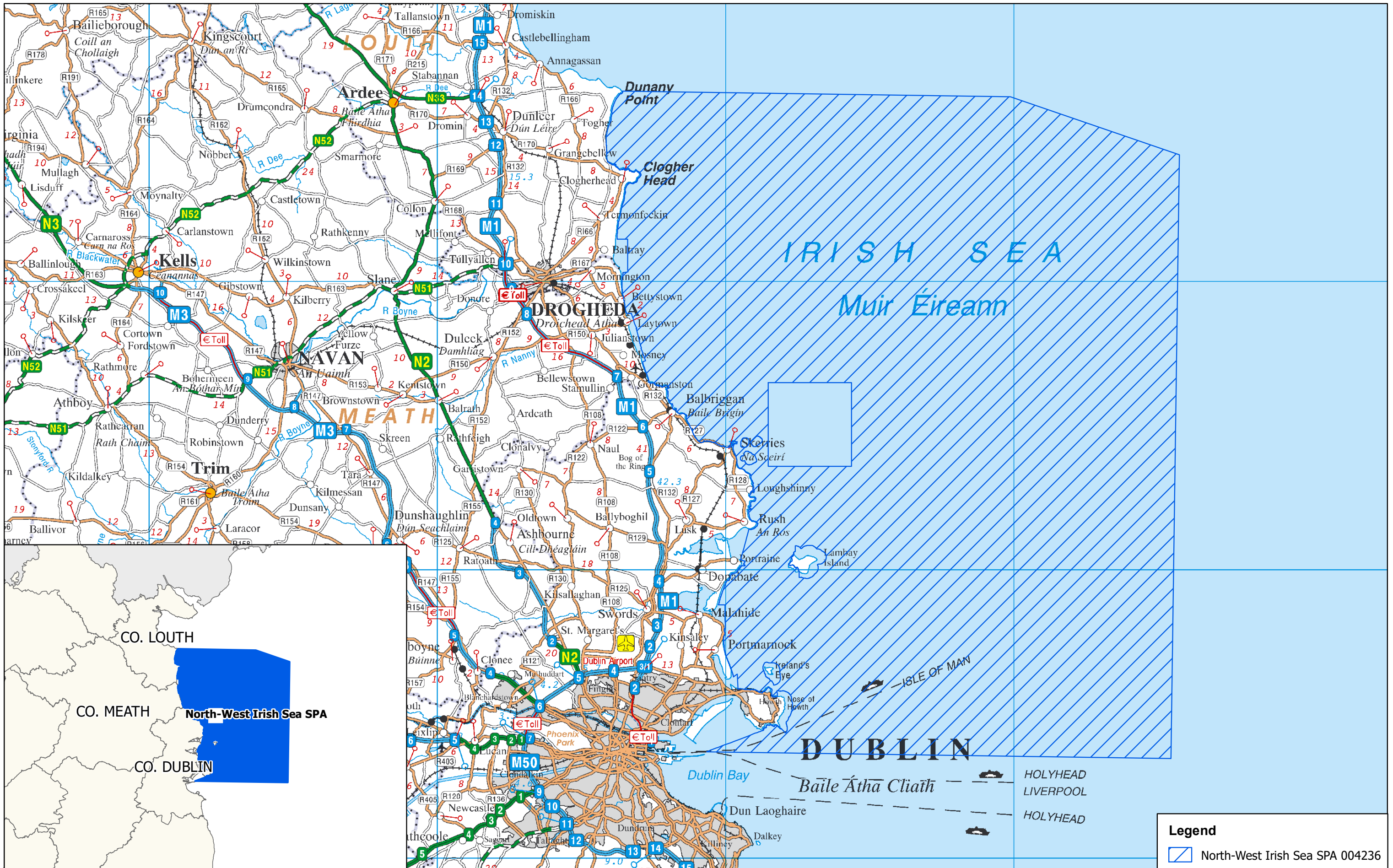
Attribute	Measure	Target	Notes
Breeding population size	Number	Long term SPA population trend is stable or increasing	Breeding puffin is also a SCI of Lambay Island SPA (004069). This breeding population exploits the surrounding marine waters of North-west Irish Sea SPA during the breeding season. The breeding puffin population is estimated to have declined by 68% over the period 1999-2015 from 265 to 158 individuals (Mitchell et al., 2000; NPWS unpublished data). As puffin can range large distances from their nest sites during the breeding season it is likely that the North-west Irish Sea does not contain all relevant foraging resources for the Lambay Island SPA breeding population (Power et al., 2021). Also conversely non-breeding individuals will use the North-west Irish Sea SPA during the breeding period
Spatial distribution	Hectares, time and intensity of use	Sufficient number of locations, area, and availability (in terms of timing and intensity of use) of suitable habitat to support the population	Distribution encapsulates the number of locations and area of potentially suitable habitat for the population and its availability for use. The suitability and availability of habitat areas may vary through time. This will affect the spatio-temporal patterns of use of the habitats by puffin
Forage spatial distribution, extent, abundance and availability	Location and hectares, and forage biomass	Sufficient number of locations, area of suitable habitat and available forage biomass to support the population target	The diet of puffin predominately consists of small to mid-sized (5 – 15cm) schooling midwater fish including sprat (<i>Sprattus sprattus</i>) sandeel (<i>Ammodytes</i> spp) and herring (<i>Clupea harengus</i>) (Lowther et al., 2020). Based on several studies, Woodward et al. (2019) provides estimates of foraging ranges from the nest site during the breeding season (i.e. overall mean, mean of maximum distances across all studies, and maximum distance recorded) for puffin, which are 62km, 137km, and 383km respectively (see Power et al., 2021)
Disturbance across the site	Intensity, frequency, timing and duration	The intensity, frequency, timing and duration of disturbance occurs at levels that do not significantly impact the achievement of targets for population size and spatial distribution	The impact of any significant disturbance (direct or indirect) to the breeding population will ultimately affect the achievement of targets for population size and/or spatial distribution. Disturbance contributes to increased energetic expenditure which can result in increased likelihood of mortality or reduced fitness (if energy expenditure is greater than energy gain) and, in turn, negatively impact population trends. Factors such as intensity, frequency, timing and duration of a (direct or indirect) disturbance source must be taken into account to determine the potential impact upon the targets for population size and spatial distribution. Seabird species can make extensive use of the marine waters adjacent to their breeding colonies for non site-specific maintenance behaviours as defined in McSorley et al. (2003). Studies in the UK found that the highest densities of puffin performing these behaviours occurred within 1km of the breeding colony (McSorley et al., 2003)

Barriers to connectivity	Number; location; shape; area (hectares)	The number, location, shape and area of barriers do not significantly impact the population's access to the SPA or other ecologically important sites outside the SPA	Puffin require regular access to marine waters ecologically connected to their colonies during the breeding season and on migration. Barriers limiting the population's access to this SPA or ecologically important sites outside the SPA will ultimately affect the achievement of targets for population trend and/or spatial distribution. Factors such as the number, location, shape and area of potential barriers must be taken into account to determine their potential impact. Access to ecologically important sites outside the SPA must also be considered as a single SPA may not satisfy all the ecological requirements of the population, and it may require access to other SPAs or undesignated sites for certain activities, such as breeding and additional foraging locations when preferred foraging areas are unavailable due to disturbance, prey availability, or other factors
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A862 Little Gull *Hydrocoloeus minutus*


To maintain the favourable conservation condition of little gull at North-west Irish Sea SPA, which is defined by the following list of attributes and targets:

Attribute	Measure	Target	Notes
Non-breeding population size	Number	No significant decline	Jessopp et al. (2018) noted that little gull occurred over a wide range of depths across the western Irish Sea, although there were no sightings over waters deeper than 80m. Based on Jessopp et al. (2018) it is estimated that 391 individuals occurred in the SPA area in winter (NPWS unpublished data analysis)
Spatial distribution	Hectares, time and intensity of use	Sufficient number of locations, area, and availability (in terms of timing and intensity of use) of suitable habitat to support the population	Distribution encapsulates the number of locations and area of potentially suitable habitat for the non-breeding population and its availability for use. The suitability and availability of habitat areas may vary throughout the season. This will affect the spatio-temporal patterns of use of the habitats by the non-breeding population
Forage spatial distribution, extent and abundance	Location and hectares, and forage biomass	Sufficient number of locations, area of suitable habitat and available forage biomass to support the population target	A primarily aquatic forager that feed on flying insects, small fish and aquatic invertebrates typically at the water surface (Ewins and Weseloh, 2020). Little is known of the winter diet of this species
Disturbance across the site	Intensity, frequency, timing and duration	The intensity, frequency, timing and duration of disturbance occurs at levels that do not significantly impact the achievement of targets for population size and spatial distribution	The impact of any significant disturbance (direct or indirect) to the non-breeding population will ultimately affect the achievement of targets for population size and/or spatial distribution. Disturbance contributes to increased energetic expenditure which can result in increased likelihood of over-winter mortality or reduced fitness (if energy expenditure is greater than energy gain) and, in turn, negatively impact population trends. Factors such as intensity, frequency, timing and duration of a (direct or indirect) disturbance source must be taken into account to determine the potential impact upon the targets for population size and spatial distribution
Barriers to connectivity	Number; location; shape; area (hectares)	The number, location, shape and area of barriers do not significantly impact the site population's access to the SPA or other ecologically important sites outside the SPA	Barriers limiting the population's access to this SPA or ecologically important sites outside the SPA will ultimately affect the achievement of targets for population trend and/or spatial distribution. Factors such as the number, location, shape and area of potential barriers must be taken into account to determine their potential impact. Access to ecologically important sites outside the SPA must also be considered as a single SPA may not satisfy all the ecological requirements of the non-breeding population, and it may require access to other SPAs or undesignated sites for certain activities, such as additional foraging when preferred foraging areas are unavailable due to disturbance, prey availability, or other factors



Legend

 North-West Irish Sea SPA 004236




NPWS
 An tSeirbhís Páircíneanna
 Náisiúnta agus Fiadhúlra
 National Parks and Wildlife
 Service

**MAP 1:
 NORTH-WEST IRISH SEA SPA
 CONSERVATION OBJECTIVES
 SPA DESIGNATION**

Map to be read in conjunction with the NPWS Conservation Objectives Document

**SITE CODE:
 SPA 004236; version 3**

0 2.5 5 10 Kilometres

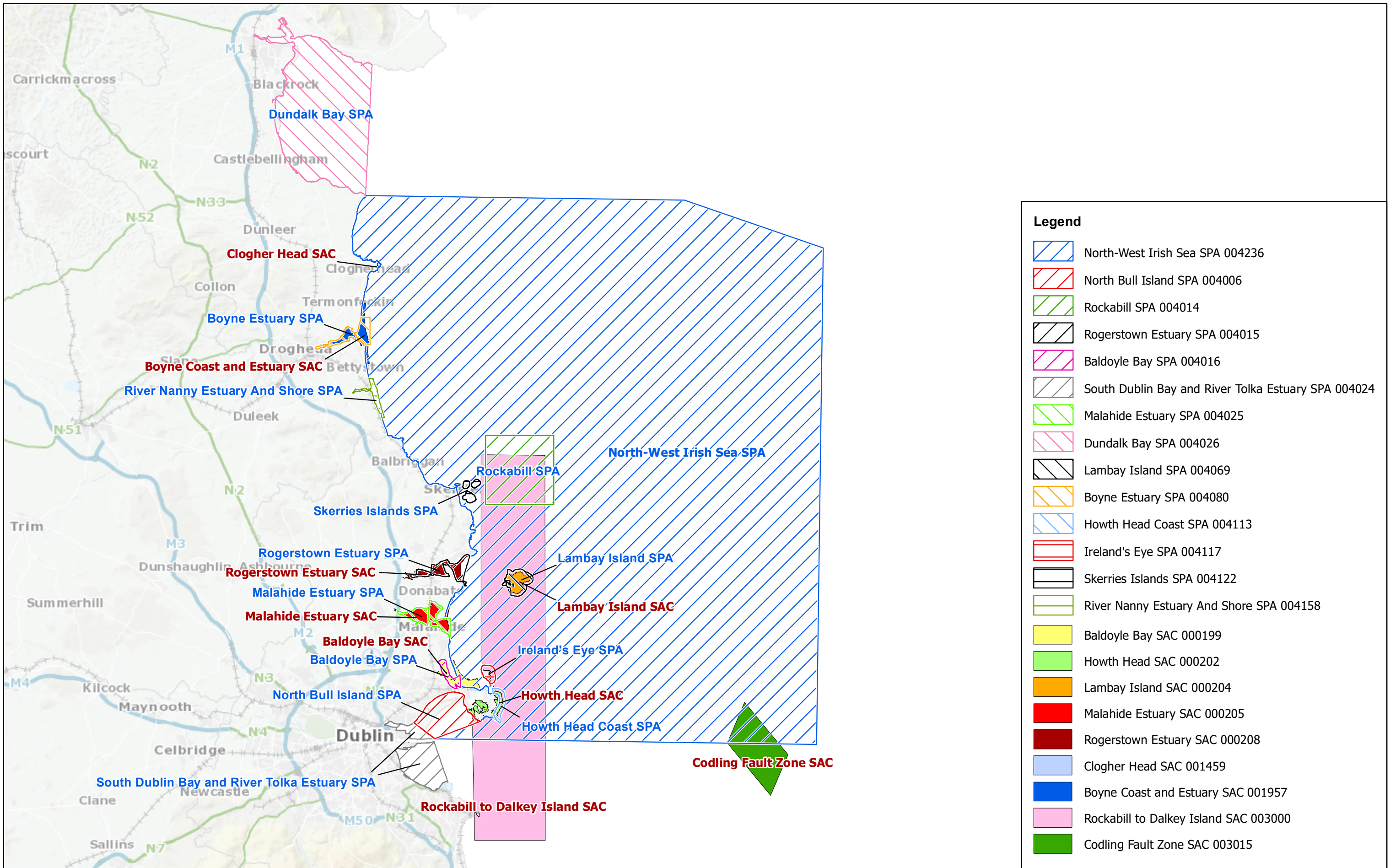


The mapped boundaries are of an indicative and general nature only. Boundaries of designated areas are subject to revision.
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Níl sna teorainneacha ar na léarscáileanna ach nod garshuimhach ginearálta. Féadfar athbheithnithe a déanamh ar theorainneacha na gceantar comharthaithe. © Folaíonn sé rannán Náisiúnta Mapála de shonraí Tailte Éireann
 arna atáirgeadh faoin rannán mapála Náisiúnta d'úimhir cheadúnais Tailte Éireann CYAL50351092

**Map version 1
 Date: September 2023**





Appendix F: Copeland Islands SPA 2015

COPELAND ISLANDS SPECIAL PROTECTION AREA (SPA)

UK9020291

CONSERVATION OBJECTIVES

Document Details

Title	Copeland Islands SPA Conservation Objectives
Prepared By	
Approved By	<i>Mark Wright</i>
Date Effective From	<i>01/04/2015</i>
Version Number	<i>V2</i>
Next Review Date	January 2020
Contact	█@doeni.gov.uk

Revision History:

Version	Date	Summary of Changes	Initials	Changes Marked
V1	29/09/2009	Internal working document	IE	
V1.1	August 2013	Review	IE	
V2.0	February 2015	Draft	IE	Complete review

Site relationship

To fully understand the site conservation requirements for this site it may be necessary to also refer to other site Conservation Objectives

This SPA is in close proximity to Belfast Lough SPA, Belfast Lough Open Water SPA and Outer Ards SPA. It adjoins the proposed East Coast Marine SPA.

See also Boundary Rationale

1. INTRODUCTION

EU Member States have a clear responsibility under the Habitats and Birds Directives¹ to ensure that all habitats and species of Community Interest are maintained or restored to Favourable Conservation Status (FCS). Natura 2000 sites have a crucial role to play in achieving this overall objective since they are the most important core sites for these species and habitats. Each site must therefore be managed in a way that ensures it contributes as effectively as possible to helping the species and habitats for which it has been designated reach a favourable conservation status within the EU.

To ensure that each Natura 2000 site contributes fully to reaching this overall target of FCS, it is important to set clear conservation objectives for each individual site. These should define the desired state, within that particular site, of each of the species and habitat types for which the site was designated.

Once a site has been included in the Natura 2000 network, Member States are required to implement, on each site, the necessary conservation measures which correspond to the ecological requirements of the protected habitat types and species of Community Interest present, according to Article 6.1 of the Habitats Directive. They must also prevent any damaging activities that could significantly disturb those species and habitats (Article 6.2) and to protect the site from new potentially damaging plans and projects likely to have a significant effect on a Natura 2000 site (Article 6.3, 6.4).

Conservation measures can include both site-specific measures (i.e. management actions and/or management restrictions) and horizontal measures that apply to many Natura 2000 sites over a larger area (e.g. measures to reduce nitrate pollution or to regulate hunting or resource use).

In Northern Ireland, terrestrial/inter-tidal Natura 2000 sites are usually underpinned by the designation of an Area of Special Scientific Interest (ASSI) under the Environment (NI) Order 2002 (as amended).

2. ROLE OF CONSERVATION OBJECTIVES

Conservation Objectives have a role in

- Conservation Planning and Management – guide management of sites, to maintain or restore the habitats and species in favourable condition
- Assessing Plans and Projects, as required under Article 6(3) of the Habitats Directive - Habitats Regulations Assessments (HRA) are required to assess proposed plans and projects in light of the site's conservation objectives.
- Monitoring and Reporting – Provide the basis for assessing the condition of a feature, the factors that affect it and the actions required.

¹ 92/43/EEC and 2009/147/EC (codified version of Directive 79/409/EEC as amended)

3. DEFINITION OF FAVOURABLE CONSERVATION STATUS

Favourable Conservation Status is defined in Articles 1(e) and 1(i) of the Habitats Directive:

The conservation status of a natural habitat is the sum of the influences acting on it and its typical species that may affect its long-term natural distribution, structure and functions as well as the long term survival of its typical species. The conservation status of a natural habitat will be taken as favourable when:

- Its natural range and areas it covers within that range are stable or increasing, and
- The specific structure and functions which are necessary for its long-term maintenance exist and are likely to continue to exist for the foreseeable future, and
- The conservation status of its typical species is favourable as defined in Article 1(i).

For species, favourable conservation status is defined in Article 1(i) as when:

- population dynamics data on the species concerned indicate that it is maintaining itself on a long-term basis as a viable component of its natural habitats, and;
- the natural range of the species is neither being reduced nor is likely to be reduced for the foreseeable future, and;
- there is, and will probably continue to be, a sufficiently large habitat to maintain its population on a long term basis.

3.1 DEFINITION OF FAVOURABLE CONDITION

Favourable Condition is defined as “**the target condition for an interest feature in terms of the abundance, distribution and/or quality of that feature within the site**”.

The standards for favourable condition (Common Standards) have been developed by JNCC and are applied throughout the UK. Achieving Favourable Condition on individual sites will make an important contribution to achieving Favourable Conservation Status across the Natura 2000 network.

4 GENERAL INFORMATION

COUNTY: Down

Copeland Islands ASSI:		AREA: 201.15ha
Big Copeland	G.R. J593 835	
Light House Island	G.R. J596 858	
Mew Island	G.R. J602 860	
Copeland Islands SPA	G.R. J600 850	AREA: 201.20ha

NB – UK MARINE SPA PROGRAMME HAS IDENTIFIED THE NEED FOR A MARINE EXTENSION TO THE COPELAND ISLANDS SPA TO REFLECT USAGE OF THE MARINE AREA BY RAFTING MANX SHEARWATER.

THE EXTENT OF THE MARINE AREA MANX SHEARWATER RAFTING IS AVAILABLE FROM NIEA.

THIS BOUNDARY WILL BE FURTHER REVISED ONCE JNCC REPORT ON MARINE USAGE BY TERN SPECIES FROM EXISTING SPA'S DESIGNATED FOR BREEDING TERNS IS PUBLISHED.

CONSERVATION OBJECTIVES WILL BE REVISED AS THESE ISSUE PROGRESS

5 SUMMARY SITE DESCRIPTION

The site is composed of three islands, Big Copeland, Light House Island and Mew Island, which collectively make up the Copeland Islands ASSI, lying off the north-east coast of the Outer Ards SPA. The islands are sites for breeding seabirds, with Big Copeland and Lighthouse Island being home to the main colonies. Important breeding and wintering populations of Eider Duck occur. Notable breeding populations of wader species also occur on Big Copeland.

5.1 BOUNDARY RATIONALE

The ASSI/SPA includes all land areas, excluding those with buildings and adjoining gardens, as the Manx Shearwater population especially use both inland and coastal areas for breeding purposes. The inland breeding gull and wader populations also support inclusion of the core of Big Copeland. Sea areas adjoining the Copeland Islands have also been included in the SPA (used by breeding tern and Manx Shearwater). Such areas adjoining colonies are of particular importance for courtship, preening and loafing behaviours, and also feeding.

6 SPA SELECTION FEATURES

Feature Type	Feature	Population	Population at time of designation (ASSI)	Population at time of designation (SPA)	SPA Review population
Species	Manx Shearwater breeding population ^a	Total 4800 pairs Lighthouse Island (surveyed 2000) and Big Copeland – (surveyed 2002 and 2003)	Total 4800 pairs Lighthouse Island (surveyed 2000) and Big Copeland – (surveyed 2002 and 2003)	Total 4800 pairs Lighthouse Island (surveyed 2000) and Big Copeland – (surveyed 2002 and 2003)	New feature
Species	Arctic Tern breeding population ^a	1998 to 2002 - 5 year average of 566	1998 to 2002 - 5 year average of 566	1998 to 2002 - 5 year average of 566	New feature
Habitat ¹	Habitat extent				

Table 1. List of SPA selection features.

¹ Habitat is not a selection feature but is a factor and is more easily treated as if it were a feature. Habitat extent is also used for breeding birds reported as an area.

Notes on SPA features – may not be applicable to all SPAs

The above table lists all relevant qualifying species for this site. As the identification of SPA features has and continues to evolve, species may have different status but all should be considered in the context of any HRA process. Ultimately all SPAs will be renotified to formalise species features.

^a – species cited in current SPA citation and listed on current N2K dataform

^b – species selected post SPA designation through UK SPA Review 2001

^c – species highlighted as additional qualifying features through the UK SPA Review 2015 or the UK marine SPA programmes.

6.1. ADDITIONAL ASSI SELECTION FEATURES

Feature Type (i.e. habitat, species or earth science)	Feature	Size/ extent/ pop'	Population at time of designation (ASSI)	Common Standards Monitoring baseline
Species	Common Gull	250 pr	250 pr	250 pr
Species	Eider (breeding)	140 pr	140 pr	140 pr
Species	Eider (non-breeding)	200	200	458

Table 2. List of ASSI features, additional to those that form all or part of SPA selection features. These will be referred to in ANNEX II.

7. CONSERVATION OBJECTIVES

The Conservation Objectives for this site are:

To maintain each feature in favourable condition.

For each feature there are a number of component objectives which are outlined in the tables below. Component objectives for Additional ASSI Selection Features are not yet complete. For each feature there are a series of attributes and measures which form the basis of *Condition Assessment*. The results of this will determine whether a feature is in favourable condition, or not. The feature attributes and measures are found in the attached annexes. Those for Additional ASSI Selection Features (Annex II) are not yet completed.

8. COPELAND ISLANDS SPA CONDITION ASSESSMENT 2014

Species	2007	2011	CSM	5 yr mean	% CSM	Status
Arctic tern	1050	1025	556	1037.5	186.60	Favourable

Species	2008	2009	2010	CSM	5 yr mean	% CSM	Status
Manx Shearwater	5994	5506	6209	4800	5903	122.98	Favourable

9 SPA SELECTION FEATURE OBJECTIVES

To maintain or enhance the population of the qualifying species

Fledging success sufficient to maintain or enhance population

To maintain or enhance the range of habitats utilised by the qualifying species

To ensure that the integrity of the site is maintained;

To ensure there is no significant disturbance of the species and

To ensure that the following are maintained in the long term:

- Population of the species as a viable component of the site
- Distribution of the species within site
- Distribution and extent of habitats supporting the species
- Structure, function and supporting processes of habitats supporting the species

Feature	Component Objective
Manx Shearwater breeding population	No significant decrease in population against national trends
Manx Shearwater breeding population	Fledging success sufficient to maintain or enhance population
Arctic Tern breeding population	No significant decrease in population against national trends
Arctic Tern breeding population	Fledging success sufficient to maintain or enhance population
Habitat extent	To maintain or enhance the area of natural and semi-natural habitats used or potentially usable by Feature bird species, (breeding areas 201.20ha) subject to natural processes
Habitat extent	Maintain the extent of main habitat components subject to natural processes

Table 3. List of SPA Selection Feature Component Objectives

Tern nesting localities current and historical (TO BE FINALISED)

Big Copeland
Lighthouse Island
Mew Island

Table 4. Tern nesting locations within the SPA

9.1 ADDITIONAL ASSI SELECTION FEATURE OBJECTIVES

Feature Type (i.e. habitat, species or earth science)	Feature
Species	Common Gull
Species	Eider (breeding)
Species	Eider (non-breeding)

10. MANAGEMENT CONSIDERATIONS

See also Views About Management for relevant ASSI

Owner/Occupier's – (to be used to identify any key management considerations arising from ownership e.g. owners/organisations having an obvious bearing on conservation matters or from management agreements).

Approximately x individuals/organisations own land within the SPA. Major landowners and leasees within the SPA, relevant to the site management include, Crown Estate Commissioners, National Trust, Commissioner of Irish Lights, the Copeland Bird Observatory and Private Individuals. There may be conflicts of interest between the requirements of individual/organisations, both within and adjacent to the SPA, and the site management needs.

A managed shoot is established on Big Copeland. This is not thought to have an adverse impact on the breeding seabirds (Arctic Tern numbers have increased during the period during which the shoot has been managed while no aspect of the shoot would have a specific impact on the Manx Shearwater). Provision of feeding points for game birds supports the local population of Stock Dove, together with many passerine species.

Activities of the Copeland Bird Observatory are positively directed towards both the Arctic Tern and Manx Shearwater populations. In addition they undertake population monitoring actions and habitat enhancement schemes.

The proposed new sewage treatment works for the greater Bangor area at Donaghadee and associated infrastructure may impact upon the SPA.

There are no management agreements within the SPA.

11. MAIN THREATS, PRESSURES, ACTIVITIES WITH IMPACTS ON THE SITE OR SITE FEATURES

Notifiable Operations - Carrying out any of the Notifiable Operations listed in the schedule could affect the site. The list below is not exhaustive, but deals with the most likely factors that are either affecting Outer Ards SPA, or could affect it in the future. Although, features 1, 2, 3, 4 etc, are the qualifying SPA features, factors affecting ASSI features are also considered.

Generic site/feature issues

No	Issue	Threat/comments	Local considerations	Action
1	Boating activity – commercial	Disturbance and potential for impact from high-speed liners.	Fishing boat activity is widespread, centred on the main harbours. Shipping within the Irish Sea may have a bearing with regard to the potential for pollution incidents. No immediate issues evident.	Formal consultation likely relating to new schemes. Consider the collective impact.
2	Boating activity – recreational	Disturbance and potential for impact. Generally relevant to particularly sensitive areas within site.	Main boating centres are at Bangor and Donaghadee. Most activity is likely to be	Liaise with appropriate authority with codes of good practice, zoning and use of by-laws as necessary.

			in the summer period. Implications for seabird nesting sites.	Consider the collective impact.
3	Cull of fledglings/ young	Licensed selective culling of species impacting on 'more desirable' species. Licensed by NIEA.	Potentially an issue at tern colonies but numbers of breeding large gulls has declined considerably in recent years.	NIEA to review all licenses. Consider the collective impact.
4	Enhanced bird competition	Activities onsite or offsite that influences or results in a shift in balance of species utilising a site.	Future of landfill operations especially in the wider area could impact on breeding seabirds	Liaise with Planning Service. Review wider countryside changes.
5	Fishing – commercial or recreational	Minimal disturbance consideration but may represent 'competition' for piscivorous birds. Represents a net loss to the system in terms of biomass.	Scallop dredging and other trawling is ongoing.	Liaise with DARD and fishing authority as required. Liaise with angling clubs as required.
6	Habitat quality – open water	Alteration of habitat quality through diminution of water quality or invasive species.	Not a significant issue given the sites position in open coastal waters. Impacts are localised.	Assess planning applications. Deal with invasive alien species by preventing their spread or reducing their impact. Liaise with Environmental Protection. Consider the collective impact.
7	Habitat extent and quality-breeding	Alteration of habitat area or quality through inappropriate use or absence of site management.	Habitat management is main issue in context of seabirds. Manx Shearwater on Lighthouse Island are positively managed. This is not the case for Terns and Shearwaters on Big Copeland.	Assess needs of breeding species. Liaise with owner or appropriate authority to adjust or introduce site management.
8	Introduced species	Range of threats from loss of habitat, feeding competition, disease, hosting species presenting a threat outside of the site.	Significant problem on Lighthouse Island.	Liaise with appropriate authority. Consider feasibility of elimination. Participate in national/ international initiatives.
9	Predation.	Mainly of concern on bird breeding sites.	Extent unknown. Introduction of ground predators eg rats, is a major risk to Shearwaters especially.	Must be dealt with as part of wider countryside management considerations.
10	Recreational activities	Disturbance is the main consideration. Breeding birds, especially seabirds, are vulnerable to disturbance as absence of adults can often result in predation or chilling of young with a reduction/loss in fledging success.	Widespread in summer with main concerns being access to Copeland Island (Lighthouse and Mew Islands have greater control on access).	Liaise with local authorities and other managing parties. Signage at vulnerable sites should be reviewed.

11	Game Bird Management	Habitat management.	Potential conflict of habitat management. NB: The game bird rearing on Big Copeland is helping to support the Stock Dove population but may result in competition with waders for some invertebrate prey during the breeding season.	Liaise with holder of sporting rights.
12	Grazing regime	Stock levels must represent a balance between the need to keep a low sward and minimise soil erosion. Grazing/cutting needs also to be assessed in the context of the fluctuating rabbit populations.	On Lighthouse Island an artificial mowing regime is maintained, and on some areas of Big Copeland livestock grazing is maintained. On Mew Island the introduction of a grazing regime would be attractive.	For all islands, depending on rabbit activities, to seek measures to get rid of extra amounts of herbage
13	Field boundaries on Big Copeland	Some Manx Shearwater use the stone walls and dry turf banks.	The stone walls and turf banks need to be managed and maintained appropriately.	Liaise with local landowners.
14	Alien species	Himalayan Balsam invasion.	Eradication.	To contain or reduce extent of ground cover
15	Research activities	Census and ringing activities especially have the potential to impact on bird populations, particularly at breeding sites.	Breeding seabirds are surveyed annually.	Census and ringing activities to be undertaken by competent individuals, appropriately trained. In case of ringers, appropriate license must be held.

Table 5. List of site/feature management issues

12. MONITORING

Monitoring of our Special Protection Areas takes place at a number of levels, using a variety of methods. Methods for both Site Integrity Monitoring and Condition Assessment can be found in the Monitoring Handbook (To be written).

Maintain the integrity of the site. Undertake Site Integrity Monitoring (SIM) at least annually to ensure compliance with the SPA/ASSI schedule. The most likely processes of change (e.g. dumping, infilling, gross pollution) will either be picked up by Site Integrity Monitoring, or will be comparatively slow (e.g. change in habitat such as growth of mussel beds). More detailed monitoring of site features should therefore be carried out by Site Condition Assessment on a less frequent basis (every 6 years initially to pick up long-term or more subtle changes). A baseline survey will be necessary to establish the full extent of the communities present together with the current condition of the features, against which all further condition assessments will be compared.

In addition, detailed quality monitoring or verification monitoring may be carried out from time to time to check whether condition assessment is adequate to detect long-term changes that could affect the site. This type of quality monitoring may involve assessment of aerial photographs to determine site morphological changes. Methodology for this is being developed.

12.1 MONITORING SUMMARY

1. Monitor the integrity of the site (Site Integrity Monitoring or SIM) – Complete boundary survey to ensure integrity of site and that any fencing is still intact. Ensure that no sand extraction or dumping has been carried out within the SAC boundary. This SIM should be carried out once a year.
2. Monitor the condition of the site (Condition Assessment) - Monitor the key attributes for each selection feature (dune, saltmarsh, species). This will detect if the features are in favourable condition or not. See Annexes I and II for SAC and Additional ASSI Features respectively.

The favourable condition table provided in Annex 1 is intended to supplement the conservation objectives only in relation to management of established and ongoing activities and future reporting requirements on monitoring condition of the site and its features. It does not by itself provide a comprehensive basis on which to assess plans and projects, but it does provide a basis to inform the scope and nature of any appropriate assessment that may be needed. It should be noted that appropriate assessments are a separate activity to condition monitoring, requiring consideration of issues specific to individual plans or projects.

12.2. ADDITIONAL MONITORING ACTIONS UNDERTAKEN FOR SITES IN UNFAVOURABLE CONDITION

Monitoring actions set out in section 6 and Annex 1 will use, amongst other attributes, bird population data to determine site condition. In the event of a significant population decline being detected, a series of subsequent actions will be initiated. The following list is not exhaustive, actions will be site dependant, but the order of these points IS hierarchical i.e. consider point 1, then 2, etc.

1. Assess the site population in a wider geographical context – Northern Ireland, Ireland, UK, world. Refer to BTO ALERT limits etc. Liaise with other competent bodies to meaningfully assess wider pattern. No site action if site decline mirrors regional pattern the cause of which is not related to the site. Action may be required at regional or larger scale. If the cause of the regional population decline (e.g. eutrophication) is found at the site then action may be necessary, but this may need to form part of a network of strategic species action. Further research may be required.
2. Assess the site population in a wider geographical context – Northern Ireland, Ireland, UK, Europe, world. Determine if site losses are balanced by gains elsewhere e.g. breeding terns. Review site condition to determine if losses are due to site deterioration. Determine if possible whether population has

relocated within SPA series (national, biogeographical, European). Note that the reasons for such locational changes may not be readily identifiable. Further research may be required.

3. For passage/wintering species assess breeding information. No site action if site decline is due to breeding ground failure, unless breeding ground failure is related to poor adult condition resulting from factors affecting wintering / passage birds.
4. Determine whether a major incident has affected the site e.g. toxic impact on prey items, predation event or geographical shift in available prey. Ability to respond to impacts may be limited.
5. Assess condition of principal site habitats e.g. vegetational composition and structure, change in habitat balance e.g. mudflats reduced by encroaching mussel beds.
6. Assess prey availability. Issues to consider are both within site e.g. water quality, broad site management, and without site e.g. climatically driven factors.
7. Assess whether there have been any changes in any other site features or management practices (see Table 3) that may have affected populations of site selection features.
8. Long-term site value must be considered even when it is found to be in unfavourable condition for a number of reporting cycles. This is particularly important for breeding seabird and wader sites where ongoing appropriate management may ultimately encourage re-establishment of a favourable population.

13. SELECTION FEATURE POPULATION TRENDS

Site trends are reported using running 5 year means of annual maximum count (WeBS data). Long term trends in index values have been used to assess changes in overall wintering populations for Northern Ireland and UK (WeBS data). Caution is always necessary in the interpretation and application of waterbird counts given the limitations of these data. The reduced number of both sites and birds in Northern Ireland, result in a greater degree of fluctuation. Trends for Ireland are based on five years of data 1994-1999 (I-WeBS data). Consequently short-term fluctuations apparent in the data series may reflect changes in between year productivity, or other short term phenomena, rather than being indicative of a real change in a population.

SPECIES	SITE TREND	NI TREND	ROI TREND	UK TREND	COMMENTS
Arctic Tern	-	-	-	-	Not known, to be compiled.
Manx Shearwater	-	-	-	-	Not known, to be compiled.

ANNEX I

Feature (SPA) – Breeding Seabirds

* = primary attribute. One failure among primary attribute = unfavourable condition

= optional factors. These can be in unfavourable condition without the site being in unfavourable condition

Attribute	Measure	Targets	Comments
* Arctic Tern breeding population	Apparently occupied nests	No significant decrease in Arctic Tern breeding population against national trends	Requirement that annual data is collected, apply 5 year mean criteria. Ideally the population will be maintained above 1% of the national population.
# Arctic Tern fledging success	Annual survey (as per Gilbert <i>et al.</i> 1998). Determine number of fledglings raised and add to total number of fledglings raised over previous four years and divide by five to obtain average. This should remove variation from season to season, e.g. in response to bad weather.	>1 fledgling per pair successfully raised per year over five year period.	Appropriate level of fledgling survival to be determined.
* Manx Shearwater breeding population	Occupied nests	No significant decrease in Manx Shearwater breeding population against national trends.	Requirement that data is collected once every reporting cycle. Ideally the population will be maintained above 1% of the national population.
# Manx Shearwater fledging success	Fledging success	>1 fledgling per pair successfully raised over five year period.	Appropriate level of fledgling survival to be determined.

Non-Avian Factors – habitat

Attribute	Measure	Targets	Comments
* Habitat extent	Area of natural and semi-natural habitat	To maintain or enhance the area of natural and semi-natural habitats potentially usable by Feature bird species, (breeding areas 201.20ha) subject to natural processes.	Monitor once every reporting cycle by aerial photography.
# Extent of different habitats	Extent of different habitats	Maintain the extent of main habitat components subject to natural processes.	Evaluate habitat quality should bird populations decline due to on site factors. Map any changes in area. This may include mapping areas with different vegetation structures or breeding sites, where this would lead to different usage by notified species.

Appendix G: Glannau Aberdaron SPA

**CYNGOR CEFN GWLAD CYMRU
COUNTRYSIDE COUNCIL FOR WALES**

**CORE MANAGEMENT PLAN
INCLUDING CONSERVATION OBJECTIVES**

**FOR
GLANNAU ABERDARON AND YNYS ENLLI /ABERDARON
COAST AND BARDSEY ISLAND SPA**

(including part of CLOGWYNI PEN LLŶN/LLEYN SEACLIFFS SAC and
PEN LLŶN A'R SARNAU SAC.

These sites are underpinned by GLANNAU ABERDARON SSSI, YNYS
ENLLI SSSI, AND YNYSOEDD Y GWYLANOD SSSI)

Version: 2.0

Date: 27 March 2008

Approved by: Mike Willis

**More detailed maps of management units can be provided on request.
A Welsh version of all or part of this document can be made available on request.**



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 - 4.4 Feature 4 (Pen Llŷn a'r Sarnau SAC): Reefs (Intertidal)
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8. References

PREFACE

This document provides the main elements of CCW's management plan for the sites named. It sets out what needs to be achieved on the sites, the results of monitoring and advice on the action required. This document is made available through CCW's web site and may be revised in response to changing circumstances or new information. This is a technical document that supplements summary information on the web site.

One of the key functions of this document is to provide CCW's statement of the Conservation Objectives for the relevant Natura 2000 sites. This is required to implement the Conservation (Natural Habitats, &c.) Regulations 1994, as amended (Section 4). As a matter of Welsh Assembly Government Policy, the provisions of those regulations are also to be applied to Ramsar sites in Wales.

1. VISION FOR THE SITE

This is a descriptive overview of what needs to be achieved for conservation on the site. It brings together and summarises the Conservation Objectives (part 4) into a single, integrated statement about the site.

This site encompasses an extensive stretch of the Lleyn Peninsula from Porth Oer on the northern coast, around the tip of the Lleyn to Aberdaron on the southern coast, including the islands of Bardsey (Enlli) and the Gwylans. This geologically diverse coast supports maritime and coastal heath and grassland habitats, which in turn support a range of important vascular and non-vascular plants, and an internationally important population of chough. Bardsey island is the home of one of the largest breeding populations of the Manx shearwater in the UK, for which the island is internationally important.

The site should continue to support a strong breeding population of chough with at least 14 nesting pairs, with 4 of these on Ynys Enlli. The site should also continue to provide sufficient habitat of sufficient quality to support this breeding population, and the non-breeding flocks. Maintenance of grazing of the grassland and heath, bracken control and rotational repair of the traditional cloddiau should be undertaken to maximise available feeding habitat.

Ynys Enlli should continue to sustain a breeding population of at least 10,000 pairs of Manx shearwaters. Their nest sites in the earth banks (cloddiau) in the lowlands of the island and in old rabbit burrows on Mynydd Enlli, and access to them, will remain undisturbed by boundary maintenance or heath management.

There will be no decrease in the areas of heathland present, and we will encourage restoration of the heathland, in terms of its extent and condition, aiming towards re-establishing the areas of heathland that existed (according to mapped evidence) in the early 20th century. This could be achieved by managed rotational cutting and/or burning of the dry heath, grazing management and the control of bracken and European gorse. Maintaining an open structure and diverse age-structure will ensure that the heath is available as a feeding habitat for chough.

The intertidal habitat will continue to support the full range of associated communities. The cliffs offer breeding sites for chough, and the intertidal area is also used by chough as an occasional feeding resource, while Manx shearwaters rely entirely on the sea for feeding.

The heath at Trwyn y Gwyddel is also very important as it supports one of only two UK locations for the spotted rockrose, *Tuburaria guttata*. This plant is hanging on at the edge of its range, and is susceptible to overgrazing and trampling pressures, and control of these factors is necessary to ensure its continued survival. Also present at this site, and more abundantly on the south western slopes of Mynydd Enlli, are two nationally rare heathland lichens, the ciliate strap lichen *Heterodermia leucomela* and the golden hair moss *Teloschistes flavicans*. Peny Cil supports a population of the prostate broom *Cytisus scoparius* subsp. *maritimus*, occurring here as a very isolated outlier at the north of its range. The sites should continue to support healthy populations of all these species.

The site also supports notable breeding populations of cormorant *Phalacrocorax carbo*, shag *P. aristotelis*, peregrine *Falco peregrinus*, herring gull *Larus argentatus* and puffin *Fratercula arctica*, particularly on Ynysoedd y Gwylanod, and should continue to do so.

2. SITE DESCRIPTION

2.1 Area and Designations Covered by this Plan

Grid references: SH167263 to SH167301, SH120220, SH184246 and SH182243.

Unitary authority: Gwynedd Council

Area (hectares): 512.8ha

Designations covered:

Glannau Aberdaron and Ynys Enlli Special Protection Area (SPA) is underpinned by three Sites of Special Scientific Interest (SSSIs): Glannau Aberdaron SSSI, Ynys Enlli SSSI and Ynysoedd y Gwylanod SSSI. The intertidal habitat within these sites is part of Pen Llyn a'r Sarnau Special Area of Conservation (SAC) and the entire remainder of the terrestrial habitat is also part of Clogwyni Pen Llyn SAC. Ynys Enlli/Bardsey Island is also a National Nature Reserve (NNR), and the entire site falls within the Llyn Area of Outstanding Natural Beauty (AONB). The coast is also designated a Heritage Coast.

Detailed maps of the designated sites are available through CCW's web site:

<http://www.ccw.gov.uk/interactive-maps/protected-areas-map.aspx>

For a summary map showing the coverage of this document is see separate Unit Map.

2.2 Outline Description

The site lies at the very southwestern tip of the Llyn Peninsula, almost surrounded by the Irish Sea and exposed to the prevailing winds and weather systems. Its habitats are necessarily influenced by its location, geology and the climate, and the coastal area supports some of the best remaining examples of coastal and maritime heaths and grasslands on the Llyn, while areas further inland supporting more agriculturally improved areas. The site includes three islands, Ynys Enlli and two small islands known as Ynysoedd y Gwylanod. The site is designated an SPA for its ornithological interest, and is particularly important for its chough and Manx shearwater breeding populations.

The area has long been a stronghold for the chough, and over 14 pairs regularly nest here. Chough thrive in the area which supports 5% of the UK population because of the variety of short turf and thin soil feeding habitats and available breeding sites - the sea cliffs and caves provide breeding sites, while the cliffs, heath, maritime grassland, and inland pasture and arable fields provide feeding sites throughout the year for these specialist invertebrate feeders. Manx shearwaters spend most of their lives out in the open sea, but congregate at breeding sites to which they faithfully return throughout their lives. These tend to be offshore islands that are free of predators, and Bardsey supports over 2% of the UK breeding population. They are long-lived birds (a bird ringed in 1955 was recorded again in 2002 and 2003) but productivity is typically low, with a single egg produced by adults (>5years) annually. They are present on the island from mid-March to mid-October, and nest in burrows on the mountain, cliff slopes and in man-made banks and walls.

Ynysoedd y Gwylanod, and particularly the larger Ynys Gwylan Fawr, are important for supporting the largest breeding colony of puffin in North Wales, and razorbills and guillemots also nest in small numbers. There is also a healthy population of breeding cormorant which is in excess of 1% of the UK breeding population.

The site is also important for several vascular and non-vascular plant species, particularly spotted rockrose, *Tuburaria guttata* and prostate broom *Cytisus scoparius* subsp. *maritimus* and two nationally rare heathland lichens, the ciliate strap lichen *Heterodermia leucomela* and the golden hair moss *Teloschistes flavicans*.

2.3 Outline of Past and Current Management

This site includes a long stretch of the coast including two areas of common land, Mynydd Anelog and Mynydd Bychestyn, and three offshore islands, Ynys Elli, Ynys Gwylan Fawr and Ynys Gwylan Fach, and management of different areas has obviously varied over time. Grazing levels and stock type have varied historically, although it is likely that grazing levels were much heavier previously. Areas of heath on the Lleyrn have suffered severe decline since the war (Rees 1929) because of overgrazing and agricultural improvements, and that which remains is only a remnant of what once existed. More common problems these days relate to undergrazing and neglect leading to rank heath and bracken areas, and uncontrolled and too frequent burning, although there is still localised overgrazing. Continued sheep overgrazing is particularly a concern at Trwyn y Gwyddel where the last mainland UK site for spotted rockrose, *Tuburaria guttata* is clinging on. The overgrazing problem here is compounded by trampling problems due to walkers accessing the site.

The structure and composition of the heathland habitats vary across the site. Some good quality coastal heath is to be found, particularly on Ynys Enlli (where maritime heath is well represented), Mynydd Mawr (Trwyn y Gwyddel and Braich y Pwll) and Mynydd Anelog, but in places this has become invaded by bracken. Bracken used to be cut and used for bedding historically, but this practice has not been carried through to the modern day. In some places, for instance at Mynydd Bychestyn, western gorse dominates, possibly due to climatic change since it is susceptible to frosts which occur less frequently nowadays, but almost certainly due to past overburning, and sheep grazing patterns which have an emphasis towards heavier grazing in the autumn and winter. There would be a great advantage in introducing heavy stock at Bychestyn, and many other sections of this site, and cattle and/or pony grazing could be appropriate all year round at low levels. Trampling will help control bracken and open up new areas for heath colonisation. Cattle grazing has recently been reintroduced to Mynydd Enlli following gorse control and it is hoped this will help prevent gorse regeneration and bracken growth. Sheep grazing on these sites should be heaviest in the spring and early summer (April-July) as this will encourage livestock to remove young palatable gorse and grasses whilst allowing ericoids to regenerate. Sheep stocking levels should be much reduced or removed in autumn and winter (September-March) in heathland area as this is the period when they do most damage to ericoids. Young gorse used to be milled locally, and used as nutritious feed, but this practice has died out. Burning favours bracken and western gorse, so this should not be used as a management tool where these species are likely to invade. Large areas, particularly at Mynydd Anelog and along the coast from Porth y Pistyll northwards (where sections are not grazed at all due to fear of losing stock on open cliff slopes), are now dominated by bracken, which limits the areas available for chough to feed and for heathland vegetation to develop. NT has been active in controlling bracken at its holding at Muriau, and work has been carried out recently at Pen y Cil and on Ynys Enlli, but plenty remains to be managed. In 2005, a Management Schedule was drawn up for four sections of the site, Mynydd Anelog, Mynydd Mawr, Mynydd Bychestyn and Pen y Cil, involving partners including NT, RSPB, Cyngor Gwynedd and CYMAD. Some of the work was implemented under the Cadw'r Lliw yn Llyn project, and further work will be implemented as part of the Llyn Heaths Project which has just gained Heritage lottery funding. Sympathetic grazing regimes with heavy stock, the establishment of cutting and burning of heath blocks on long rotation, and control of gorse and bracken form the backbone of these plans.

The UK chough population has suffered a significant decline in the 20th Century as a result of persecution and changing agricultural practice. These pressures led to a contraction of the species range and the fragmentation and reduction of most remaining populations. This national trend mirrored one seen throughout Europe where the species was estimated to be in decline in 90% of its range (Tucker & Heath, 1994). The past two or three decades have seen the UK chough population as a whole stabilising while populations around the Welsh coast appear to be making a recovery in numbers. Despite the population now stabilising in most of

its European range, ongoing declines in some areas mean that it is still regarded as a declining species (Birdlife International 2004).

Glannau Aberdaron and Bardsey are important feeding and breeding areas for chough. The current grazing regime provides the areas of suitable short turf for feeding chough over a good proportion of the site. Management to open up areas of dense heath and provide a wider range of age structure and to clear areas of European gorse and bracken should increase the area of feeding habitat. Areas of pasture, arable land and semi-improved and improved pasture are associated with the coastal strip and within easy reach of the cliff breeding sites.

The Manx shearwater population on Ynys Enlli is largely self-maintaining, and requires little in the way of active management. They simply require suitable nesting locations which are available in abundance on Enlli, access to fish in the open sea, and minimal disturbance. They are entirely pelagic outside the breeding season, and are ill-adapted to movement on land and particularly vulnerable to predation. For this reason, breeding birds are largely restricted to offshore islands with no predators. There used to be rabbits on the island, but they died out on the island in 1996. Prior to this, Manx shearwaters and rabbits coexisted and were even known to share entrance burrows. Manx shearwaters can excavate their own burrows, but will also make use of unoccupied rabbit burrows and may have benefitted from the recent extinction of rabbits and the increased availability of empty burrows. Many of the burrows in use on Enlli are in man-made earthbanks and walls, and restoration management of boundary features must take their presence into account, along with minimising disturbance by human access and management in all other areas with active burrows.

2.4 Management Units

The plan area has been divided into management units to enable practical communication about features, objectives, and management. This will also allow us to differentiate between the different designations where necessary. In this plan, the management subunits have been based on tenure, but these have been lumped together into identifiable management blocks, often related to NT ownership. The National Trust is a major landowner on this section of the coast and an important partner in managing the sites. None of the land within this site belongs to CCW.

The following table confirms the relationships between the management units and the designations covered:

Unit No	SPA	Clogwyni Pen Llŷn SAC	Pen Llŷn a'r Sarnau SAC	SSSI	NNR
<i>Glannau Aberdaron SSSI</i>					
1	✓		✓	✓	
2	✓	✓		✓	
3	✓	✓		✓	
4	✓	✓		✓	
5	✓	✓		✓	
6	✓	✓		✓	
8	✓	✓		✓	
9	✓	✓		✓	
10	✓	✓		✓	
11	✓	✓		✓	
12	✓	✓		✓	
13	✓	✓		✓	
14	✓	✓		✓	
15	✓	✓		✓	
16	✓	✓		✓	
17	✓	✓		✓	
18	✓	✓		✓	
43	✓	✓		✓	
19	✓	✓		✓	
20	✓	✓		✓	
21	✓	✓		✓	
22	✓	✓		✓	
23	✓	✓		✓	
24	✓	✓		✓	
25	✓	✓		✓	
26	✓	✓		✓	
27	✓	✓		✓	
28	✓	✓		✓	
29	✓	✓		✓	
31	✓	✓		✓	
34	✓	✓		✓	
39	✓		✓	✓	
<i>Ynys Enlli SSSI</i>					
35	✓	✓		✓	✓
36	✓	✓		✓	
41	✓	✓		✓	✓
42	✓		✓	✓	
<i>Ynysoedd y Gwylanod SSSI</i>					
37	✓	✓		✓	
38	✓	✓		✓	

3. THE SPECIAL FEATURES

3.1 Confirmation of Special Features

<i>Designated feature</i>	<i>Relationships, nomenclature etc</i>	<i>Conservation Objective in part 4</i>
SPA features		
<p><i>Annex 1 species that are a primary reason for selection of</i></p> <p>Glannau Aberdaron and Ynys Enlli/ Aberdaron Coast and Bardsey Island SPA</p> <p>1. The site qualifies under Article 4.1 of the Directive (79/409/EEC) as it is used regularly by 1% or more of the Great Britain population of a species listed on Annex 1, in the breeding and non-breeding season:</p> <p>Chough <i>Pyrhocorax pyrrhocorax</i></p> <p>14^P breeding 5% GB 28ⁱ wintering 5% GB ^P = pairs ⁱ = individuals Data source = RSPB 2000</p>	<p>Chough utilise both the mainland and offshore islands for breeding and feeding.</p>	<p>Conservation Objective 1.</p>
<p>2. The site qualifies under Article 4.1 of the Directive (79/409/EEC) as it is used regularly by 1% or more of the Great Britain population of a species listed on Annex 1, in the breeding season:</p> <p>Manx shearwater <i>Puffinus puffinus</i>:</p> <p>Data submitted Natura 2000: 6930 pairs (count as at late 1990s, 3.5% of the British population)</p> <p>Bird data submitted at time of classification (updated citation April 1992): About 4.300 pairs (2% of the British breeding population)</p>	<p>Manx shearwaters breed on Ynys Enlli.</p>	<p>Conservation Objective 2.</p>

SAC features		
<p><i>Annex 1 habitats that are a primary reason for selection of</i></p> <p>Clogwyni Pen Llŷn SAC:</p> <p>3. Vegetated sea cliffs of the Atlantic and Baltic coast</p> <p>for which this is considered to be one of the best areas in the United Kingdom (EU Habitat code: 1230)</p>	<p>Atlantic sea cliff is also taken to include coastal heath (dry and maritime), and this feature covers the H8 <i>Calluna vulgaris-Ulex gallii</i> lowland heathland SSSI feature</p>	<p>Conservation Objective 3.</p>
<p><i>Annex 1 habitats that are a primary reason for selection of</i></p> <p>Pen Llŷn a'r Sarnau SAC:</p> <p>4. Reefs</p> <p>for which this is considered to be one of the best areas in the United Kingdom. (EU Habitat code: 1170)</p>	<p>The intertidal area is used by chough for occasional feeding at low tides and the cliffs include nesting sites. Manx shearwaters fish in the open sea habitat.</p>	<p>[Conservation Objectives for Pen Llŷn a'r Sarnau covered in Reg 33 package]</p>
Ramsar features		
<p>Not applicable</p>		
SSSI features		
<p>5. Coastal heath and grassland communities, including seacliff slope vegetation</p>	<p>Occurring on the mainland coast and on the islands.</p>	<p>Conservation Objective 3.</p>
<p>6. Nationally important flowering plants, including the vulnerable spotted rockrose, <i>Tuburaria guttata</i> and prostrate broom <i>Cytisus scoparius</i> subsp, <i>maritimus</i>.</p>	<p>Spotted rockrose occurs on Trwyn y Gwyddel on the mainland. Prostrate broom occurs on cliffs above Paradwys on the mainland</p>	<p>Conservation Objective 3.</p>
<p>7. Two nationally rare heath lichens: Ciliate strap-lichen <i>Heterodermia leucomela</i> and golden hair lichen <i>Teloschistes flavicans</i></p>	<p>Occurring at Trwyn y Gwyddel on the mainland and on the southwestern slopes of Mynydd Enlli.</p>	<p>Conservation Objective 3.</p>
<p>8. Assemblages of nationally important lichens, characteristic of different habitats:</p> <ul style="list-style-type: none"> • An assemblage of lichens found growing on trees and other plants. • An assemblage of lichens of natural rock habitats. • An assemblage of lichens found growing on man-made structures. 	<p>Occurring on Ynys Enlli.</p>	

<p>9. A population of chough, an internationally protected bird species.</p>	<p>Also SPA feature. Birds use both the mainland and islands.</p>	<p>Conservation Objective 1.</p>
<p>10. A variety of high-quality shore types which represent the range and variation present on wave-exposed rocky shores in Cardigan Bay. Marine habitats and communities:</p> <ul style="list-style-type: none"> • good examples of wave-exposed and tide-swept rocky shore communities • communities on overhanging bedrock and in rockpools • complete zonation of rocky shore communities. • Seaweeds in sediment-floored rockpools • Brown seaweeds and kelps in deep rockpools • Coral weed and encrusting coralline seaweed in shallow rockpools • Serrated wrack and under-boulder animals on lower shore boulders • Sponges and red seaweeds on overhanging lower shore bedrock 	<p>Occurring off the coast of the mainland and the islands.</p>	<p>[Conservation Objectives for Pen Llyn a'r Sarnau covered in Reg 33 package]</p>
<p>11. Important geological exposures:</p> <ul style="list-style-type: none"> • Porth Oer: Rocky raised shore platform and sediment sequences associated with glacial events about 20,000 years ago. • Braich y Pwll – Parwyd: Remarkably varied sequence of Precambrian rocks (over 670 million years old) overlain by younger Ordovician sediments (about 500 million years old). 	<p>Occurring on the mainland.</p>	

<p>12. Nationally important flowering plants, including the rare rock sea-lavender, <i>Limonium britannicum</i> subsp. <i>pharense</i>, nationally scarce small adder's tongue, <i>Ophioglossum azoricum</i>, western clover, <i>Trifolium occidentale</i> and sharp rush <i>Juncus acutus</i>.</p>	<p>Occuring on Ynys Enlli in therophyte and maritime grassland and cliffs.</p>	<p>Conservation Objective 3.</p>
<p>13. An assemblage of moss and liverwort species with restricted European distributions, including a number of rare and scarce species.</p>	<p>Occuring on Ynys Enlli.</p>	
<p>14. Breeding population of the seabird Manx shearwater of European importance.</p>	<p>SPA feature. Occuring on Ynys Enlli.</p>	<p>Conservation Objective 2.</p>
<p>15. An important breeding population of puffin <i>Fratercula arctica</i> and cormorant <i>Phalacrocorax carbo</i>.</p>	<p>Occuring primarily on Ynysoedd y Gwylanod.</p>	

3.2 Special Features and Management Units

This section sets out the relationship between the special features and each management unit. This is intended to provide a clear statement about what each unit should be managed for, taking into account the varied needs of the different special features. All special features are allocated to one of seven classes in each management unit. These classes are:

Key Features

KH - a 'Key Habitat' in the management unit, i.e. the habitat that is the main driver of management and focus of monitoring effort, perhaps because of the dependence of a key species (see KS below). There will usually only be one Key Habitat in a unit but there can be more, especially with large units.

KS – a 'Key Species' in the management unit, often driving both the selection and management of a Key Habitat.

Geo – an earth science feature that is the main driver of management and focus of monitoring effort in a unit.

Other Features

Sym - habitats, species and earth science features that are of importance in a unit but are not the main drivers of management or focus of monitoring. These features will benefit from management for the key feature(s) identified in the unit. These may be classed as 'Sym' features because:

- a) they are present in the unit but may be of less conservation importance than the key feature; and/or
- b) they are present in the unit but in small areas/numbers, with the bulk of the feature in other units of the site; and/or

c) their requirements are broader than and compatible with the management needs of the key feature(s), e.g. a mobile species that uses large parts of the site and surrounding areas.

Nm - an infrequently used category where features are at risk of decline within a unit as a result of meeting the management needs of the key feature(s), i.e. under Negative Management. These cases will usually be compensated for by management elsewhere in the plan, and can be used where minor occurrences of a feature would otherwise lead to apparent conflict with another key feature in a unit.

Mn - Management units that are essential for the management of features elsewhere on a site e.g. livestock over-wintering area included within designation boundaries, buffer zones around water bodies, etc.

x – Features not known to be present in the management unit.

The tables below sets out the relationship between the special features and management units identified in this plan:

Glannau Aberdaron SSSI	Management unit							
	1	2	3	4	5	6	8	9
SPA	✓	✓	✓	✓	✓	✓	✓	✓
Clogwyni Pen Llyn SAC		✓	✓	✓	✓	✓	✓	✓
Pen Llyn a'r Sarnau SAC	✓							
SSSI	✓	✓	✓	✓	✓	✓	✓	✓
NNR								
SPA features								
1. Chough	Sym	KS	KS	KS	KS	KS	KS	KS
2. Manx shearwaters	Sym	x	x	x	x	x	x	x
SAC features								
3. Dry heath (Atlantic Sea Cliff)	x	KH	KH	KH	KH	KH	KH	KH
4. Reefs	KH	x	x	x	x	x	x	x
SSSI features								
5. Coastal heath and grassland communities, including seacliff slope vegetation.	x	KH	KH	KH	KH	KH	KH	KH
6. Nationally important flowering plants, including the vulnerable spotted rockrose and prostrate broom	x	x	x	x	x	x	x	x
7. Two nationally rare heath lichens: ciliate strap-lichen and golden hair lichen.	x	x	x	x	x	x	x	x
9. A population of chough, an internationally protected bird species.	Sym	KS	KS	KS	KS	KS	KS	KS
10. A variety marine habitats and communities including high-quality shore types which represent the range and variation present on wave-exposed rocky shores in Cardigan Bay.	KH	x	x	x	x	x	x	x
11. Important geological exposures at Porth Oer and Braich y Pwll – Parwyd.	x	Sym	x	x	x	x	x	x

Glannau Aberdaron SSSI	Management unit									
	10	11	12	13	14	15	16	17	18	43
SPA	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Clogwyni Pen Llyn SAC	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Pen Llyn a'r Sarnau SAC										
SSSI	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
NNR										
SPA features										
1. Cough	KS	KS	KS	KS	KS	KS	KS	KS	KS	Sym
2. Manx shearwaters	x	x	x	x	x	x	x	x	x	x
SAC features										
3. Dry heath (Atlantic Sea Cliff)	KH	KH	KH	KH	KH	KH	KH	KH	KH	KH
4. Reefs	x	x	x	x	x	x	x	x	x	x
SSSI features										
5. Coastal heath and grassland communities, including seacliff slope vegetation.	KH	KH	KH	KH	KH	KH	KH	KH	KH	KH
6. Nationally important flowering plants, including the vulnerable spotted rockrose and prostrate broom	x	x	x	x	x	x	x	Sym	x	KS
7. Two nationally rare heath lichens: ciliate strap-lichen and golden hair lichen.	x	x	x	x	x	x	x	Sym	x	Sym
9. A population of cough, an internationally protected bird species.	KS	KS	KS	KS	KS	KS	KS	KS	KS	Sym
10. A variety marine habitats and communities including high-quality shore types which represent the range and variation present on wave-exposed rocky shores in Cardigan Bay.	x	x	x	x	x	x	x	x	x	x
11. Important geological exposures Braich y Pwll – Parwyd.	x	x	x	x	x	x	x	Sym	Sym	Sym

Glannau Aberdaron SSSI	Management unit									
	19	20	21	22	23	24	25	26	27	
SPA	✓	✓	✓	✓	✓	✓	✓	✓	✓	
Clogwyni Pen Llyn SAC	✓	✓	✓	✓	✓	✓	✓	✓	✓	
Pen Llyn a'r Sarnau SAC										
SSSI	✓	✓	✓	✓	✓	✓	✓	✓	✓	
NNR										
SPA features										
1. Cough	KS	KS	KS	KS	KS	KS	KS	KS	KS	
2. Manx shearwaters	x	x	x	x	x	x	x	x	x	
SAC features										
3. Dry heath (Atlantic Sea Cliff)	KH	KH	KH	KH	KH	KH	KH	KH	KH	
4. Reefs	x	x	x	x	x	x	x	x	x	
SSSI features										
5. Coastal heath and grassland communities, including seacliff slope vegetation.	KH	KH	KH	KH	KH	KH	KH	KH	KH	

6. Nationally important flowering plants, including the vulnerable spotted rockrose and prostrate broom	x	x	x	x	x	Sym	x	x	x
7. Two nationally rare heath lichens: ciliate strap-lichen and golden hair lichen.	x	x	x	x	x	x	x	x	x
9. A population of chough, an internationally protected bird species.	KS	KS	KS	KS	KS	KS	KS	KS	KS
10. A variety marine habitats and communities including high-quality shore types which represent the range and variation present on wave-exposed rocky shores in Cardigan Bay.	x	x	x	x	x	x	x	x	x
11. Important geological exposures at Braich y Pwll – Parwyd.	Sym	Sym	Sym	Sym	Sym	Sym	Sym	Sym	x

Glannau Aberdaron SSSI	Management unit				
	28	29	31	34	39
SPA	✓	✓	✓	✓	✓
Clogwyni Pen Llyn SAC	✓	✓	✓	✓	✓
Pen Llyn a'r Sarnau SAC					
SSSI	✓	✓	✓	✓	✓
NNR					
SPA features					
1. Chough	KS	KS	KS	KS	KS
2. Manx shearwaters	x	x	x	x	x
SAC features					
3. Dry heath (Atlantic Sea Cliff)	KH	KH	KH	KH	x
4. Reefs	x	x	x	x	x
SSSI features					
5. Coastal heath and grassland communities, including seacliff slope vegetation.	KH	KH	KH	KH	x
6. Nationally important flowering plants, including the vulnerable spotted rockrose and prostrate broom	x	x	x	x	x
7. Two nationally rare heath lichens: ciliate strap-lichen and golden hair lichen.	x	x	x	x	x
9. A population of chough, an internationally protected bird species.	KS	KS	KS	KS	KS
10. A variety marine habitats and communities including high-quality shore types which represent the range and variation present on	x	x	x	x	x

wave-exposed rocky shores in Cardigan Bay.					
11. Important geological exposures at Porth Oer and Braich y Pwll – Parwyd.	x	x	x	x	

Ynys Enlli SSSI	Management unit			
	42	35	36	41
SPA	✓	✓	✓	✓
Clogwyni Pen Llyn SAC		✓	✓	✓
Pen Llyn a'r Samau SAC	✓			
SSSI	✓	✓	✓	✓
NNR		✓	✓	✓
SPA features				
1. Chough	Sym	KS	KS	KS
2. Manx shearwaters	Sym	KS	KS	KS
SAC features				
3. Dry heath (Atlantic Sea Cliff)	x	KH	KH	x
4. Reefs	KH	x	x	x
SSSI features				
5. Coastal heath and grassland communities, including seacliff slope vegetation.	x	KH	KH	x
7. Two nationally rare heath lichens: ciliate strap-lichen and golden hair lichen.	x	Sym	x	x
8. Assemblages of nationally important lichens, characteristic of different habitats.	x	Sym	Sym	Sym
9. A population of chough, an internationally protected bird species.	Sym	KS	KS	KS
10. A variety marine habitats and communities including high-quality shore types which represent the range and variation present on wave-exposed rocky shores in Cardigan Bay.	KH	x	x	x
12. Nationally important flowering plants, including the rock sea-lavender, small adder's tongue, western clover and sharp rush.	x	Sym	x	x
13. An assemblage of moss and liverwort species with restricted European distributions, including a number of rare and scarce species.	x	Sym	x	Sym
14. Breeding population of the seabird Manx shearwater of European importance.	Sym	KS	KS	KS

Ynysoedd y Gwylanod SSSI	Management unit	
	37	38
SPA	✓	✓
Clogwyni Pen Llyn SAC		
Pen Llyn a'r Sarnau SAC		
SSSI	✓	✓
NNR		
SPA features		
1. Chough	KS	KS
2. Manx shearwaters	x	x
SAC features		
3. Dry heath (Atlantic Sea Cliff)	x	x
4. Reefs	x	x
SSSI features		
5. Coastal heath and grassland communities, including seacliff slope vegetation.	Sym	x
10. A variety marine habitats and communities including high-quality shore types which represent the range and variation present on wave-exposed rocky shores in Cardigan Bay.	x	x
15. An important breeding population of puffin and cormorant.	Sym	Sym

Given that spotted rockrose occurs at its only mainland Wales location within Glannau Aberdaron SSSI, the management of the coastal heath (dry and maritime heath) (Atlantic Sea Cliff) in Management Unit 7d where it occurs should aim to maintain or increase the population.

4. CONSERVATION OBJECTIVES

Background to Conservation Objectives:

a. Outline of the legal context and purpose of conservation objectives.

Conservation objectives are required by the 1992 'Habitats' Directive (92/43/EEC). The aim of the Habitats Directives is the maintenance, or where appropriate the restoration of the 'favourable conservation status' of habitats and species features for which SACs and SPAs are designated (see Box 1).

In the broadest terms, 'favourable conservation status' means a feature is in satisfactory condition and all the things needed to keep it that way are in place for the foreseeable future. CCW considers that the concept of favourable conservation status provides a practical and legally robust basis for conservation objectives for Natura 2000 and Ramsar sites.

Box 1

Favourable conservation status as defined in Articles 1(e) and 1(i) of the Habitats Directive

“The conservation status of a natural habitat is the sum of the influences acting on it and its typical species that may affect its long-term natural distribution, structure and functions as well as the long term survival of its typical species. The conservation status of a natural habitat will be taken as favourable when:

- Its natural range and areas it covers within that range are stable or increasing, and
- The specific structure and functions which are necessary for its long-term maintenance exist and are likely to continue to exist for the foreseeable future, and
- The conservation status of its typical species is favourable.

The conservation status of a species is the sum of the influences acting on the species that may affect the long-term distribution and abundance of its populations. The conservation status will be taken as 'favourable' when:

- population dynamics data on the species indicate that it is maintaining itself on a long-term basis as a viable component of its natural habitats, and
- the natural range of the species is neither being reduced nor is likely to be reduced for the foreseeable future, and
- There is, and will probably continue to be, a sufficiently large habitat to maintain its populations on a long-term basis.”

Achieving these objectives requires appropriate management and the control of factors that may cause deterioration of habitats or significant disturbance to species.

As well as the overall function of communication, Conservation objectives have a number of specific roles:

- Conservation planning and management.

The conservation objectives guide management of sites, to maintain or restore the habitats and species in favourable condition.

- Assessing plans and projects.

Article 6(3) of the ‘Habitats’ Directive requires appropriate assessment of proposed plans and projects against a site's conservation objectives. Subject to certain exceptions, plans or projects may not proceed unless it is established that they will not adversely affect the integrity of sites. This role for testing plans and projects also applies to the review of existing decisions and consents.

- Monitoring and reporting.

The conservation objectives provide the basis for assessing the condition of a feature and the status of factors that affect it. CCW uses ‘performance indicators’ within the conservation objectives, as the basis for monitoring and reporting. Performance indicators are selected to provide useful information about the condition of a feature and the factors that affect it.

The conservation objectives in this document reflect CCW’s current information and understanding of the site and its features and their importance in an international context. The conservation objectives are subject to review by CCW in light of new knowledge.

b. Format of the conservation objectives

There is one conservation objective for each feature listed in part 3. Each conservation objective is a composite statement representing a site-specific description of what is considered to be the favourable conservation status of the feature. These statements apply to a whole feature as it occurs within the whole plan area, although section 3.2 sets out their relevance to individual management units.

Each conservation objective consists of the following two elements:

1. Vision for the feature
2. Performance indicators

As a result of the general practice developed and agreed within the UK Conservation Agencies, conservation objectives include performance indicators, the selection of which should be informed by JNCC guidance on Common Standards Monitoring¹.

There is a critical need for clarity over the role of performance indicators within the conservation objectives. **A conservation objective, because it includes the vision for the feature, has meaning and substance independently of the performance indicators, and is more than the sum of the performance indicators.** The performance indicators are simply what make the conservation objectives measurable, and are thus part of, not a substitute for, the conservation objectives. Any feature attribute identified in the performance indicators should be represented in the vision for the feature, but not all elements of the vision for the feature will necessarily have corresponding performance indicators.

As well as describing the aspirations for the condition of the feature, the Vision section of each conservation objective contains a statement that the factors necessary to maintain those desired conditions are under control. Subject to technical, practical and resource constraints, factors which have an important influence on the condition of the feature are identified in the performance indicators.

¹ Web link: <http://www.jncc.gov.uk/page-2199>

4.1 Conservation Objective for Feature 1: Internationally important population (1% or more of the Great Britain population) of breeding and non-breeding season chough *Pyrrhocorax pyrrhocorax*.

Vision for feature 1: Chough.

The vision for this feature is for it to be in a favourable conservation status, where all of the following conditions are satisfied:

- The breeding population of chough is at least 14 pairs, or 5% of the GB population.
- The wintering population of chough is at least 28 individuals, or 5% of the GB population.
- Sufficient suitable habitat is present to support the populations.
- Breeding population is stable or increasing.
- Productivity is stable.
- Non-breeding flocks are stable or increasing (summer and winter).
- Breeding and non-breeding birds use Ynys Enlli for feeding throughout the year.
- Chough feeding habitats are themselves in a favourable conservation status and that the specified and operational limits and grazing prescriptions for these habitats incorporate chough feeding requirements (i.e. sward height and bare ground).
- Disturbance of breeding and feeding chough is minimal.
- The factors affecting the feature are under control.

Performance indicators for Feature 1: Chough.

The performance indicators are part of the conservation objective, not a substitute for it. Assessment of plans and projects must be based on the entire conservation objective, not just the performance indicators

<i>Performance indicators for chough feature condition</i>		
<i>Attribute</i>	<i>Attribute rationale and other comments</i>	<i>Specified limits</i>
A1. Population size	The Glannau Aberdaron chough (<i>Pyrrhocorax pyrrhocorax</i>) population will be considered in favourable condition when (based on performance indicators and targets as set out in the SPA review site account):	<i>Upper limit:</i> Not required. <i>Lower limit:</i> The SPA wintering population is at least 28 individuals. The SPA population represents at least 5% of the GB breeding and wintering populations
A2. Population extent	The Glannau Aberdaron chough (<i>Pyrrhocorax pyrrhocorax</i>) population will be considered in favourable condition when (based on performance indicators and targets as set out in the SPA review site account):	<i>Upper limit:</i> Not required. <i>Lower limit:</i> >14 pairs are breeding in the SPA, and where traditional breeding sites are occupied in at least 4 of Sections 1, 2, 3, 4, 5 and 6. Sections are defined as: Section 1 = Units 8,9,10,11 Section 2 = Units 13,14 Section 3 = Units 15,16,17,18,43 Section 4 = Units 19,20,21,22,23,24,25,26 Section 5 = Units 27,28,29,31,34 Section 6 = Units 35,36,41,42

A3. Forage habitat extent	The foraging habitat for chough will need to be in favourable condition for chough to be favourable.	<p>Upper limit: None set (although other interest features on the site need to be considered, and should not be compromised).</p> <p>Lower limit: The Vegetated sea cliffs of the Atlantic and Baltic coasts (H7 <i>Calluna vulgaris</i> – <i>Scilla verna</i> heath, H8d <i>Calluna vulgaris</i>-<i>Ulex gallii</i> heath, <i>Scilla verna</i> sub-community, MC8 <i>Festuca rubra</i> – <i>Armeria maritima</i>, MC9 <i>Festuca rubra</i> – <i>Holcus lanatus</i> and MC10 <i>Festuca rubra</i> – <i>Plantago spp</i> maritime grassland communities, coastal grassland and maritime cliff and slope feature within Clogwyni Pen Llŷn SAC must achieve favourable condition.</p> <p>>50% of earthbank is suitable for chough feeding.</p> <p>The approximate extent of heath and short-grazed grassland should be as present in 2001</p>
A4. Habitat quality	Open heath is defined as vegetation where ericoids or <i>Ulex gallii</i> form >30% cover with >20% open ground (occupied by bare soil, annual plants and/or terricolous macro-lichens) or closely-grazed grassland in any 1m radius.	<p>Upper limit: None set (although other interest features on the site need to be considered, and should not be compromised).</p> <p>Lower limit: Within each of plots A - F on the Uwchmynydd, Mynydd Bychestyn, Pen y Cil, and Bardsey sections of the site, there should</p>

	<p>Closely grazed grassland is defined as vegetation in which >50% of the sward is <3cm high in any 1m radius</p> <p>Six monitoring plots, spread across three of the mainland sections of the site (Uwchmynydd, Pen y Cil, Mynydd Bychestyn) were established in 2001. (Refer to Annex 2 of the Clogwyni Pen Llyn 2004 SAC Monitoring Report). Further plots will need to be established on Bardsey. These four sections of the site are known to be the most important both in terms of numbers of breeding pairs and usage by birds outside the breeding season.</p>	<p>be no significant decrease in the proportion of short grazed grassland and open heath relative to that seen in 2001</p> <p>The lower limits for the proportion of open heath and closely grazed grassland in the monitoring plots is as follows: A, B & E = 55% C = 70% D = 60% F = 65%.</p>
Performance indicators for factors affecting the feature		
Factor	Factor rationale and other comments	Operational Limits
F1. Livestock grazing	<p>The site is grazed to various levels, but in some sections, not at all. There is a reluctance to put stock on habitat open to cliffs, but lack of grazing is usually due to the dominance of gorse or bracken scrub, which, in a vicious circle, is due to lack of heathland management, including grazing. Grazing pasture land overwinter is important for chough as the invertebrates found in their dung is an important food source over winter. The use of avermectins should not occur within this site too allow natural invertebrate flora to develop in dung</p>	<p>Upper limit: Not set (although other interest features on the site need to be considered, and should not be compromised).</p> <p>Lower limit: Grazing levels will ensure extent of forage of sufficient quality to support the chough population.</p>
F2 Disturbance	<p>Nest and roost sites are considered to be subject to few direct threats, as climbing near known nest sites is effectively controlled by voluntary codes of conduct.</p>	<p>Upper limit: no breeding attempts to be known to fail because of impact of human disturbance</p> <p>Lower limit: None set</p>

<i>Performance indicators for chough feature condition specifically on Ynys Elli</i>		
<i>Attribute</i>	<i>Attribute rationale and other comments</i>	<i>Specified limits</i>
A1. Breeding population	On Ynys Enlli, the breeding population is stable or increasing .	<i>Upper limit:</i> None set <i>Lower limit:</i> 5 pairs in 3 out of 5 consecutive years. Lowest acceptable annual population of 4 pairs or 1% of the UK population or 2% of the Welsh population.
A2. Productivity/ breeding success	On Ynys Enlli, productivity is stable.	<i>Upper limit:</i> None set <i>Lower limit:</i> 15 chicks fledging in 3 out of 5 consecutive years or > 2.5 fledglings per breeding pair
A3. Non-breeding population	On Ynys Enlli, the non-breeding flocks are stable or increasing (summer and winter).	<i>Upper limit:</i> None set <i>Lower limit:</i> 10 non-breeding individuals (in addition to breeding pairs and their young), summer and winter.
A4 Chough feeding	Breeding and non-breeding birds use Ynys Enlli for feeding throughout the year	<i>Upper limit:</i> None set <i>Lower limit:</i> All breeding pairs, fledglings and non-breeding individuals observed feeding on the island.

4.2 Conservation Objective for Feature 2: Internationally important population (1% or more of the Great Britain population) of breeding Manx shearwaters *Puffinus puffinus*.

Vision for Feature 2: Manx shearwater.

The vision for this feature is for it to be in a favourable conservation status, where all of the following conditions are satisfied:

- Breeding population of Manx shearwater (confined to Ynys Enlli) is stable or increasing.
- Reproductive rates remain stable.
- Deaths from the lighthouse attractions, fencing and other infrastructure are minimal.
- No ground predators are introduced.
- Nesting birds are not disturbed by restoration works on boundary walls or recreational activities.
- All factors affecting the achievement of these conditions are under control.

Performance indicators for Feature 2: Manx shearwater.

The performance indicators are part of the conservation objective, not a substitute for it. Assessment of plans and projects must be based on the entire conservation objective, not just the performance indicators.

<i>Performance indicators for feature condition</i>		
<i>Attribute</i>	<i>Attribute rationale and other comments</i>	<i>Specified limits</i>
A1. Breeding population size	Breeding population of Manx shearwater (confined to Ynys Enlli) is stable or increasing	Upper limit: None set Lower limit: 10,000 pairs or 1% of the UK population
A2. Productivity /breeding success	Reproductive rates remain stable.	Upper limit: None set Lower limit: 5 year mean of 0.6 per pair. Lowest tolerable limit of >0.5 for 3 consecutive years
<i>Performance indicators for factors affecting the feature</i>		
<i>Factor</i>	<i>Factor rationale and other comments</i>	<i>Operational Limits</i>
F1. Deaths from lighthouse attraction	On dark moonless nights or when there is poor visibility due to fog, drizzle, cloud cover or rain the lighthouse attracts night flying birds. Individuals may collide with the lighthouse or become exhausted from flying repeatedly round the light.	Upper limit: 30 fatalities per year or <0.3% of the Enlli population. Lower limit: Gantry lights and light exclusion zone in place annually.
F2. Deaths from barbed wire/ other fencing and similar materials.	A small number of Manx shearwater mortalities occur each year as a direct result of entanglement in barbed wire on existing fences, or fence netting. BBFO keep annual records of the number and locations of fatalities.	Upper limit: 5 fatalities per year or <0.05% of the Enlli population. No unnecessary barbed wire erected. Lower limit: All unnecessary barbed wire removed.
F3. Ground-based predators	At present ground predators, such as common rat, fox, mink or hedgehog do not inhabit the island. Should such predators be introduced they could severely threaten the Manx Shearwater population. All measures must be taken to avoid their introduction.	Upper limit: No domestic or wild predators introduced to the island Lower limit: None set.

<p>F4. Avian predators</p>	<p>In recent years crows have been observed taking Manx shearwater eggs from burrows. If not controlled, this apparent learnt behaviour could become more widespread.</p>	<p>Upper limit: None set Lower limit: All crows seen predated in burrows should be controlled</p>
<p>F5. Boundary wall maintenance practice</p>	<p>Many Manx shearwaters dig nesting burrows into both stone-faced and earth walls. Maintenance can only be carried out carefully and on a rotation, as Manx shearwaters seem to be site faithful and perhaps even burrow faithful. Although burrowing Manx shearwaters appear to benefit from easier access in derelict stone/earth boundary walls, landscape issues and other conservation features would benefit from restoration and <i>repair of such boundaries</i>. All burrows are protected under UK law. They are protected while in use by the birds as nest sites, and protected outside the nesting season by the provisions of the SSSI legislation.</p>	<p>Upper limit: None set Lower limit: All boundary restoration work must take account of the potential effects on Manx shearwaters and must only be carried out to the strict guidelines set out in the Ynys Enlli Management Plan. All staff, contractors or volunteers working on field boundaries must be made aware of the guidelines.</p> <p>All field boundaries have been surveyed and the number of Manx shearwater burrows in each recorded. Boundaries have thus been categorised as to whether they are of importance to Manx shearwaters. Significant boundaries are those with 5 or more burrows per 100m</p>
<p>F6. Marine pollution incidents</p>	<p>Manx shearwaters frequently settle on the water surface to rest, swim and dive for food. They are therefore, particularly vulnerable to pollution at sea, particularly oil pollution.</p>	<p>Upper limit: No incidences of island generated pollution. No major pollution incidents within 30 miles of Ynys Enlli Lower limit: None set.</p>
<p>F7. Human disturbance/trampling</p>	<p>Human disturbance can be through erosion or collapse of shearwater burrows or by disturbing individuals on land at night. Collapse of burrows during the breeding season would be particularly detrimental to breeding success</p>	<p>Upper limit: 2 burrows accidentally damaged per year Lower limit: All promoted paths should avoid Manx shearwater burrows. All visitors to be advised of sensitive areas.</p>

4.3 Conservation Objective for Feature 3: Vegetated sea cliffs of the Atlantic and Baltic coasts (H7 *Calluna vulgaris* – *Scilla verna* heath, H8d *Calluna vulgaris*-*Ulex gallii* heath, *Scilla verna* sub-community, MC8 *Festuca rubra* – *Armeria maritima*, MC9 *Festuca rubra* – *Holcus lanatus* and MC10 *Festuca rubra* – *Plantago spp* maritime grassland communities, coastal grassland and maritime cliff and slope).

Vision for Feature 3: Coastal heath (Dry and maritime heath) (Atlantic Sea Cliff).

The vision for this feature is for it to be in a favourable conservation status, where all of the following conditions are satisfied:

- Extent of coastal or maritime heath is stable or increasing.
- At least 2 different coastal or maritime heath NVC community types are present and support a range of characteristic plant species.
- Areas of heath form a mosaic with maritime grassland with patches of bare ground – no blanket heath cover
- Pioneer heath plants are present
- Grazing occurs annually at a level which prevents a long sward developing but does not suppress heather growth or flowering. A low sward height in grassland habitats and an open, varied structure in heath will be maintained within the cliff top habitats for feeding chough, without causing a decline in the extent or quality of the grassland and heathland.
- The coastal heath will comprise vegetation with *Ulex gallii* present and at least 30% ericoid cover, usually *Calluna vulgaris*, with at least one maritime indicator present such as *Armeria maritima*, *Plantago maritima*, *Plantago coronopus* or *Scilla verna*.
- Healthy populations of the rare vascular plants (including spotted rockrose, *Tuburaria guttata*, prostrate broom *Cytisus scoparius* subsp. *maritimus*, rock sea-lavender *Limonium britannicum* subsp. *pharense*, small adder's tongue, *Ophioglossum azoricum*, western clover, *Trifolium occidentale* and sharp rush *Juncus acutus* will be present.
- Healthy populations of rare non-vascular plant species, including moss and liverwort species with restricted European distributions, and the soil-living lichens, ciliate strap-lichen *Heterodermia leucomela* and golden hair lichen *Teloschistes flavicans* will be present.
- Species indicative of rank or unmanaged conditions including European gorse, *Ulex europeus*, bracken *Pteridium aquilinum*, foxglove *Digitalis purpurea*, ragwort species *Senecio sp*, dock *Rumex obtusifolius* and nettle *Urtica dioica* should be largely absent:
- Grass species indicative of improvement including creeping bent *Agrostis stolonifera*, cock's foot *Dactylus glomerata*, perennial rye-grass *Lolium perenne* and Yorkshire fog *Holcus lanatus* should be largely absent.
- Associated important species such as feeding Chough and nesting Manx shearwater are recorded in coastal or maritime heath areas.
- All factors affecting the achievement of these conditions, including grazing intensity and burning, will be under control.

Performance indicators for Feature 3: Coastal heath (Dry and maritime heath) (Atlantic Sea Cliff).

The performance indicators are part of the conservation objective, not a substitute for it. Assessment of plans and projects must be based on the entire conservation objective, not just the performance indicators

Performance indicators for feature condition		
Attribute	Attribute rationale and other comments	Specified limits
A1. Extent of the coastal heath (dry and maritime)	Lower limit is based on 2003 mapped extent (mainland) and 1996 survey of Ynys Enlli.	Upper limit: As limited by other habitats, but not set. Lower limit: 92.7 ha Recording should initially target those Management Units where dry heath is a Key Habitat (KH). These are all units except 1, 37, 38, 39, 41, 42
A2. Condition of the coastal heath (dry and maritime)	At least 75% of coastal heath should be good quality open heath <ul style="list-style-type: none"> • Dwarf-shrubs should make up between 25-75% cover • <i>Ulex gallii</i> cover should be <50% of the dwarf-shrub cover • A quarter of the heathland vegetation will be in early pioneer stage (0-3 years old) at any time (i.e. $\frac{1}{12}$ vegetation managed in each year giving a total of $\frac{1}{4}$ in 3 years. Three year old heather is taken to be less than 5cm high). • There should be less than 5% of unbroken stands of bracken, European gorse and other scrub. • There should be no more than 5 fronds bracken or European gorse >50cm tall within a 2m radius in 75% of the habitat. • There should be less than 5% of the following grasses and weedy species indicative of improvement within a 1m radius over 75% of the site: <i>Agrostis stolonifera</i>, <i>Dactylus glomerata</i>, <i>Lolium perenne</i>, <i>Holcus lanatus</i>, <i>Urtica dioica</i> and <i>Cirsium spp.</i> • In maritime heath one of the following should be present: <i>Scilla verna</i>, <i>Armeria maritime</i> or <i>Plantago maritima</i>. 	Upper limit: Not required Lower limit: At least 75% of coastal heath should be good quality open heath Recording should initially target those Management Units where dry heath is a Key Habitat (KH). These are all units, except 1, 37, 38, 39, 41, 42 The specified limits also meet the requirements for maritime grassland, chough and lichen interests.
A3. Associated significant features	This habitat needs to meet the requirements for other habitats and species associated with coastal or maritime heath, including maritime grassland, chough, lichens (ciliate strap-lichen <i>Heterodermia leucomela</i> and golden hair lichen <i>Teloschistes flavicans</i>) and rare vascular plants (particularly spotted rockrose, <i>Tuberaria guttata</i>).	Upper limit: Same as lower limit. Lower limit: Chough should be recorded using all areas of maritime heath for feeding. Nationally significant lichen species should be present. Healthy populations of nationally rare vascular plants should be present.

<i>Performance indicators for factors affecting the feature</i>		
<i>Factor</i>	<i>Factor rationale and other comments</i>	<i>Operational Limits</i>
F1.Grazing	Coastal heath and grasslands require grazing to maintain a good open structure and to prevent the heath becoming dominated by scrub, bracken and gorse. Ideally, cattle and ponies are preferable to sheep as they are less- selective grazers. Graziers must be encouraged to appropriately graze the two blocks of common in this site: Mynydd Anelog and Mynydd Bychestyn. The number of active graziers has been falling in recent years. At present, only two graziers are associated with Mynydd Bychestyn, and exact graziers of Mynydd Anelog are unknown.	Upper limit: Grazing levels will not lead to excessive poaching damage or reduction of dwarf-shrub cover to below 25%. Lower limit: The site will be lightly grazed by a mixture of stock during the spring and summer.
F2 Burning	Burning is likely to favour bracken and western gorse, so this should not be used as a management tool where these species are likely to invade. Cutting may be more appropriate in these areas. Some cutting or burning management is necessary to maintain a diverse age structure. This should occur as long-term small-patch burning on a 12-year rotation. Burning should not occur unless followed up by grazing.	Upper limit: To maintain open heathland the dwarf-shrub vegetation will be managed by burning or cutting on a 12 year rotation so that $\frac{1}{12}$ of the habitat will be managed each year. Lower limit: A quarter of the heathland vegetation will be in early pioneer stage (0-3 years old) at any time.
F3 Bracken	Bracken does dominate large areas of the cliffs and has spread up into the heath in places. This has happened due to decreased grazing pressure and a shift away from cattle grazing. Heavy stock control bracken by damaging the rhizomes and crushing new growth.	Upper limit: There should be no more than 5 fronds bracken within a 2m radius in 75% of the habitat. Lower limit: There should no more than 5% of unbroken stands of bracken.

Site-specific habitat definitions

Open coastal heath

Dwarf-shrub vegetation where $\frac{1}{4}$ of the vegetation has been cut or burnt within the last 3 years and is in early pioneer stage. To maintain open heathland the dwarf-shrub vegetation will be managed by burning or cutting on a 12 year rotation so that $\frac{1}{12}$ of the habitat will be managed each year. On *Ulex gallii* dominated heath the minimum rotation recommended is 12 years to help break *Ulex* dominance. On sites with no particular species interest a longer rotation is recommended, however where chough are present there is a need to maintain open vegetation so the minimum 12 year rotation is considered most appropriate. Rapid *Ulex* re-growth will be controlled by appropriate grazing.

5. ASSESSMENT OF CONSERVATION STATUS AND MANAGEMENT REQUIREMENTS

This part of the document provides:

- A summary of the assessments of the conservation status of each feature.
- A summary of the management issues that need to be addressed to maintain or restore each feature.

5.1 Conservation Status and Management Requirements of Feature 1: Internationally important population (1% or more of the Great Britain population) of breeding and non-breeding season chough *Pyrhocorax pyrrhocorax*.

Conservation Status of Feature 1: Chough.

The condition of the chough population at January 2008 is **Favourable, Maintained**.

The past two or three decades have seen the UK chough population as a whole stabilising while populations around the Welsh coast appear to be making a recovery in numbers. At a local level the breeding population has been stable over the last 10 years and there is no evidence that the area included within the SPA boundary as a whole has ever supported significantly higher numbers of breeding birds.

However, it is important to note that recent grazing regimes on Ynys Enlli have led to decline in some areas of chough feeding habitat and that non-breeding summer flocks have declined in recent years. The non-breeding flock may have been lost to nearby areas on the mainland where chough feeding habitat may have increased in quality and extent. It cannot be assumed that breeding and non-breeding populations on Ynys Enlli will be secure in the medium or long term. Suitable alterations in habitat management, particularly grazing regimes have the potential to improve the quality and extent of chough feeding areas on the island and reverse the recent decline in some areas.

Management Requirements of Feature 1: Chough

Habitat Type

Choughs use a wide variety of invertebrate-rich habitats, including improved semi-improved and unimproved pasture, lowland, coastal and maritime heath, arable stubble and maritime grassland. In addition, Ynys Enlli is the only place in Wales where choughs have regularly been recorded feeding on invertebrates in accumulated rotting seaweed, regularly sighted on the beach at Solfach. Stone features such as rocky outcrops and traditional cloddiau are also important, particularly where bare earth is evident. Grazed earth banks provide an additional important feeding habitat. Management to maintain short swards, through for example grazing, is important to allow choughs easy access to the ground. Adjacent area of grazed pasture outside the boundary of the site are also important to the population as they are also used by chough who access them for feeding.

Breeding choughs nest on rocky ledges, the majority of which are around the mainland coast, but some sites have been recorded on Mynydd Enlli. Due to their inaccessibility, these areas are largely self-maintained. Climbing near known nest sites apparently being effectively controlled by voluntary codes of conduct.

Grazing and Sward Height

Short swards and bare ground are important for feeding choughs as they allow easy access to invertebrate food in the soil and on the ground surface. In some areas, these conditions can be created and maintained by natural conditions (e.g. wind and salt spray, naturally formed thin soils over/around rock outcrops); elsewhere management is a necessity. In most cases management of short swards and bare ground is maintained through suitable grazing regimes. Grazing animals also provide an

additional source of food for chough by creating dung invertebrate habitats. Burning can also be an important management activity, reducing vegetation height and exposing bare ground.

Winter grazing should be carried out to help maintain a short sward throughout the year. Wherever possible, a variety of stock type (sheep, cattle or ponies) should be used. Grazing with cattle or ponies should be encouraged in any areas where they will not compromise other conservation interests. The feasibility of introducing more cattle or ponies should be investigated

Stock Type

The type of stock used will affect the type of sward achieved and dung produced. Beetles and other insects associated with animal dung are a major component of the chough's diet (McCracken & Foster 1990). The practice of wintering stock outside provides an ongoing supply of dung. Sheep tend to graze close to the ground and produce close-cropped swards beneficial to feeding chough. Cattle tend to graze longer vegetation and can deal with rank grasses, which sheep leave. Cattle do not tend to produce close-cropped swards, but they do create a large amount of bare ground through poaching/scuffing and help control the spread of bracken/scrub which would be beneficial to feeding chough. In addition, cattle dung has been reported to support greater invertebrate populations. Grazing ponies would provide similar benefits to those of cattle.

In practice, it is the effect of the type of grazing on sward height, bare ground and dung invertebrate habitat that is important rather than the actual type of stock used. In North Wales choughs use areas grazed by sheep, ponies and cattle. Mixed grazing regimes providing a variety of chough feeding habitats would be most beneficial to chough.

Pesticides

Livestock suffer from the livestock pests, liver fluke and blowfly. The use of certain anti-parasitic drugs or worming agents such as the avermectins results in the release of chemical treatments into the wider environment through livestock dung and urine. This subsequently destroys those insects that feed on, or lay eggs in, dung. The use of such pesticides potentially reduces food supply for chough. Batten (1990) states that recently fledged birds may rely heavily on dung insects for food; as such they would be particularly affected by the use of these treatments. A precautionary approach is advised, and use of avermectins should be avoided.

Bracken Control

Choughs have been observed feeding in areas where bracken had been cleared but not recorded feeding in areas with thick bracken cover. Bracken control could provide additional feeding habitat to benefit chough, and may help restore heathland habitat. Bracken control on Ynys Enlli may also help encourage non-breeding summer flocks back to feed. Control should only be undertaken where suitable grazing follow-up can be ensured to prevent bracken re-growth, which could take the form of grazing with heavier stock, or where repeat cutting is possible.

Fencing of Cloddiau

Earth and stone-faced field boundaries (cloddiau) provide an important feeding habitat for chough. It is necessary that these are grazed to prevent excessive growth of vegetation which would be of little value to feeding chough. The position of fencing on walls is therefore significant. A fence located close to the base of the wall (on one or both sides) will prevent livestock access to the wall and hence grazing.

Preferred options for the alignment of fences which also allows grazing access would be:

- along the top of walls
- along one side of the wall to allow livestock access from the other side. Fencing should be positioned at a distance which allows access to both sides of the wall from the open side.

On Ynys Enlli, if fencing along the top of the wall is proposed, potential damage to Manx shearwater burrows and the integrity of the wall itself must be evaluated.

Seaweed Clearance

On Ynys Enlli, large quantities of seaweed can be washed-up at Porth Solfach and other shores around the island. The washed up seaweed creates an important invertebrate habitat and these areas are known to be important sources of insect food for choughs (Roberts, 1983).

The presence of large quantities may be considered by some to be detrimental to aesthetics of the island. However, its removal will result in the loss of a food supply, particularly in winter when other invertebrate sources tend to be limited.

The retention of natural strandline seaweed should also occur on mainland beaches.

Arable Crops

Choughs have been recorded feeding on invertebrates and grains in cereal arable fields (McCracken & Foster 1990) and were found to use spring barley stubbles on the mainland following an RSPB trial. In general, a small number of fields are cultivated each year. Where cereals are grown, the retention of winter stubble is desirable.

Anthills

Anthills provide an important feeding habitat for chough. A number of areas on the mainland and Ynys Enlli contain anthills. In general, anthills are not under threat but activities such as mowing with a tractor driven flail may harm them and should be avoided.

Predation

Avian predators, particularly peregrine falcon (*Falco peregrinus*), may predate choughs. Control of raptors is illegal in the UK. The current impact on the chough population is thought to be low and does not require intervention.

Human Disturbance

Breeding birds are vulnerable to human disturbance during the breeding season. Disturbance may be by informal scrambling close to nest sites. Most nest sites are naturally protected from disturbance as they are in inaccessible cliff areas. Birds at the nest could potentially be disturbed by boating or diving activity in the immediate vicinity of the cliffs.

Feeding birds may also be disturbed by walkers, although chough seem generally unperturbed by passers by unless directly approached. Increases in visitor pressure may prove a cause for concern, and monitoring should be undertaken with necessary mitigation where problems exist.

5.2 Conservation Status and Management Requirements of Feature 2: Internationally important population (1% or more of the Great Britain population) of breeding Manx shearwaters *Puffinus puffinus*.

Conservation Status of Feature 2: Manx shearwaters.

The condition of the Manx shearwater population at January 2008 is **Favourable, Maintained**.

Data are not currently available for all the performance indicators listed, however the increase in population figures over a long period combined with sustained reproductive success indicates that the feature can be considered 'favourable maintained'.

Management Requirements of Feature 2: Manx shearwaters.

The Manx shearwater population is largely self-maintaining and requires little in the form of active management. However, precautions are required to ensure that that birds are not disturbed in any way or that boundary restoration works are not harmful to breeding birds or burrow sites.

Introduction of Ground Predators

At present ground predators, such as common rat, fox, weasels, mink, hedgehog or snakes do not inhabit the island. Should such predators be introduced ,they could severely threaten the Manx shearwater population. All measures must be taken to avoid their introduction. Domestic animals, particularly cats, ferrets, and some dog breeds could pose a serious risk to shearwaters and must not be introduced. No wild or domestic animal may be brought onto Ynys Enlli without prior permission from CCW.

Predation by Birds

Leaper (2001) observed 73 corpses of Manx shearwater during the May to June survey period. 70% showed signs of attack by peregrine falcon (*Falco peregrinus*). A resident breeding pair is thought to be responsible. It is likely that a considerable proportion of the remaining casualties were due to predation by ravens, crows and gulls. Gull populations have increased considerably in the last 100 years but there is no evidence to suggest that this increase has seriously affected the numbers of Manx shearwaters in British colonies, presumably because Shearwaters come to land, and change over at the nest burrow, only at night. In recent years crows have been observed taking Manx shearwater eggs from burrows. If not controlled, this apparent learnt behaviour could become more widespread. Protected predator species such as peregrine falcon (*Falco peregrinus*) cannot be controlled. Any pairs of crows, magpies etc known to harm Manx shearwaters through, for example, the taking of eggs from burrows, should be eliminated to prevent the spread of learned behaviour. CCW consent and permit must be sought in advance of any control. Control must be by shooting or the use of Larsen traps. Control of gulls should only be undertaken if new evidence suggests that they are a serious predation problem.

Fencing and Stone/Earth Field Boundary Maintenance

Many Manx shearwaters dig nesting burrows into both stone-faced and earth walls. Of the 1,750 pairs breeding recorded in the lowlands in 1997, 94% were found to nest in boundary walls. Even remnant walls (low linear banks where stone-work has been removed) contain numerous burrows. Access can be gained more easily into remnant walls and it appears that a period of less meticulous wall repair in the middle and latter part of the 20th Century has encouraged Manx shearwaters to burrow in these remnant boundaries.

Although burrowing Manx shearwaters appear to benefit from easier access in derelict stone/earth boundary walls, landscape issues and other conservation features would benefit from restoration and repair of such boundaries. All burrows are protected under UK law. They are protected while in use by the birds as nest sites, and protected outside the nesting season by the provisions or the SSSI

legislation. To ensure the interests of the island's Manx shearwater population, all boundary restoration work must take account of the potential effects on Manx shearwaters and must only be carried out to the strict guidelines outlined in the Ynys Enlli Management Plan. All staff, contractors or volunteers working on field boundaries must be made aware of the guidelines.

The island's stock proof fences are erected either on top of boundary walls or along the base of the wall. Fencing posts (particularly large straining posts) erected on the bank itself may damage the bank and interfere with burrowing sites. If such fencing is carried out during the breeding season inserted posts may intrude into a burrow and cause the burrow to cave in; obstruct the burrow entrance; or cause direct damage to eggs, nestlings or adults. Again, guidelines on fencing are available in the Ynys Enlli Management Plan. All staff, contractors or volunteers working on field boundaries must be made aware of the guidelines.

Gorse Burning

In some locations Manx shearwaters burrow beneath gorse, and some areas of gorse scrub contain a high density of Manx shearwater. It is not known whether the presence of gorse, possibly providing additional cover from predators, affects the desirability of these sites. Loss of gorse cover through burning may prove detrimental in such areas. Under UK law, lowland gorse can be burned from 1 November to 31 March. However, since Manx shearwater can be present on the island from mid-March, burning during the breeding season could potentially damage adults, eggs or chicks. Gorse burning should be avoided in areas with a high density of burrows. Gorse burning must not be carried out between mid-February and mid-October to avoid the breeding season.

Lighthouse Attractions

On dark moonless nights or when there is poor visibility due to fog, drizzle, cloud cover or rain the lighthouse attracts night flying birds. Individuals may collide with the lighthouse or become exhausted from flying repeatedly round the light. Down-lights are fitted on each corner of the lighthouse to light the surrounding ground and encourage birds to land. Portable floodlights placed outside the lighthouse compound with the aim of attracting birds to the ground have been shown to have little or no effect in attracting Manx Shearwaters away from the lighthouse. Birds will often come to land, but once rested will return to circling the light.

On nights when large numbers of birds are attracted to the light, landed birds are collected and placed in sheds during the night to protect them from predation and prevent them from returning to circling the light. Likewise, birds found around the lighthouse compound in daylight are also collected and held in sheds to prevent attack by crows or other predators. The stored birds are released safely at dusk.

Between 1953 and 1999 660 Manx Shearwaters were killed by attraction to the lighthouse. Annual numbers vary between 1 and 42 (BBFO reports) and have risen over the period, probably in line with the overall population rise, but perhaps also due to an increase in intensity of the light in 1986. Between 1985 and 1999 the average has been nearly 25 per year (BBFO reports). Attractions peak in late May and August and early September, the latter corresponding to the time when juveniles embark on their first flight. The majority of casualties are not ringed, indicating that they are likely to be either juveniles of that year or individuals returning to land for the first time to breed.

It is not known whether measures to reduce mortalities significantly reduce the number of resultant deaths, however, they will have some positive impact. The current mortality rate of Manx shearwaters resulting from lighthouse attractions is a small proportion of the overall population (<0.25%) and therefore not considered a cause for concern.

- The two down-pointing sodium lights positioned immediately below the balcony railings at the NE and SW corners of the lighthouse tower should be maintained and in operation. These light the ground below the lighthouse.
- Maintain the blocked-off section of glazing in the lighthouse to produce a 'dark area' which breaks the circle of the beams and creates a non-lit area towards Mynydd Enlli in the NE.

- Manx shearwaters landing in the lighthouse compound during attractions should continue to be collected and placed in sheds before being released the following evening. Collection should take place both during the attraction and the following morning if necessary

Human Disturbance

Human disturbance can be through erosion or collapse of shearwater burrows or by disturbing individuals on land at night. Collapse of burrows during the breeding season would be particularly detrimental to breeding success. Boating and diving activity in the vicinity of the island may lead to the disturbance of feeding Manx shearwater. There are currently no official constraints on any vessels operating around the island, either in terms of speed restrictions or exclusion zones/periods.

- Visitors and new residents should be informed of the presence of Manx shearwaters and the importance of the island's population. They should be advised to avoid sensitive areas and to avoid disturbance.
- Paths should be diverted away from sensitive areas.
- Visitors should be advised not to walk on burrows or field boundary walls.

Disturbing Manx shearwaters in the course of scientific research (ringing, intrusive survey techniques etc) is strictly regulated by law. CCW permits and ringing permits are required for individuals studying/ringing Manx shearwaters. In general all activity on the island complies with the necessary regulations and is not considered a threat to the well being of the birds.

Egg Collecting and Taking of Birds for Scientific Purposes

Earlier this century, collecting eggs and chicks for food may have been significant on the island. Today the collection of birds or their eggs is prohibited under UK law. There is the possibility that eggs could be taken illegally for collections; however, it is thought that, if at all, this is a very rare occurrence on Enlli. The taking of birds and eggs for scientific research is also strictly regulated by law and require a permit from CCW. Current activities on the island comply with the necessary regulations.

Pollution at Sea

Manx shearwaters frequently settle on the water surface to rest, swim and dive for food. They are therefore, particularly vulnerable to pollution at sea, particularly oil pollution. Small-scale oil or chemical pollution may be caused by discharges from small boats in the vicinity of Ynys Enlli or spill during the transfer of oil or diesel supplies to the island from boats. Providing such discharges are small and infrequent, natural currents around the island should disperse pollutants and therefore will not pose a great threat. Manx shearwaters may also suffer through ingestion of discarded plastic articles. The species features little among beached corpses and the actual affects of localised marine pollution are not known.

There is also a risk of a major oil spill from heavy tanker traffic in the Irish Sea and the potential for future oil and gas exploration or drilling in nearby waters. Large-scale oil or chemical pollution incidents are rare but could have devastating consequences. Prevention of such incidents is outside of the scope of this management plan. Ensuring that appropriate emergency response plans are in place will help to minimise impact in such an event.

Fishing, Food Availability and Feeding Conditions

Food supply is clearly a key factor in influencing Manx shearwater populations, however, they feed over very large sea areas and fish stocks and fishing pressures are beyond the scope of this management plan. Certain fishing practices may also harm Manx shearwaters, as they may become trapped and drown in monofilament nets as they dive for fish. Such pressures are also outside of the remit of this plan.

5.3 Conservation Status and Management Requirements of Feature 3: Vegetated sea cliffs of the Atlantic and Baltic coasts (H7 *Calluna vulgaris* – *Scilla verna* heath, H8d *Calluna vulgaris*-*Ulex galli* heath, *Scilla verna* sub-community, MC8 *Festuca rubra* – *Armeria maritima*, MC9 *Festuca rubra* – *Holcus lanatus* and MC10 *Festuca rubra* – *Plantago spp* maritime grassland communities, coastal grassland and maritime cliff and slope).

Conservation Status of Feature 2: Coastal heath (Dry and maritime heath) (Atlantic Sea Cliff)

The condition of the dry coastal and maritime heaths (Atlantic Sea Cliff) at January 2008 is **Unfavourable, Recovering**.

The condition of the feature was assessed by using sample plots placed in key areas of maritime grassland and maritime or coastal heath (SAC Monitoring Report 09/01/04). Overall, the vegetated sea cliffs were recorded to be in an unfavourable condition, although separate monitoring of the coastal or maritime heath on Ynys Enlli in 2003 found that it was Favourable, Recovering.

On Ynys Enlli, areas of coastal heath which were historically overgrazed have recovered considerably since the 1980's and early 90's. In all grazing compartments heather cover is at an acceptable level and pioneer and mature plants are present along with characteristic species. There is no immediate risk of loss or sudden decline. Choughs are known to feed in all areas and associated soil lichens and notable vascular plants are present in healthy populations. All compartments are grazed annually and are not at risk of agricultural improvement or other development. Bracken, gorse and other negative species are within specified limits. Erosion is restricted to a few narrow paths. However, some areas are currently under-grazed where sward height exceeds specified limits. Future adjustments to the grazing regime should address this issue; hence the condition of coastal or maritime heath is considered 'favourable recovering'.

(Note caution regarding the definition of dry heath. This is not officially is not a feature of this the Clogwyni Pen Llŷn SAC. Considering that dry heath is makes up a large percentage of this site and it is a notified feature of the component SSSIs it makes little sense that it has not been designated as a SAC feature, and it is intended to rectify this situation).

The populations of rare vascular plants on the mainland, particularly spotted rockrose, *Tuberaria guttata* and prostrate broom *Cytisus scoparius* subsp, *maritimus*, and the mainland soil-lichens ciliate strap-lichen *Heterodermia leucomela* and golden hair lichen *Teloschistes flavicans* are all considered to be Unfavourable, Declining.

Management Requirements of Feature 3: Dry heath (Atlantic Sea Cliff)

Rare vascular and non-vascular plants:

Mynydd Mawr is an extremely important site for spotted rockrose *Tuberaria guttata* which is found on the summit and slopes of Mynydd y Gwyddel. This is the only site for the species on mainland Wales. The population has been closely monitored and shows fluctuations in size and extent, although the ephemeral life cycle of this species means that such counts may not give a complete picture. The plants are much smaller and less luxuriant than plants at a comparable location on Anglesey. Sheep grazing is thought to reduce the vigour of the population and is therefore threatening its long-term survival. There are proposals to reduce sheep grazing in favour of ponies which should help halt the decline of this species in particular.

Prostrate broom *Cytisus scoparius* subsp, *maritimus* occurs on the cliff above the important geological exposure at Parwyd. The cliff top is fenced off from the heavily grazed improved fields behind, although the fence doesn't quite meet the cliff edge and the sheep can get around the fence at the edges and obviously do graze occasionally. A 1993 survey found plants occurring on both the actual cliff and on the cliff top fenced off section. Growth on the cliff was recorded as more luxuriant than the stunted, grazed plants on the cliff top, and repair of the fencing would prevent grazing and allow further recovery of this species.

The two rare soil lichen species, golden hair lichen *Teloschistes flavicans* and ciliate strap lichen *Heterodermia leucomela* are present on the Mynydd Mawr. The former is found on rocky outcrops and short turf the latter is found primarily at the heathland/coastal grassland transition. Again, they are both less luxuriant than at their Ynys Enlli locations. Both species of lichen and the spotted rockrose are very sensitive to burning and every effort should be made to prevent burning where they occur.

Grazing:

The 2004 assessment of condition was based on the fact that habitat was under-grazed in parts and overgrazed in parts. Some good quality western gorse heath is found on the National Trust land but in places this has become invaded by bracken due to undergrazing. Bracken encroachment is also a serious problem in some sections of the site. There has been a more active management of sections of the heath since this assessment, including bracken control and rotational cutting of some areas, hence the current qualifier that it is recovering. The NT has been active in controlling bracken at its holding at Muriau, and work has been carried out recently at Pen y Cil and on Ynys Enlli.

In 2005, a Management Schedule was drawn up for four sections of the site, Mynydd Anelog, Mynydd Mawr, Mynydd Bychestyn and Pen y Cil, involving partners including NT, RSPB, Cyngor Gwynedd and CYMAD. Some of the work was implemented under the Cadw'r Lliw yn Llyn project, and further work will be implemented as part of the Llyn Heaths Project which has just gained Heritage lottery funding. Sympathetic grazing regimes with heavy stock, the establishment of cutting and burning of heath blocks on long rotation, and control of gorse and bracken form the backbone of these plans.

In the long-term favourable condition of the vegetation will only be achieved with appropriate grazing. Grazing should remove excess grass growth preventing the build-up of litter and a dense thatch. Grazing should also remove young western gorse and a small proportion of ericoid (heather) growth. Heavy grazing in the autumn can result in excessive removal of ericoids resulting in their gradual replacement by western gorse. Grazing is best focused early in the season when grasses and young gorse are most palatable. Heavy livestock such as cattle or ponies are better than sheep at controlling both gorse and bracken regeneration.

Burning/Cutting

Management will promote the development of more diverse heathland vegetation with an increase in the cover and abundance of ericoids (bell heather *Erica cinerea* and common heather *Calluna vulgaris*) and a concurrent decrease in the dominance of western gorse *Ulex gallii*. Structural diversity will be improved by rotational management to provide areas of short open heath with all the intermediate stages through to tall mature heath. A rotation of 12 years or more is recommended to break the dominance of western gorse. Burning tends to encourage the spread and dominance of western gorse and bracken therefore burning of heathland will be discouraged during the restoration phase but may be reintroduced at a later date for maintenance management. Restoration management will be carried out by patch cutting with patches measuring approximately 0.5-1ha.

6. ACTION PLAN: SUMMARY

This section takes the management requirements outlined in Section 5 a stage further, assessing the specific management actions required on each management unit. This information is a summary of that held in CCW's Actions Database for sites, and the database will be used by CCW and partner organisations to plan future work to meet the Wales Environment Strategy targets for sites.

Unit Number	CCW Database Number	Unit Name	Summary of Conservation Management Issues	Action needed?
001	001683	Unit 1 Intertidal	Identify any issues and remedies through the updating and revision of the SAC management plan for Pen Llyn a'r Sarnau SAC in 2008-09. This work to be led by the relevant authorities for the SAC (Countryside Council for Wales, Gwynedd Council, Ceredigion County Council, Powys County Council, Snowdonia National Park Authority, North Western & North Wales Sea Fisheries Committee, Environment Agency Wales, Dwr Cymru, Severn Trent Water and Trinity House), working with the SAC Liaison Group and other groups, organisations and individuals.	No
002	001684	Unit 2a Porth Oer	Overgrazing with sheep an issue here - needs to be lighter, possibly the timing adjusted to allow for heavier grazing in the spring. Ideally heavier stock are needed - cattle or ponies. The coastal path is a constraint for cattle grazing - long-term aim to open up the coastal corridor a field back to allow freer stock movement or incorporate 'break-outs' along the path.	Yes
003	001685	Unit 2b Porth Oer	Overgrazing with sheep an issue here - needs to be lighter, possibly the timing adjusted to allow for heavier grazing in the spring. Ideally heavier stock are needed - cattle or ponies. The coastal path is a constraint for cattle grazing - long-term aim to open up the coastal corridor a field back to allow freer stock movement or incorporate 'break-outs' along the path.	Yes
004	001686	Unit 3a Carreg Farm	Overgrazing with sheep an issue here - needs to be lighter, possibly the timing adjusted to allow for heavier grazing in the spring. Ideally heavier stock are needed - cattle or ponies. The coastal path is a constraint for cattle grazing - long-term aim to open up the coastal corridor a field back to allow freer stock movement or incorporate 'break-outs' along the path.	Yes
005	001687	Unit 3b Carreg Farm	Problem here possibly undergrazing - need to negotiate increased grazing levels and appropriate stock management - again heavier stock would be desirable.	Yes
007	001689	Unit 3c Carreg Farm	Units 34 and 35 run together. Land tends to be grazed in winter, with nothing in spring. Emphasis of grazing pattern needs to change to spring grazing.	Yes
008	001690	Unit 4a Mynydd Anelog	Units 34 and 35 run together. Land tends to be grazed in winter, with nothing in spring. Emphasis of grazing pattern needs to be changed to spring grazing. Previous issues with illegal spreading of slurry on heath and cutting. Shetland ponies recently introduced.	Yes

Unit Number	CCW Database Number	Unit Name	Summary of Conservation Management Issues	Action needed?
009	001701	Unit 4b Mynydd Anelog	Common land, open to Unit 37. However ownership of the common unclear, and grazing levels are unmanaged. Heath used to overgrazed, now probably undergrazed, but good quality.	Yes
010	001702	Unit 4c Mynydd Anelog	Common land belonging to the National Trust. Used to be heavily overgrazed, but stocking levels have dramatically dropped in recent years, and now undergrazed. Only active grazier is at Anelog Farm. The common is open to Unit 36. Bracken control is needed. Heavy stock grazing, ideally ponies, would be desirable here.	Yes
011	001703	Unit 4d Mynydd Anelog	Very small unit. Management unknown.	Yes
012	001704	Unit 4e Mynydd Anelog	Very small unit. Management unknown.	Yes
013	001707	Unit 5a Porth Llanllawen	Historically deliberately heavily grazed for Chough. Now managed along with land under S15 Management Agreement and heath in good condition. Gorse control under the agreement, and bracken controlled 2007 by NT.	Yes
014	001711	Unit 5b Porth Llanllawen	Historically deliberately heavily grazed for Chough. Now managed along with land under S15 Management Agreement and heath in good condition. Gorse control under the agreement, and bracken controlled 2007 by NT.	Yes
015	001713	Unit 6 Llanllawen Fawr	Historically deliberately heavily grazed for Chough. Now managed along with land under S15 Management Agreement and heath in good condition. Gorse control under the agreement, and bracken controlled 2007 by NT.	Yes
016	001714	Unit 7a Braich y Pwll	Historically deliberately heavily grazed for Chough. Now managed along with land under S15 Management Agreement and heath in good condition. Gorse control under the agreement, and bracken controlled 2007 by NT.	Yes
017	001716	Unit 7b Braich y Pwll	Generally overgrazed, with most serious effects in Unit 46, which is open to adjoining units. <i>Tuberaria guttata</i> occurs here at its only mainland site and is suffering from the effects of sheep grazing. To protect this species, the grazing needs to be modified to lighter pony grazing, with possibly a complete break from grazing for a period to allow the population to recover. Impacts also on soil lichens <i>Heterodermia</i> and <i>Teloschistes</i> which also occur here. Burning at this site inappropriate at this stage due to areas over-burned in the past, and cutting favoured instead, along with bracken and gorse control. RSPB involvement necessary due to importance of area for chough, but the mosaic habitat which should develop will support both heath and associated vascular and non-vascular species and chough. TG agreement being negotiated.	Yes

Unit Number	CCW Database Number	Unit Name	Summary of Conservation Management Issues	Action needed?
018	001721	Unit 7c Braich y Pwll	Generally overgrazed, with most serious effects in Unit 46, which is open to adjoining units. <i>Tuberaria guttata</i> occurs here at its only mainland site and is suffering from the effects of sheep grazing. To protect this species, the grazing needs to be modified to lighter pony grazing, with possibly a complete break from grazing for a period to allow the population to recover. Impacts also on soil lichens <i>Heterodermia</i> and <i>Teloschistes</i> which also occur here. Burning at this site inappropriate at this stage due to areas over-burned in the past, and cutting favoured instead, along with bracken and gorse control. RSPB involvement necessary due to importance of area for chough, but the mosaic habitat which should develop will support both heath and associated vascular and non-vascular species and chough. TG agreement being negotiated.	Yes
019	001722	Unit 8 Porth Felen	Possible issues with grazing type and timing. Narrow strip above cliffs with improved pasture behind.	Yes
020	001724	Unit 9	This section has become quite rank in recent years, and the timing of grazing is probably the problem. NT tenancy renewed recently with conservation clause for variation of grazing regime as necessary. Stocking will be 50 sheep in Spring then remove half for the rest of the grazing season. Cattle will be run in the field adjoining with access to the coastal strip. Gorse control by NT.	Yes
021	001728	Unit 10a Mynydd Bychestyn	Common dominated by western gorse with very little heather. Currently sheep grazed autumn/winter, but stock absent in spring, so grazing regime issues need to be resolved. Studies have revealed an absence of heather seed in the soil seed bank, almost certainly due to past frequent over-burning. Seedbank needs to be restored artificially, by cutting patches and putting on heather brash harvested by brush-cutter from adjoining land in Sept/Oct, or burning heather brash on scarified land to stimulate seed. Subsequently, cattle grazing could be introduced, through management agreement with CCW.	Yes
022	001729	Unit 10b Mynydd Bychestyn	Common dominated by western gorse with very little heather. Currently sheep grazed autumn/winter, but stock absent in spring, so grazing regime issues need to be resolved. Studies have revealed an absence of heather seed in the soil seed bank, almost certainly due to past frequent over-burning. Seedbank needs to be restored artificially, by cutting patches and putting on heather brash harvested by brush-cutter from adjoining land in Sept/Oct, or burning heather brash on scarified land to stimulate seed. Subsequently, cattle grazing could be introduced, through management agreement with CCW.	Yes

Unit Number	CCW Database Number	Unit Name	Summary of Conservation Management Issues	Action needed?
023	001730	Unit 10c Mynydd Bychestyn	Common dominated by western gorse with very little heather. Currently sheep grazed autumn/winter, but stock absent in spring, so grazing regime issues need to be resolved. Studies have revealed an absence of heather seed in the soil seed bank, almost certainly due to past frequent over-burning. Seedbank needs to be restored artificially, by cutting patches and putting on heather brash harvested by brush-cutter from adjoining land in Sept/Oct, or burning heather brash on scarified land to stimulate seed. Subsequently, cattle grazing could be introduced, through management agreement with CCW.	Yes
024	001732	Unit 11 Parwyd	Prostrate broom occurs here on the cliffs of Parwyd. Fenced off section at the top of the cliff is not fully stockproof, allowing some sheep access, and the broom may be being constrained to the inaccessible cliff because of this. Improved land above heavily grazed, but on thin soils and very exposed to salt-laden wind so potential for restoration/expansion of maritime grassland area. Possible management agreement or Llyn Partnership project.	Yes
025	001734	Unit 12a Pen y Cil	Moderate to heavy sheep grazing, with areas that are grassy with agricultural weeds due to previous stock feeding. Some nice areas of maritime grassland. Heavier stock would help break up the land and create opportunities for heath colonisation/expansion. Burning plan needs to be developed - burning on the coastal slopes with dense gorse has been consented previously to allow stock access.	Yes
026	001736	Unit 12b Pen y Cil	Moderate to heavy sheep grazing, with areas that are grassy with agricultural weeds due to previous stock feeding. Some nice areas of maritime grassland. Heavier stock would help break up the land and create opportunities for heath colonisation/expansion. Burning plan needs to be developed - burning on the coastal slopes with dense gorse has been consented previously to allow stock access.	Yes
027	001738	Unit 12c Pen y Cil	Small unit. No known issues.	No
028	001742	Unit 13a Porth y Pistyll	No known issues.	No
029	001743	Unit 13b Porth y Pistyll	No known issues.	No
031	001745	Unit 15 Cwrt (inc Porth Meudwy)	Large unit owned by NT and tenanted by Cwrt includes coast from Porth y Pistyll to Porth Simdde. Issues with accessibility to stock, leading to areas which are dominated by bracken and scrub. Water supply also an issue if grazing to be encouraged. Cwrt has an existing TG agreement.	Yes
034	001748	Unit 16. Porth Simdde	No known issues. Scrub?	No

Unit Number	CCW Database Number	Unit Name	Summary of Conservation Management Issues	Action needed?
035	001749	Unit 17a Ynys Enlli	Interior land on Ynys Enlli; mainly agricultural land with the SAC features mainly confined to the coastal areas and Mountain in Unit 66. Land covered by Management Agreements with BITL, BBFO and new agreement being negotiated with RSPB and sub-tenant with project proposals identified annually. Lowland gorse burning on rotation, annual bracken cutting, drainage and boundary management issues in this area.	Yes
036	001750	Unit 17b Ynys Enlli	Lighthouse compound. Current issues relate to proposals for wind turbines and solar panels.	Yes
037	001751	Unit 18a Ynys Gwylan Fawr	This unit is considered to be under appropriate conservation management.	No
038	001752	Unit 18b Ynys Gwylan Fach	This unit is considered to be under appropriate conservation management.	No
039	002054	Unit 1a Intertidal	Porth Oer. Not included in Pellyn a'r Sarnau SAC, but part of Clogwyni Penllyn SAC and Glannau Aberadaron SPA, underpinned by Glannau Aberadaron SSSI.	Yes
041	002056	Unit 17c Ynys Enlli	Unit includes coastal land and mountain land which supports the majority of the SAC features. A management agreement exists with BBFO, BITL and a new agreement is being negotiated with RSPB as BITL tenant, and their sub-tenant. Management under this agreement already being implemented, including cattle grazing of the mountain and gorse burning on 7 year rotation. The overall condition of the site features are favourable or unfavourable improving, and this will be maintained by this management.	Yes
042	002383	Unit 14 Bardsey Island SSSI- marine 1	Identify any issues and remedies through the updating and revision of the SAC management plan for Pen Llyn a'r Sarnau SAC in 2008-09. This work to be led by the relevant authorities for the SAC (Countryside Council for Wales, Gwynedd Council, Ceredigion County Council, Powys County Council, Snowdonia National Park Authority, North Western & North Wales Sea Fisheries Committee, Environment Agency Wales, Dwr Cymru, Severn Trent Water and Trinity House), working with the SAC Liaison Group and other groups, organisations and individuals.	No
043	002925	Unit 7d Braich y Pwll	This unit is considered to be under appropriate conservation management.	No

7. GLOSSARY

This glossary defines some of the terms used in this **Core Management Plan**. Some of the definitions are based on definitions contained in other documents, including legislation and other publications of CCW and the UK nature conservation agencies. None of these definitions is legally definitive.

Action	A recognisable and individually described act, undertaking or project of any kind, specified in section 6 of a Core Management Plan or Management Plan , as being required for the conservation management of a site.
Attribute	A quantifiable and monitorable characteristic of a feature that, in combination with other such attributes, describes its condition .
Common Standards Monitoring	A set of principles developed jointly by the UK conservation agencies to help ensure a consistent approach to monitoring and reporting on the features of sites designated for nature conservation, supported by guidance on identification of attributes and monitoring methodologies.
Condition	A description of the state of a feature in terms of qualities or attributes that are relevant in a nature conservation context. For example the condition of a habitat usually includes its extent and species composition and might also include aspects of its ecological functioning, spatial distribution and so on. The condition of a species population usually includes its total size and might also include its age structure, productivity, relationship to other populations and spatial distribution. Aspects of the habitat(s) on which a species population depends may also be considered as attributes of its condition.
Condition assessment	The process of characterising the condition of a feature with particular reference to whether the aspirations for its condition, as expressed in its conservation objective , are being met.
Condition categories	The condition of feature can be categorised, following condition assessment as one of the following ² : <ul style="list-style-type: none"> Favourable: maintained; Favourable: recovered; Favourable: un-classified Unfavourable: recovering; Unfavourable: no change; Unfavourable: declining; Unfavourable: un-classified Partially destroyed; Destroyed.
Conservation management	Acts or undertaking of all kinds, including but not necessarily limited to actions , taken with the aim of achieving the conservation objectives of a site. Conservation management includes the taking of statutory and non-statutory measures, it can include the acts of any party and it may take place outside site boundaries as well as within sites. Conservation management may also be embedded within other frameworks for land/sea management carried out for purposes other than achieving the conservation objectives.
Conservation objective	The expression of the desired conservation status of a feature , expressed as a vision for the feature and a series of performance indicators . The conservation objective for a feature is thus a composite statement, and each feature has one conservation objective.

² See JNCC guidance on Common Standards Monitoring <http://www.jncc.gov.uk/page-2272>

Conservation status	A description of the state of a feature that comprises both its condition and the state of the factors affecting or likely to affect it. Conservation status is thus a characterisation of both the current state of a feature and its future prospects.
Conservation status assessment	The process of characterising the conservation status of a feature with particular reference to whether the aspirations for it, as expressed in its conservation objective , are being met. The results of conservation status assessment can be summarised either as ‘favourable’ (i.e. conservation objectives are met) or unfavourable (i.e. conservation objectives are not met). However the value of conservation status assessment in terms of supporting decisions about conservation management , lies mainly in the details of the assessment of feature condition , factors and trend information derived from comparisons between current and previous conservation status assessments and condition assessments.
Core Management Plan	A CCW document containing the conservation objectives for a site and a summary of other information contained in a full site Management Plan .
Factor	Anything that has influenced, is influencing or may influence the condition of a feature . Factors can be natural processes, human activities or effects arising from natural process or human activities, They can be positive or negative in terms of their influence on features, and they can arise within a site or from outside the site. Physical, socio-economic or legal constraints on conservation management can also be considered as factors.
Favourable condition	See condition and condition assessment
Favourable conservation status	See conservation status and conservation status assessment . ³
Feature	The species population, habitat type or other entity for which a site is designated. The ecological or geological interest which justifies the designation of a site and which is the focus of conservation management.
Integrity	See site integrity
Key Feature	The habitat or species population within a management unit that is the primary focus of conservation management and monitoring in that unit.
Management Plan	The full expression of a designated site’s legal status, vision , features , conservation objectives , performance indicators and management requirements. A complete management plan may not reside in a single document, but may be contained in a number of documents (including in particular the Core Management Plan) and sets of electronically stored information.
Management Unit	An area within a site, defined according to one or more of a range of criteria, such as topography, location of features , tenure, patterns of land/sea use. The

³ A full definition of favourable conservation status is given in Section 4.

key characteristic of management units is to reflect the spatial scale at which **conservation management** and **monitoring** can be most effectively organised. They are used as the primary basis for differentiating priorities for conservation management and monitoring in different parts of a site, and for facilitating communication with those responsible for management of different parts of a site.

Monitoring An intermittent (regular or irregular) series of observations in time, carried out to show the extent of compliance with a formulated standard or degree of deviation from an expected norm. In **Common Standards Monitoring**, the formulated standard is the quantified expression of favourable **condition** based on **attributes**.

Operational limits The levels or values within which a **factor** is considered to be acceptable in terms of its influence on a **feature**. A factor may have both upper and lower operational limits, or only an upper limit or lower limit. For some factors an upper limit may be zero.

Performance indicators The **attributes** and their associated **specified limits**, together with **factors** and their associated **operational limits**, which provide the standard against which information from **monitoring** and other sources is used to determine the degree to which the **conservation objectives** for a **feature** are being met. Performance indicators are part of, not the same as, conservation objectives. See also **vision for the feature**.

Plan or project **Project:** Any form of construction work, installation, development or other intervention in the environment, the carrying out or continuance of which is subject to a decision by any public body or statutory undertaker.
Plan: a document prepared or adopted by a public body or statutory undertaker, intended to influence decisions on the carrying out of **projects**. Decisions on plans and projects which affect Natura 2000 and Ramsar sites are subject to specific legal and policy procedures.

Site integrity The coherence of a site's ecological structure and function, across its whole area, that enables it to sustain the habitat, complex of habitats and/or the levels of populations of the species for which it is designated.

Site Management Statement (SMS) The document containing CCW's views about the management of a site issued as part of the legal notification of an SSSI under section 28(4) of the Wildlife and Countryside Act 1981, as substituted.

Special Feature See **feature**.

Specified limit The levels or values for an **attribute** which define the degree to which the attribute can fluctuate without creating cause for concern about the **condition** of the **feature**. The range within the limits corresponds to favourable, the range outside the limits corresponds to unfavourable. Attributes may have lower specified limits, upper specified limits, or both.

Unit See **management unit**.

Vision for the feature The expression, within a **conservation objective**, of the aspirations for the **feature** concerned. See also **performance indicators**.

Vision Statement The statement conveying an impression of the whole site in the state that is intended to be the product of its **conservation management**. A ‘pen portrait’ outlining the **conditions** that should prevail when all the **conservation objectives** are met. A description of the site as it would be when all the **features** are in **favourable condition**.

8. REFERENCES

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Appendix H: Lambay Island SPA



Conservation objectives for Lambay Island SPA [004069]

The overall aim of the Habitats Directive is to maintain or restore the favourable conservation status of habitats and species of community interest. These habitats and species are listed in the Habitats and Birds Directives and Special Areas of Conservation and Special Protection Areas are designated to afford protection to the most vulnerable of them. These two designations are collectively known as the Natura 2000 network.

European and national legislation places a collective obligation on Ireland and its citizens to maintain habitats and species in the Natura 2000 network at favourable conservation condition. The Government and its agencies are responsible for the implementation and enforcement of regulations that will ensure the ecological integrity of these sites.

The maintenance of habitats and species within Natura 2000 sites at favourable conservation condition will contribute to the overall maintenance of favourable conservation status of those habitats and species at a national level.

Favourable conservation status of a habitat is achieved when:

- its natural range, and area it covers within that range, are stable or increasing, and
- the specific structure and functions which are necessary for its long-term maintenance exist and are likely to continue to exist for the foreseeable future, and
- the conservation status of its typical species is favourable.

The favourable conservation status of a species is achieved when:

- population dynamics data on the species concerned indicate that it is maintaining itself on a long-term basis as a viable component of its natural habitats, and
- the natural range of the species is neither being reduced nor is likely to be reduced for the foreseeable future, and
- there is, and will probably continue to be, a sufficiently large habitat to maintain its populations on a long-term basis.

Objective: To maintain or restore the favourable conservation condition of the bird species listed as Special Conservation Interests for this SPA:

Bird Code	Common Name	Scientific Name
A009	Fulmar	<i>Fulmarus glacialis</i>
A017	Cormorant	<i>Phalacrocorax carbo</i>
A018	Shag	<i>Phalacrocorax aristotelis</i>
A043	Greylag Goose	<i>Anser anser</i>
A183	Lesser Black-backed Gull	<i>Larus fuscus</i>
A184	Herring Gull	<i>Larus argentatus</i>
A188	Kittiwake	<i>Rissa tridactyla</i>
A199	Guillemot	<i>Uria aalge</i>



A200	Razorbill	<i>Alca torda</i>
A204	Puffin	<i>Fratercula arctica</i>

Citation: NPWS (2022) Conservation objectives for Lambay Island SPA [004069]. First Order Site-specific Conservation Objectives Version 1.0. Department of Housing, Local Government and Heritage.

This First Order Site-specific Conservation Objectives Version 1.0 document replaces the Generic Conservation Objectives Version 9.0 document.

Appendix I: Ireland's Eye SPA



Conservation objectives for Ireland's Eye SPA [004117]

The overall aim of the Habitats Directive is to maintain or restore the favourable conservation status of habitats and species of community interest. These habitats and species are listed in the Habitats and Birds Directives and Special Areas of Conservation and Special Protection Areas are designated to afford protection to the most vulnerable of them. These two designations are collectively known as the Natura 2000 network.

European and national legislation places a collective obligation on Ireland and its citizens to maintain habitats and species in the Natura 2000 network at favourable conservation condition. The Government and its agencies are responsible for the implementation and enforcement of regulations that will ensure the ecological integrity of these sites.

The maintenance of habitats and species within Natura 2000 sites at favourable conservation condition will contribute to the overall maintenance of favourable conservation status of those habitats and species at a national level.

Favourable conservation status of a habitat is achieved when:

- its natural range, and area it covers within that range, are stable or increasing, and
- the specific structure and functions which are necessary for its long-term maintenance exist and are likely to continue to exist for the foreseeable future, and
- the conservation status of its typical species is favourable.

The favourable conservation status of a species is achieved when:

- population dynamics data on the species concerned indicate that it is maintaining itself on a long-term basis as a viable component of its natural habitats, and
- the natural range of the species is neither being reduced nor is likely to be reduced for the foreseeable future, and
- there is, and will probably continue to be, a sufficiently large habitat to maintain its populations on a long-term basis.

Objective: To maintain or restore the favourable conservation condition of the bird species listed as Special Conservation Interests for this SPA:

Bird Code	Common Name	Scientific Name
A017	Cormorant	<i>Phalacrocorax carbo</i>
A184	Herring Gull	<i>Larus argentatus</i>
A188	Kittiwake	<i>Rissa tridactyla</i>
A199	Guillemot	<i>Uria aalge</i>
A200	Razorbill	<i>Alca torda</i>



Citation: *NPWS (2022) Conservation objectives for Ireland's Eye SPA [004117]. First Order Site-specific Conservation Objectives Version 1.0. Department of Housing, Local Government and Heritage.*

This First Order Site-specific Conservation Objectives Version 1.0 document replaces the Generic Conservation Objectives Version 9.0 document.

Appendix J: Howth Head Coast SPA

National Parks and Wildlife Service

Conservation Objectives Series

Howth Head Coast SPA 004113



NPWS

An tSeirbhís Páirceanna
Náisiúnta agus Fiadhúlra
National Parks and Wildlife
Service

**National Parks and Wildlife Service,
Department of Housing, Local Government and Heritage,
90 King Street North, Dublin 7, D07 N7CV, Ireland.**



Citation:

**NPWS (2024) Conservation Objectives: Howth Head Coast SPA 004113. Version
1. National Parks and Wildlife Service, Department of Housing, Local
Government and Heritage.**

Series Editors: 

ISSN 2009-4086

Introduction

The overall aim of the Habitats Directive is to maintain or restore the favourable conservation status of habitats and species of community interest. These habitats and species are listed in the Habitats and Birds Directives and Special Areas of Conservation and Special Protection Areas are designated to afford protection to the most vulnerable of them. These two designations are collectively known as the Natura 2000 network.

European and national legislation places a collective obligation on Ireland and its citizens to maintain habitats and species in the Natura 2000 network at favourable conservation condition. The Government and its agencies are responsible for the implementation and enforcement of regulations that will ensure the ecological integrity of these sites.

A site-specific conservation objective aims to define favourable conservation condition for a particular habitat or species at that site.

The maintenance of habitats and species within Natura 2000 sites at favourable conservation condition will contribute to the overall maintenance of favourable conservation status of those habitats and species at a national level.

Favourable conservation status of a habitat is achieved when:

- its natural range, and area it covers within that range, are stable or increasing, and
- the specific structure and functions which are necessary for its long-term maintenance exist and are likely to continue to exist for the foreseeable future, and
- the conservation status of its typical species is favourable.

The favourable conservation status of a species is achieved when:

- population dynamics data on the species concerned indicate that it is maintaining itself on a long-term basis as a viable component of its natural habitats, and
- the natural range of the species is neither being reduced nor is likely to be reduced for the foreseeable future, and
- there is, and will probably continue to be, a sufficiently large habitat to maintain its populations on a long-term basis.

Notes/Guidelines:

1. The targets given in these conservation objectives are based on best available information at the time of writing. As more information becomes available, targets for attributes may change. These will be updated periodically, as necessary.
2. An appropriate assessment based on these conservation objectives will remain valid even if the targets are subsequently updated, providing they were the most recent objectives available when the assessment was carried out. It is essential that the date and version are included when objectives are cited.
3. Assessments cannot consider an attribute in isolation from the others listed for that habitat or species, or for other habitats and species listed for that site. A plan or project with an apparently small impact on one attribute may have a significant impact on another.
4. Please note that the maps included in this document do not necessarily show the entire extent of the habitats and species for which the site is listed. This should be borne in mind when appropriate assessments are being carried out.
5. When using these objectives, it is essential that the relevant backing/supporting documents are consulted, particularly where instructed in the targets or notes for a particular attribute.

Qualifying Interests

** indicates a priority habitat under the Habitats Directive*

004113 Howth Head Coast SPA

A188 Kittiwake *Rissa tridactyla*

Please note that this SPA overlaps with North-West Irish Sea SPA (004236), Howth Head SAC (000202), Rockabill to Dalkey Island SAC (003000). See map 2. The conservation objectives for this site should be used in conjunction with those for the overlapping sites as appropriate.

Supporting documents, relevant reports & publications

Supporting documents, NPWS reports and publications are available for download from: www.npws.ie/Publications

NPWS Documents

Year :	2007
Title :	Seabird Productivity at East and South coast colonies in Ireland in 2007: Site accounts
Author :	Trewby, M.; Burt E.; Newton, S.
Series :	Unpublished report to NPWS
Year :	2021
Title :	Estimated foraging ranges of the breeding seabirds of Ireland's marine special protected area network
Author :	Power, A.; McDonnell, P.; Tierney, T.D.
Series :	Published NPWS report

Other References

Year :	1991
Title :	The status of seabirds in Britain and Ireland
Author :	Lloyd, C., Tasker, M.L. and Partridge, K.
Series :	Poyser Monographs Volume: 50
Year :	2003
Title :	Implications for seaward extensions to existing breeding seabird colony Special Protection Areas
Author :	McSorley, C.A.; Dean, B.J.; Webb, A.; Reid J.B.
Series :	JNCC Report No. 329
Year :	2004
Title :	Seabird populations of Britain and Ireland
Author :	Mitchell, P.I.; Newton, S.F.; Ratcliffe, N.; Dunn, T.E.
Series :	Poyser, London
Year :	2017
Title :	Productivity of the Black-legged Kittiwake <i>Rissa tridactyla</i> required to maintain numbers
Author :	Coulson, J.C.
Series :	Bird Study 64: 84-89
Year :	2019
Title :	Desk-based revision of seabird foraging ranges used for HRA screening
Author :	Woodward, I.; Thaxter, C.B.; Owen, E.; Cook, A.S.C.P.
Series :	BTO Research Report No. 724
Year :	2020
Title :	Black-legged Kittiwake (<i>Rissa tridactyla</i>), version 1.0. In Birds of the World (S. M. Billerman, Editor)
Author :	Hatch, S. A.; Robertson, G. J.; Baird, P. H.
Series :	Cornell Lab of Ornithology, Ithaca, NY, USA
Year :	2023
Title :	Seabirds Count: a census of breeding seabirds in Britain and Ireland (2015-2021)
Author :	Burnell, D.; Perkins, A.J.; Newton, S.F.; Bolton, M.; Tierney, T.D.; Dunn, T.E.
Series :	Lynx Nature Books, Barcelona

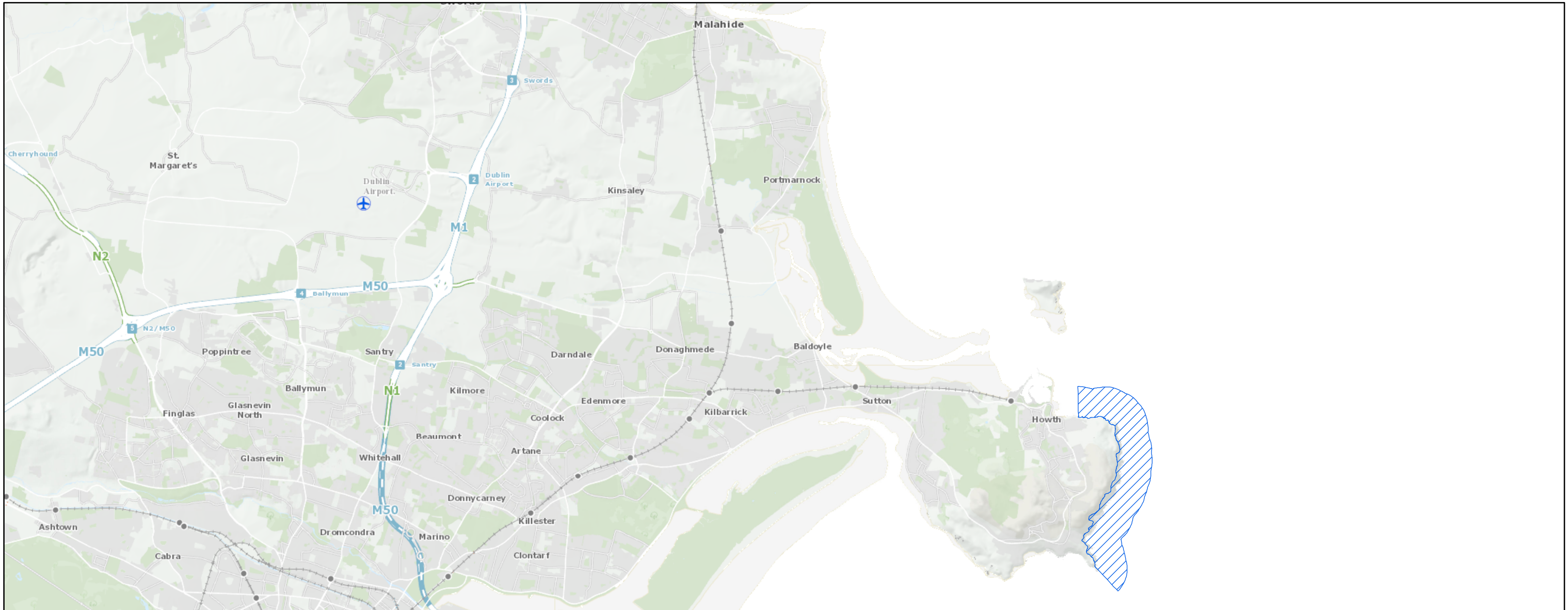
Conservation Objectives for : Howth Head Coast SPA [004113]

A188 Kittiwake *Rissa tridactyla*


To restore the Favourable conservation condition of Kittiwake in Howth Head Coast SPA, which is defined by the following list of attributes and targets:

Attribute	Measure	Target	Notes
Breeding population size	Number of Apparently Occupied Nests (AON)	Long term SPA population trend is stable or increasing	A 1987 survey recorded an estimate of 1,700 pairs of Kittiwake breeding at this site (Lloyd et al., 1991). A repeat survey in 1999 recorded 2,269 AONs equating to a 33.5% increase (Mitchell et al., 2004). Breeding numbers continued to increase and by 2007 the population was estimated to stand at 2,612 AONs, which then dipped to 1,773 AONs by 2015 (Trewby et al., 2007; Burnell et al., 2023). Based on these metrics, longer-term (1987-2015) and shorter-term (2007-2015) population trends of 4.3% and -32.1% are estimated
Productivity rate	Number of fledged young per breeding pair	Sufficient to maintain a stable or increasing population	In 2007 and based on 12 non-randomly selected plots ranging in size from 43 to 157 AONs (amounting to 41% of the breeding population), Trewby et al. (2007) reported a Kittiwake productivity estimate of 0.62 (\pm 0.06) fledglings per pair for this SPA. Coulson (2017) established, based on data from UK Kittiwake colonies during the period 1985-2015, that 0.80 fledglings per pair were needed to maintain the size of these colonies
Distribution: extent of available nesting options within the SPA	Numbers and spatial distribution	Sufficient availability of suitable nesting sites throughout the SPA to maintain a stable or increasing population	Distribution encapsulates the number of locations and area of potentially suitable nesting habitat for the breeding population and its availability for use. The suitability and availability of habitat across the SPA may vary through time. This will affect the spatio-temporal patterns of use of the habitats by Kittiwake. Typically this species establishes nest sites on cliff ledges of offshore islands, sea stacks, or along inaccessible areas of coastal mainland (Hatch et al., 2020)
Forage spatial distribution, extent, abundance and availability	Location and hectares, and forage biomass	Sufficient number of locations, area of suitable habitat and available forage biomass to support the population target	Kittiwake is a surface feeding seabird and primarily piscivorous (e.g. sandeels, herring, gadoids) with some invertebrates (e.g. euphausiids, amphipods) in the diet also recorded (Hatch et al., 2020). Woodward et al. (2019) provides estimates (i.e. overall mean, mean of maximum distances across all studies, and maximum distance recorded) of Kittiwake foraging ranges from the nest site during the breeding season, which are 55km, 156km, and 770km respectively (see Power et al., 2021)
Disturbance at the breeding site	Intensity, frequency, timing and duration	Disturbance occurs at levels that do not significantly impact on birds at the breeding site	Disturbance events at the nest site/breeding colony level can result in a reduction of overall productivity and even lead to the abandonment of the breeding colony. The impact of any significant disturbance (direct or indirect) to the breeding population will ultimately affect the achievement of targets for population size and/or spatial distribution. Disturbance contributes to increased energetic expenditure which can result in increased likelihood of mortality or reduced fitness (if energy expenditure is greater than energy gain) and, in turn, negatively impact population trends. Factors such as intensity, frequency, timing and duration of a (direct or indirect) disturbance source must be taken into account to determine the potential impact upon the targets for population size and spatial distribution
Disturbance at areas ecologically connected to the colony	Intensity, frequency, timing and duration	Disturbance occurs at levels that do not significantly impact on breeding population	Seabird species can make extensive use of the marine waters adjacent to their breeding colonies for non site-specific maintenance behaviours (e.g. courtship, bathing, preening) as defined in McSorley et al. (2003)

Barriers to connectivity	Number; location; shape; area (hectares)	Barriers do not significantly impact the population's access to the SPA or other ecologically important sites outside the SPA	Seabirds, particularly during the breeding season, require regular and efficient access to marine waters ecologically connected to the colony in order to forage as well as to engage in other maintenance behaviours. Woodward et al. (2019) provides estimates (i.e. overall mean, mean of maximum distances across all studies, and maximum distance recorded) of Kittiwake foraging ranges from the nest site during the breeding season, which are 55km, 156km, and 770km respectively (see Power et al., 2021)
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Legend

 Howth Head Coast SPA 004113



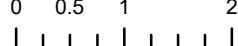
NPWS
An tSeirbhís Páircanna Náisiúnta agus Fiadhúlra
National Parks and Wildlife Service

**MAP 1:
HOWTH HEAD COAST SPA
CONSERVATION OBJECTIVES
SPA DESIGNATION**

Map to be read in conjunction with the NPWS Conservation Objectives Document

**SITE CODE:
SPA 004113; version 3
CO. DUBLIN**

0 0.5 1 2 Kilometres

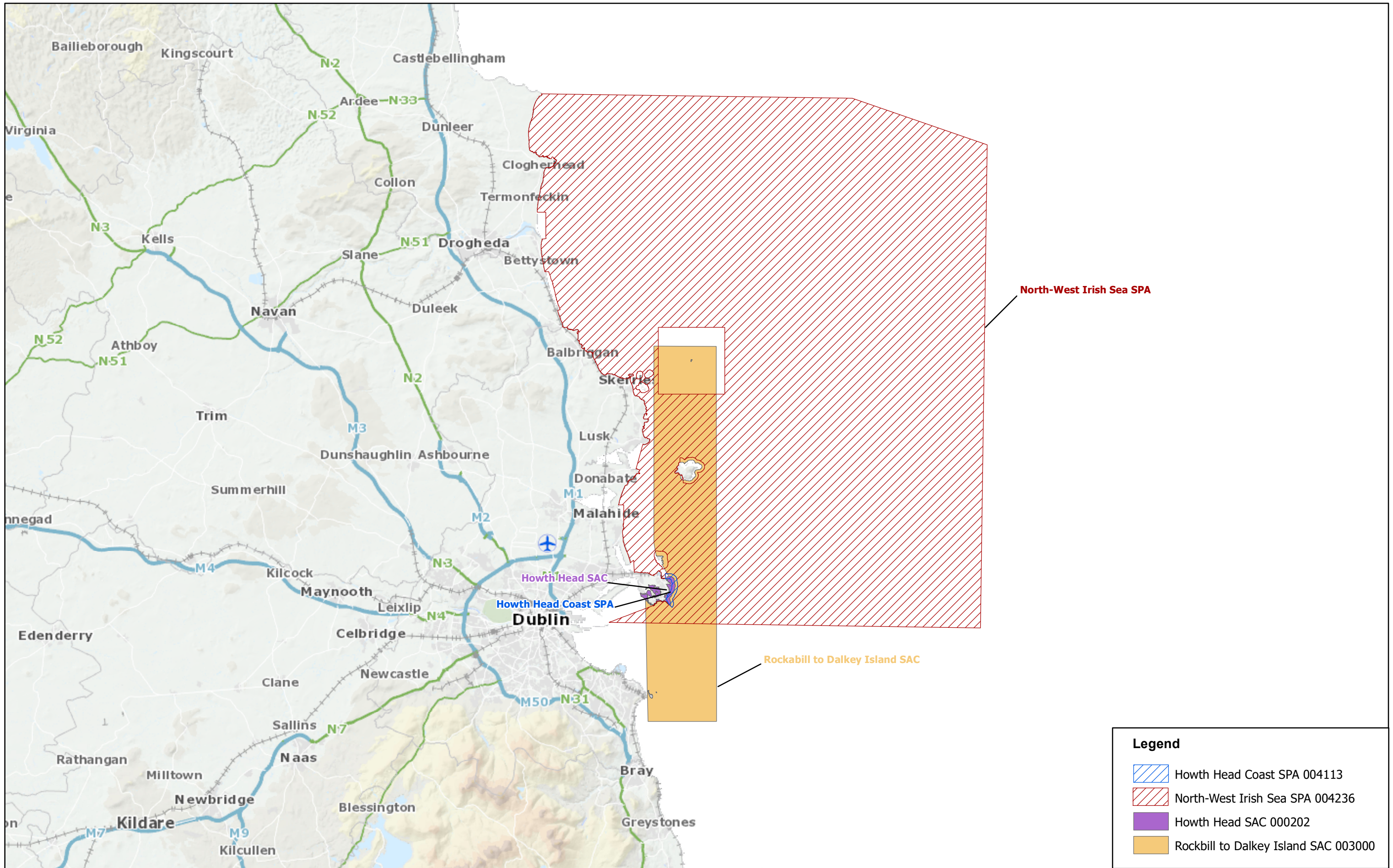


The mapped boundaries are of an indicative and general nature only. Boundaries of designated areas are subject to revision.
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Níl sna teorainneacha ar na léarscáileanna ach nod garshuimhach ginearálta. Féadfar athbheithnithe a déanamh ar theorainneacha na gceantar comharthaithe. © Folaíonn sé rannán Náisiúnta Mapála de shonraí Tailte Éireann arna atáirgeadh faoin rannán mapála Náisiúnta d'úimhir cheadúnais Tailte Éireann CYAL50351092



**Map version 2
Date: May 2024**



Legend

-  Howth Head Coast SPA 004113
-  North-West Irish Sea SPA 004236
-  Howth Head SAC 000202
-  Rockabill to Dalkey Island SAC 003000

Appendix K: Ailsa Craig SPA

Conservation Objectives for Ailsa Craig Special Protection Area

To avoid deterioration of the habitats of the qualifying species (listed below) or significant disturbance to the qualifying species, thus ensuring that the integrity of the site is maintained; and

To ensure for the qualifying species that the following are maintained in the long term:

- Population of the species as a viable component of the site
- Distribution of the species within site
- Distribution and extent of habitats supporting the species
- Structure, function and supporting processes of habitats supporting the species
- No significant disturbance of the species

Qualifying Species:

- Gannet (*Morus bassanus*)
- Guillemot (*Uria aalge*)*
- Herring gull (*Larus argentatus*)*
- Kittiwake (*Rissa tridactyla*)*
- Lesser black-backed gull (*Larus fuscus*)

- Seabird assemblage

* indicates assemblage qualifier only

Appendix L: Wicklow Head SPA

National Parks and Wildlife Service

Conservation Objectives Series

Wicklow Head SPA 004127



NPWS

An tSeirbhís Páirceanna
Náisiúnta agus Fiadhúlra
National Parks and Wildlife
Service

**National Parks and Wildlife Service,
Department of Housing, Local Government and Heritage,
90 King Street North, Dublin 7, D07 N7CV, Ireland.**



Citation:

**NPWS (2024) Conservation Objectives: Wicklow Head SPA 004127. Version 1.
National Parks and Wildlife Service, Department of Housing, Local Government
and Heritage.**

Series Editors: 

ISSN 2009-4086

Introduction

The overall aim of the Habitats Directive is to maintain or restore the favourable conservation status of habitats and species of community interest. These habitats and species are listed in the Habitats and Birds Directives and Special Areas of Conservation and Special Protection Areas are designated to afford protection to the most vulnerable of them. These two designations are collectively known as the Natura 2000 network.

European and national legislation places a collective obligation on Ireland and its citizens to maintain habitats and species in the Natura 2000 network at favourable conservation condition. The Government and its agencies are responsible for the implementation and enforcement of regulations that will ensure the ecological integrity of these sites.

A site-specific conservation objective aims to define favourable conservation condition for a particular habitat or species at that site.

The maintenance of habitats and species within Natura 2000 sites at favourable conservation condition will contribute to the overall maintenance of favourable conservation status of those habitats and species at a national level.

Favourable conservation status of a habitat is achieved when:

- its natural range, and area it covers within that range, are stable or increasing, and
- the specific structure and functions which are necessary for its long-term maintenance exist and are likely to continue to exist for the foreseeable future, and
- the conservation status of its typical species is favourable.

The favourable conservation status of a species is achieved when:

- population dynamics data on the species concerned indicate that it is maintaining itself on a long-term basis as a viable component of its natural habitats, and
- the natural range of the species is neither being reduced nor is likely to be reduced for the foreseeable future, and
- there is, and will probably continue to be, a sufficiently large habitat to maintain its populations on a long-term basis.

Notes/Guidelines:

1. The targets given in these conservation objectives are based on best available information at the time of writing. As more information becomes available, targets for attributes may change. These will be updated periodically, as necessary.
2. An appropriate assessment based on these conservation objectives will remain valid even if the targets are subsequently updated, providing they were the most recent objectives available when the assessment was carried out. It is essential that the date and version are included when objectives are cited.
3. Assessments cannot consider an attribute in isolation from the others listed for that habitat or species, or for other habitats and species listed for that site. A plan or project with an apparently small impact on one attribute may have a significant impact on another.
4. Please note that the maps included in this document do not necessarily show the entire extent of the habitats and species for which the site is listed. This should be borne in mind when appropriate assessments are being carried out.
5. When using these objectives, it is essential that the relevant backing/supporting documents are consulted, particularly where instructed in the targets or notes for a particular attribute.

Qualifying Interests

** indicates a priority habitat under the Habitats Directive*

004127 Wicklow Head SPA

A188 Kittiwake *Rissa tridactyla*

Please note that this SPA is adjacent to Wicklow Reef SAC (002274). See map 2. The conservation objectives for this site should be used in conjunction with those for the adjacent site as appropriate.

Supporting documents, relevant reports & publications

Supporting documents, NPWS reports and publications are available for download from: www.npws.ie/Publications

NPWS Documents

Year : 2021

Title : Estimated foraging ranges of the breeding seabirds of Ireland's marine special protected area network

Author : Power, A.; McDonnell, P.; Tierney, T.D.

Series : Published NPWS report

Other References

Year :	1987
Title :	Recent changes in breeding seabird populations in counties Dublin and Wicklow
Author :	Merne, O.J.
Series :	Irish East Coast Bird Report, p. 68-77. Irish Wildbird Conservancy, Dublin
Year :	2003
Title :	Implications for seaward extensions to existing breeding seabird colony Special Protection Areas
Author :	McSorley, C.A.; Dean, B.J.; Webb, A.; Reid J.B.
Series :	JNCC Report No. 329
Year :	2004
Title :	Seabird populations of Britain and Ireland
Author :	Mitchell, P.I.; Newton, S.F.; Ratcliffe, N.; Dunn, T.E.
Series :	Poyser, London
Year :	2007
Title :	Arklow Bank Seabird and Marine Mammal Monitoring Programme □ Wicklow Head Seabird Colony Monitoring 2007
Author :	Cork Ecology
Series :	Unpublished Report to Airtricity
Year :	2017
Title :	Productivity of the Black-legged Kittiwake <i>Rissa tridactyla</i> required to maintain numbers
Author :	Coulson, J.C.
Series :	Bird Study 64: 84-89
Year :	2019
Title :	Desk-based revision of seabird foraging ranges used for HRA screening
Author :	Woodward, I.; Thaxter, C.B.; Owen, E.; Cook, A.S.C.P.
Series :	BTO Research Report No. 724
Year :	2020
Title :	Black-legged Kittiwake (<i>Rissa tridactyla</i>), version 1.0. In Birds of the World (S. M. Billerman, Editor)
Author :	Hatch, S. A.; Robertson, G. J.; Baird, P. H.
Series :	Cornell Lab of Ornithology, Ithaca, NY, USA
Year :	2022
Title :	Monitoring the breeding seabird colony at Wicklow Head: 2018-2021
Author :	Tierney, T.D.
Series :	Irish Birds 44: 27-34
Year :	2023
Title :	Seabirds Count: a census of breeding seabirds in Britain and Ireland (2015-2021)
Author :	Burnell, D.; Perkins, A.J.; Newton, S.F.; Bolton, M.; Tierney, T.D.; Dunn, T.E.
Series :	Lynx Nature Books, Barcelona
Year :	2023
Title :	Wicklow Head Seabird Colony Monitoring 2023
Author :	Cork Ecology
Series :	Unpublished Report to Airtricity

A188 Kittiwake *Rissa tridactyla*


To restore the Favourable conservation condition of Kittiwake in Wicklow Head SPA, which is defined by the following list of attributes and targets:

Attribute	Measure	Target	Notes
Breeding population size	Number of Apparently Occupied Nests (AON)	Long term SPA population trend is stable or increasing	Kittiwake were breeding on Wicklow Head by 1974, with 164 pairs recorded, and this population increased to 786-800 pairs by 1986-1987 (Merne, 1987). The population increased further to 956 pairs in 1999 (Mitchell et al., 2004). Monitoring effort increased at this site in the 21st century, which tracked an initial decline followed by a recovery to 999 pairs in 2007 (Cork Ecology, 2007). Subsequent estimated abundances indicate a declining trend (Tierney, 2022). In 2023, the population was estimated to be 645 pairs (Cork Ecology, 2023) equating to a decline of 33% since 1999, which is similar to the national declining trend of 36% between 1998-2002 and 2015-2021 (Burnell et al., 2023)
Productivity rate	Number of fledged young per breeding pair	Sufficient to maintain a stable or increasing population	Coulson (2017) established, based on data from UK Kittiwake colonies during the period 1985-2015, that 0.80 fledglings per pair were needed to maintain the size of these colonies. Since 2001, two bouts of annual productivity monitoring at Wicklow Head has occurred: the first, covering the period 2001-2007 (Cork Ecology, 2007); and more recently, 2018-2023 (Tierney, 2022; Cork Ecology, 2023). A seven year mean of 0.70 chicks per nest for the period 2001-2007 is reported (Cork Ecology, 2007). For the 2023 breeding season, Cork Ecology (2023) estimated a productivity rate of 0.25 (± 0.13 SE) chicks per nest based on the same five sub-colonies used in previous years by NPWS for the period 2018-2022. This contributes to an overall reported six year mean of 0.56 (± 0.12 SE) chicks per nest for Wicklow Head for the period 2018-2023 (Cork Ecology, 2023). Current breeding productivity rates may be insufficient to drive a reversal of the negative population trend in the near term (Tierney, 2022)
Distribution: extent of available nesting options within the SPA	Numbers and spatial distribution	Sufficient availability of suitable nesting sites throughout the SPA to maintain a stable or increasing population	Distribution encapsulates the number of locations and area of potentially suitable nesting habitat for the breeding population and its availability for use. The suitability and availability of habitat across the SPA may vary through time. This will affect the spatio-temporal patterns of use of the habitats by Kittiwake. Typically this species is a cliff-nester on ledges of offshore islands, sea stacks, or inaccessible areas of coastal mainland (Hatch et al., 2020)
Forage spatial distribution, extent, abundance and availability	Location and hectares, and forage biomass	Sufficient number of locations, area of suitable habitat and available forage biomass to support the population target	Kittiwake is a surface feeding seabird and primarily piscivorous (e.g. sandeels, herring, gadoids) with some invertebrates (e.g. euphausiids, amphipods) in the diet also recorded (Hatch et al., 2020). Woodward et al. (2019) provides estimates (i.e. overall mean, mean of maximum distances across all studies, and maximum distance recorded) of Kittiwake foraging ranges from the nest site during the breeding season, which are 55km, 156km, and 770km respectively (see Power et al., 2021)

Disturbance at the breeding site	Intensity, frequency, timing and duration	Disturbance occurs at levels that do not significantly impact on birds at the breeding site	Disturbance events at the nest site/breeding colony level can result in a reduction of overall productivity and even lead to the abandonment of the breeding colony. The impact of any significant disturbance (direct or indirect) to the breeding population will ultimately affect the achievement of targets for population size and/or spatial distribution. Disturbance contributes to increased energetic expenditure which can result in increased likelihood of mortality or reduced fitness (if energy expenditure is greater than energy gain) and, in turn, negatively impact population trends. Factors such as intensity, frequency, timing and duration of a (direct or indirect) disturbance source must be taken into account to determine the potential impact upon the targets for population size and spatial distribution
Disturbance at areas ecologically connected to the colony	Intensity, frequency, timing and duration	Disturbance occurs at levels that do not significantly impact on breeding population	Seabird species can make extensive use of the marine waters adjacent to their breeding colonies for non site-specific maintenance behaviours (e.g. courtship, bathing, preening) as defined in McSorley et al. (2003)
Barriers to connectivity	Number; location; shape; area (hectares)	Barriers do not significantly impact the population's access to the SPA or other ecologically important sites outside the SPA	Seabirds, particularly during the breeding season, require regular and efficient access to marine waters ecologically connected to the colony in order to forage as well as to engage in other maintenance behaviours. Woodward et al. (2019) provides estimates (i.e. overall mean, mean of maximum distances across all studies, and maximum distance recorded) of Kittiwake foraging ranges from the nest site during the breeding season, which are 55km, 156km, and 770km respectively (see Power et al., 2021)



Legend

 Wicklow Head SPA 004127




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National Parks and Wildlife Service

**MAP 1:
WICKLOW HEAD SPA
CONSERVATION OBJECTIVES
SPA DESIGNATION**

Map to be read in conjunction with the NPWS Conservation Objectives Document

**SITE CODE:
SPA 004127; version 3
CO. WICKLOW**

0 0.5 1 2 Kilometres



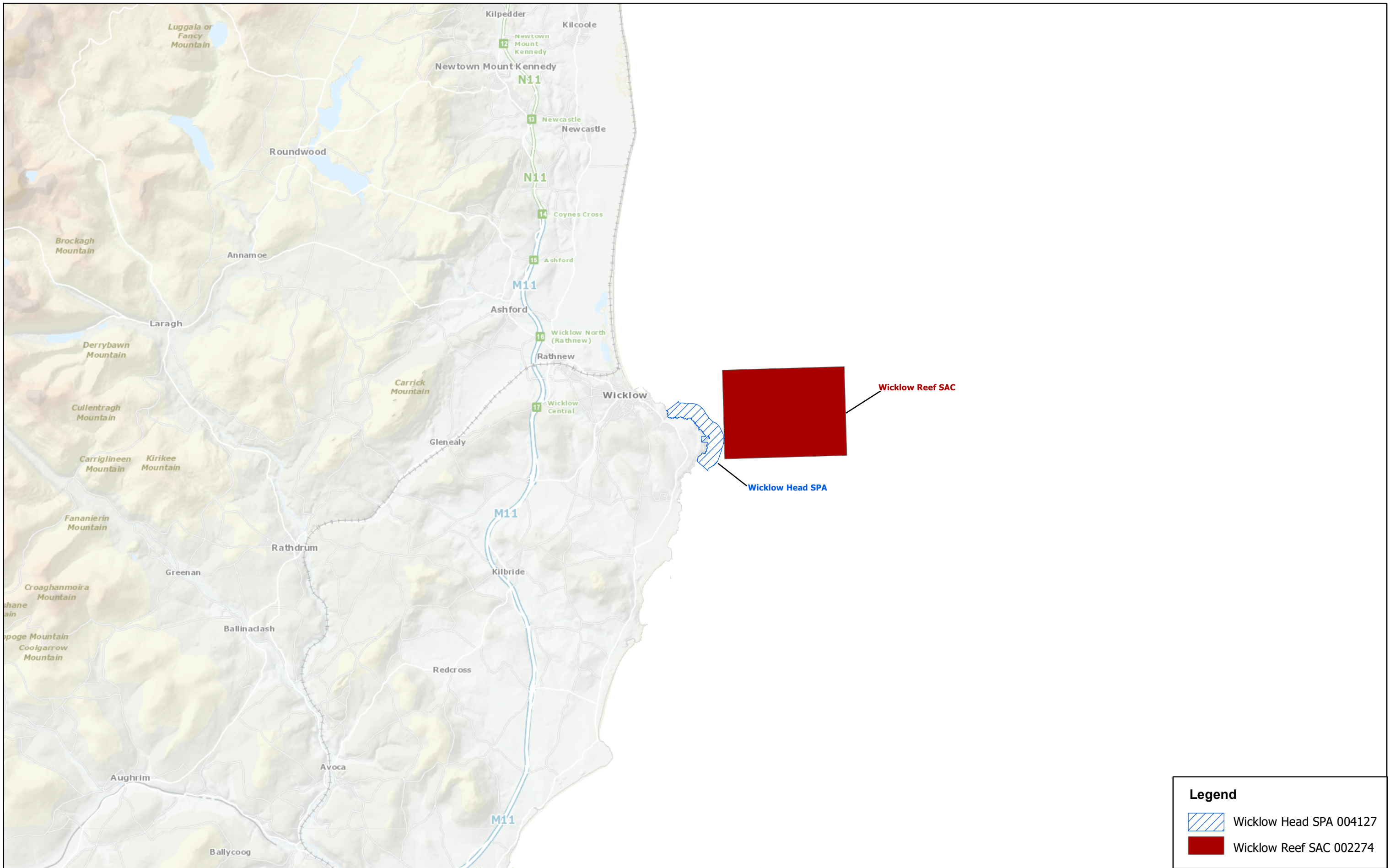
The mapped boundaries are of an indicative and general nature only. Boundaries of designated areas are subject to revision.
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N



**Map version 1
Date: May 2024**



Legend

-  Wicklow Head SPA 004127
-  Wicklow Reef SAC 002274




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 National Parks and Wildlife Service

**MAP 2:
 WICKLOW HEAD SPA
 CONSERVATION OBJECTIVES
 OVERLAPPING AND ADJACENT SITES**

Map to be read in conjunction with the NPWS Conservation Objectives Document

**SITE CODE:
 SPA 004127; version 3
 CO. WICKLOW**

0 1.25 2.5 5 Kilometres



The mapped boundaries are of an indicative and general nature only. Boundaries of designated areas are subject to revision.
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Níl sna teorainneacha ar na léarscáileanna ach nod garshuíomhach ginearálta. Féadfar athbhreithnithe a déanamh ar theorainneacha na gceantar comharthaithe. © Folaíonn sé rannán Náisiúnta Mapála de shonraí Tailte Éireann arna atáirgeadh faoin rannán mapála Náisiúnta d'úimhir cheadúnais Tailte Éireann CYAL50351092



**Map version 1
 Date: May 2024**

Appendix M: Rathlin SPA 2015

RATHLIN ISLAND - SPECIAL PROTECTION AREA (SPA)

UK9020011

CONSERVATION OBJECTIVES

Document Details

Title	Rathlin Island SPA Conservation Objectives
Prepared By	██████████
Approved By	<i>Mark Wright</i>
Date Effective From	<i>01/04/2015</i>
Version Number	<i>V3</i>
Next Review Date	January 2020
Contact	██████@doeni.gov.uk

Revision History:

Version	Date	Summary of Changes	Initials	Changes Marked
V1	25/02/1999	Internal working document	IE	
V1.1	August 2013	Review	IE	
V2.0	February 2015	Draft	IE	Complete review

Site relationship

To fully understand the site conservation requirements for this site it may be necessary to also refer to other site Conservation Objectives

This SPA coincides with Rathlin Island SAC

See also Boundary Rationale

1. INTRODUCTION

EU Member States have a clear responsibility under the Habitats and Birds Directives¹ to ensure that all habitats and species of Community Interest are maintained or restored to Favourable Conservation Status (FCS). Natura 2000 sites have a crucial role to play in achieving this overall objective since they are the most important core sites for these species and habitats. Each site must therefore be managed in a way that ensures it contributes as effectively as possible to helping the species and habitats for which it has been designated reach a favourable conservation status within the EU.

To ensure that each Natura 2000 site contributes fully to reaching this overall target of FCS, it is important to set clear conservation objectives for each individual site. These should define the desired state, within that particular site, of each of the species and habitat types for which the site was designated.

Once a site has been included in the Natura 2000 network, Member States are required to implement, on each site, the necessary conservation measures which correspond to the ecological requirements of the protected habitat types and species of Community Interest present, according to Article 6.1 of the Habitats Directive. They must also prevent any damaging activities that could significantly disturb those species and habitats (Article 6.2) and to protect the site from new potentially damaging plans and projects likely to have a significant effect on a Natura 2000 site (Article 6.3, 6.4).

Conservation measures can include both site-specific measures (i.e. management actions and/or management restrictions) and horizontal measures that apply to many Natura 2000 sites over a larger area (e.g. measures to reduce nitrate pollution or to regulate hunting or resource use).

In Northern Ireland, terrestrial/inter-tidal Natura 2000 sites are usually underpinned by the designation of an Area of Special Scientific Interest (ASSI) under the Environment (NI) Order 2002 (as amended).

2. ROLE OF CONSERVATION OBJECTIVES

Conservation Objectives have a role in

- Conservation Planning and Management – guide management of sites, to maintain or restore the habitats and species in favourable condition
- Assessing Plans and Projects, as required under Article 6(3) of the Habitats Directive - Habitats Regulations Assessments (HRA) are required to assess proposed plans and projects in light of the site's conservation objectives.
- Monitoring and Reporting – Provide the basis for assessing the condition of a feature, the factors that affect it and the actions required.

¹ 92/43/EEC and 2009/147/EC (codified version of Directive 79/409/EEC as amended)

3. DEFINITION OF FAVOURABLE CONSERVATION STATUS

Favourable Conservation Status is defined in Articles 1(e) and 1(i) of the Habitats Directive:

The conservation status of a natural habitat is the sum of the influences acting on it and its typical species that may affect its long-term natural distribution, structure and functions as well as the long term survival of its typical species. The conservation status of a natural habitat will be taken as favourable when:

- Its natural range and areas it covers within that range are stable or increasing, and
- The specific structure and functions which are necessary for its long-term maintenance exist and are likely to continue to exist for the foreseeable future, and
- The conservation status of its typical species is favourable as defined in Article 1(i).

For species, favourable conservation status is defined in Article 1(i) as when:

- population dynamics data on the species concerned indicate that it is maintaining itself on a long-term basis as a viable component of its natural habitats, and;
- the natural range of the species is neither being reduced nor is likely to be reduced for the foreseeable future, and;
- there is, and will probably continue to be, a sufficiently large habitat to maintain its population on a long term basis.

3.1 DEFINITION OF FAVOURABLE CONDITION

Favourable Condition is defined as “**the target condition for an interest feature in terms of the abundance, distribution and/or quality of that feature within the site**”.

The standards for favourable condition (Common Standards) have been developed by JNCC and are applied throughout the UK. Achieving Favourable Condition on individual sites will make an important contribution to achieving Favourable Conservation Status across the Natura 2000 network.

REVIEW OF THE ADJOINING MARINE AREA WILL BE INFORMED BY JNCC GUIDANCE ON MARINE EXTENSIONS TO SEABIRD COLONIES. ANY CHANGES, IF ANY, ARE LIKELY TO BE MINIMAL.

CONSERVATION OBJECTIVES WILL BE REVISED AS THIS ISSUE PROGRESSES

4 GENERAL INFORMATION

COUNTY: Antrim

G.R. Rathlin Island SPA D127 507 AREA: 3344.62 ha.

G.R. Rathlin Island Cliffs SPA D136 525 AREA: 257 ha.

5 SUMMARY SITE DESCRIPTION

The site comprises the major sea-cliffs around Rathlin Island. The basalt and limestone cliffs are principally important for the seabird colonies, most notably around the area of West Light, but also along sections of the north coast. This extensive habitat also supports a notable breeding population of Peregrine.

5.1 BOUNDARY RATIONALE

The cliffs lie within the Rathlin Island Coast ASSI. The landward boundary has generally been taken to the clifftop except where small units of semi-natural vegetation, mainly comprising maritime heath and grassland, immediately adjoin the cliff-top. The sea area has been included for seabirds. Such areas adjoining colonies are of particular importance for courtship, preening and loafing behaviours, and also, to a lesser extent, feeding.

6 SPA SELECTION FEATURES

Feature Type (i.e. habitat or species)	Feature	Population ¹	Population at time of designation (ASSI)	Population at time of designation (SPA)	SPA Review population
Species	Peregrine Falcon breeding population ^a	6 pairs (Five year mean 1992-96)		6 pairs	6
Species	Guillemot breeding population ^a	95,567 individuals		41887 inds.	28064 pairs
Species	Razorbill breeding population ^a	20,860 individuals		8922 inds.	5978 pairs
Species	Kittiwake breeding population ^a	9,917 Apparently Occupied Nests		6822 pairs	6822 pairs
Assemblage species	Fulmar breeding population ^d	2,032 Apparently Occupied Nests		1482 pairs	1482 pairs
Assemblage species	Common Gull breeding population ^d	91 Apparently Occupied Nests		64 pairs	64 pairs
Assemblage species	Lesser Black-backed Gull breeding population ^d	127 Apparently Occupied Nests		155 pairs	155 pairs
Assemblage species	Herring Gull breeding population ^d	14 Apparently Occupied Nests		4037 pairs	4037 pairs
Assemblage species	Puffin breeding population ^d	1,579 individuals		2398 inds.	2398 inds.
Species assemblage	Seabird Assemblage breeding population ^a (Component species: Guillemot, Razorbill, Kittiwake, Fulmar, Common Gull, Lesser Black-backed Gull, Herring Gull, , Puffin)	142,268 individuals		66000 inds.	66000 inds.
Habitat ²	Habitat extent				

Table 1. List of SPA selection features.

¹ Population given as number of pairs / individuals recorded during the Seabird 2000 survey (except where stated). These figures differ from the designation populations given in the SPA citation (which were taken from the 1985 Seafarer survey) but are considered to be more relevant to future monitoring. The 1985 and 2000 figures are not directly comparable due to differences in survey methods.

² Habitat is not a selection feature but is a factor and is more easily treated as if it were a feature. Habitat extent is used for breeding birds reported as linear extent for cliff sites.

Notes on SPA features – may not be applicable to all SPAs

The above table lists all relevant qualifying species for this site. As the identification of SPA features has and continues to evolve, species may have different status but all should be considered in the context of any HRA process. Ultimately all SPAs will be renotified to formalise species features.

^a – species cited in current SPA citation and listed on current N2K dataform

^b – species selected post SPA designation through UK SPA Review 2001

^c – species highlighted as additional qualifying features through the UK SPA Review 2015 or the UK marine SPA programmes.

^d – component species contributing to the assemblage feature i.e. not features in their own right but treated as such due to relationship with assemblage feature

6.1 ADDITIONAL ASSI SELECTION FEATURES

Feature Type (i.e. habitat, species or earth science)	Feature	Size/ extent/ pop'
See SAC conservation objectives for ASSI feature details		

Table 2. List of ASSI features, additional to those that form all or part of SPA selection features. These will be referred to in ANNEX II.

7 CONSERVATION OBJECTIVES

The Conservation Objectives for this site are:

To maintain each feature in favourable condition.

For each feature there are a number of component objectives which are outlined in the tables below. Component objectives for Additional ASSI Selection Features are not yet complete. For each feature there are a series of attributes and measures which form the basis of *Condition Assessment*. The results of this will determine whether a feature is in favourable condition, or not. The feature attributes and measures are found in the attached annexes.

8 RATHLIN ISLAND SPA CONDITION ASSESSMENT 2014

Species	1985	2000	2007	2011	CSM	5 yr mean	% CSM	Status
Peregrine	6	5	3	5	6	4	66.67	Unfavourable
Razorbill	8922	20860	10684	22975	8922	16829.5	188.63	Favourable
Guillemot	41887	95567	81303	130445	41887	105874	252.76	Favourable
Kittiwake	6822	9917	9896	7922	6822	8909	130.59	Favourable
Seabird Assemblage	66000	142268	115217	174305	66000	144761	219.33	Favourable

9 SPA SELECTION FEATURE OBJECTIVES

To maintain or enhance the population of the qualifying species

- Fledging success sufficient to maintain or enhance population
 To maintain or enhance the range of habitats utilised by the qualifying species
 To ensure that the integrity of the site is maintained;
 To ensure there is no significant disturbance of the species and
 To ensure that the following are maintained in the long term:
- Population of the species as a viable component of the site
 - Distribution of the species within site
 - Distribution and extent of habitats supporting the species
 - Structure, function and supporting processes of habitats supporting the species

Feature	Component Objective
Peregrine Falcon breeding population	As above
Peregrine Falcon breeding population	Fledging success sufficient to maintain or enhance population
Guillemot breeding population	As above
Guillemot breeding population	Fledging success sufficient to maintain or enhance population
Razorbill breeding population	As above
Razorbill breeding population	Fledging success sufficient to maintain or enhance population
Fulmar breeding population	As above
Fulmar breeding population	Fledging success sufficient to maintain or enhance population
Common Gull breeding population	As above
Common Gull breeding population	Fledging success sufficient to maintain or enhance population
Lesser Black-backed Gull breeding population	As above
Lesser Black-backed Gull breeding population	Fledging success sufficient to maintain or enhance population
Herring Gull breeding population	As above
Herring Gull breeding population	Fledging success sufficient to maintain or enhance population
Kittiwake breeding population	As above
Kittiwake breeding population	Fledging success sufficient to maintain or enhance population
Puffin breeding population	As above
Puffin breeding population	Fledging success sufficient to maintain or enhance population
Seabird Assemblage breeding population	No significant decrease in population against national trends
Seabird Assemblage breeding population	Maintain species diversity contributing to the breeding seabird assemblage
Habitat	To maintain or enhance the area of natural and semi-natural habitats used or potentially usable by Feature bird species subject to natural processes

Table 4. List of SPA Selection Feature Component Objectives

9.1 ADDITIONAL ASSI SELECTION FEATURE OBJECTIVES

Feature	Component Objective
See SAC conservation objectives for ASSI feature details	

Table 5. List of Additional ASSI Selection Feature Objectives

10 MANAGEMENT CONSIDERATIONS

See also Views About Management for relevant ASSI

Owner/Occupier's – At time of designation there were three major landowners within the Rathlin Island Cliffs SPA. These were the Crown Estate Commissioners (CEC) who own the area of land between high and low water mark together with much of the seabed, the Department of Environment for Northern Ireland, (DoE (NI)) and the Royal Society for the Protection of Birds (RSPB).

At time of designation there were nine other smaller landowners within the SPA, the majority of which are local residents. There were a further ten people who own land solely within the Rathlin Island Coast ASSI. A number of stacks and small islands are situated around the coast and ownership of these is assigned to the adjacent folio owner.

11. MAIN THREATS, PRESSURES, ACTIVITIES WITH IMPACTS ON THE SITE OR SITE FEATURES

Notifiable Operations - Carrying out any of the Notifiable Operations listed in the schedule could affect the site. The list below is not exhaustive, but deals with the most likely factors that are either affecting Rathlin Island SPA, or could affect it in the future. Although, features 1, 2, 3, 4 etc, are the qualifying SPA features, factors affecting ASSI features are also considered.

Site/feature management issues

No	Issue	Threat/comments	Local considerations	Action
6	Boating activity – commercial	Disturbance and potential for impact.	Limited activity. Regular ferry. Not thought to be a significant problem.	Formal consultation likely relating to new schemes. Consider the collective impact.
7	Boating activity – recreational	Disturbance and potential for impact especially from jet skis and other fast boats. Generally relevant to particularly sensitive areas within site.	Increasing issue with anecdotal evidence of actual disturbance and fatalities through impact.	Liaise with appropriate authority with codes of good practice, zoning and use of by-laws as necessary. Consider the collective impact.
14	Fishing – commercial or recreational	Minimal disturbance consideration but may represent 'competition' for piscivorous birds. Represents a net loss to the system in terms of biomass.	Limited commercial fishing from NI based boats – pressure from other boats is unknown.	Liaise with DARD and fishing authority as required. Liaise with angling clubs as required.
19	Habitat extent and quality-breeding	Alteration of habitat area or quality through inappropriate use or absence of site management.	Seacliffs predominate and are only subject to natural processes. Site includes sea area – past pollution incidents	Assess needs of breeding species. Liaise with owner or appropriate authority to adjust or introduce site management if necessary. Liaise with Environmental Protection as required with

No	Issue	Threat/comments	Local considerations	Action
			have occurred in area.	regard to water quality issues and pollution incidents.
23	Predation	Mainly of concern on bird breeding sites. Issue of alien invasive species (ferrets, rats etc) likely to be an issue – consistent decline (Puffins) and probable local extinction (Manx Shearwater) may indicate that this is an issue.	This mainly from birds of prey, which should be viewed as part of the sites natural condition.	Alien species must be dealt with as part of wider countryside management considerations. Carry out appropriate site management.
24	Recreational activities	Disturbance is the main consideration. Apart from disturbance of birds themselves, breeding birds, especially seabirds, are vulnerable to disturbance as absence of adults can often result in predation or chilling of young with a reduction/loss in fledging success.	Managed reserve facilitates visitors but does not exert any pressure on the birds. Potential issue with development of wider path network through nature reserve especially	Liaise with local authorities and other managing parties.
25	Research activities	Census and ringing activities especially have the potential to impact on bird populations, particularly at breeding sites.	Routine seabird and other census work undertaken.	Census and ringing activities to be undertaken by competent individuals, appropriately trained. In case of ringers, appropriate license must be held.

Table 3. List of site/feature management issues

12 MONITORING

Monitoring of our Special Protection Areas takes place at a number of levels, using a variety of methods. Methods for both Site Integrity Monitoring and Condition Assessment can be found in the Monitoring Handbook (To be written).

In addition, detailed quality monitoring or verification monitoring may be carried out from time to time to check whether condition assessment is adequate to detect long-term changes that could affect the site. This type of quality monitoring may involve assessment of aerial photographs to determine site morphological changes. Methodology for this is being developed.

12.1 MONITORING SUMMARY

1. Monitor the integrity of the site (Site Integrity Monitoring or SIM) – to ensure compliance with the SPA/ASSI schedule and identify likely processes of change (e.g. dumping, disturbance, increases in rat population). This SIM should be carried out once a year.

2. Monitor the condition of the site (Condition Assessment) - Monitor the key attributes for each selection feature (species, assemblage, habitat, etc). This will detect

if the features are in favourable condition or not. See Annexes I and II for SPA and Additional ASSI Features respectively.

The favourable condition table provided in Annex 1 is intended to supplement the conservation objectives only in relation to management of established and ongoing activities and future reporting requirements on monitoring condition of the site and its features. It does not by itself provide a comprehensive basis on which to assess plans and projects, but it does provide a basis to inform the scope and nature of any appropriate assessment that may be needed. It should be noted that appropriate assessments are a separate activity to condition monitoring, requiring consideration of issues specific to individual plans or projects.

12.2 ADDITIONAL MONITORING ACTIONS UNDERTAKEN FOR SITES IN UNFAVOURABLE CONDITION

Monitoring actions set out in section 6 and Annex 1 will use, amongst other attributes, bird population data to determine site condition. In the event of a significant population decline being detected, a series of subsequent actions will be initiated. The following list is not exhaustive, actions will be site dependant, but the order of these points IS hierarchical i.e. consider point 1, then 2, etc.

1. Assess the site population in a wider geographical context – Northern Ireland, Ireland, UK, world. Refer to BTO ALERT limits etc. Liaise with other competent bodies to meaningfully assess wider pattern. No site action if site decline mirrors regional pattern the cause of which is not related to the site. Action may be required at regional or larger scale. If the cause of the regional population decline (e.g. eutrophication) is found at the site then action may be necessary, but this may need to form part of a network of strategic species action. Further research may be required.
2. Assess the site population in a wider geographical context – Northern Ireland, Ireland, UK, Europe, world. Determine if site losses are balanced by gains elsewhere e.g. breeding terns. Review site condition to determine if losses are due to site deterioration. Determine if possible whether population has relocated within SPA series (national, biogeographical, European). Note that the reasons for such locational changes may not be readily identifiable. Further research may be required.
3. For passage/wintering species assess breeding information. No site action if site decline is due to breeding ground failure, unless breeding ground failure is related to poor adult condition resulting from factors affecting wintering / passage birds.
4. Determine whether a major incident has affected the site e.g. toxic impact on prey items, predation event or geographical shift in available prey. Ability to respond to impacts may be limited.
5. Assess condition of principal site habitats e.g. vegetational composition and structure, change in habitat balance e.g. mudflats reduced by encroaching mussel beds.
6. Assess prey availability. Issues to consider are both within site e.g. water quality, broad site management, and without site e.g. climatically driven factors.

7. Assess whether there have been any changes in any other site features or management practices (see Table 3) that may have affected populations of site selection features.
8. Long-term site value must be considered even when it is found to be in unfavourable condition for a number of reporting cycles. This is particularly important for breeding seabird and wader sites where ongoing appropriate management may ultimately encourage re-establishment of a favourable population.

13 SELECTION FEATURE POPULATION TRENDS

A summary statement of site population trends, together with wider geographical trends. Date of completion is given as well as information sources used. Site trends are not reported as data from the two most recent surveys, in 2000 and 1985, is not directly comparable due to differences in survey methods. Information on other trends is generally limited, especially for the period covering the last ten-fifteen years, but a summary of any available trend information is given (see also note 1).

SPECIES	SITE TREND	NI TREND ¹	IRISH TREND ¹	UK TREND ¹	COMMENTS
Peregrine (Breeding)	Data unavailable	Data unavailable	Data unavailable	76% increase 1981-1991 (BTO/JNCC/RSPB/ Raptor Study Group surveys)	
Guillemot (Breeding)	Data unavailable	Data unavailable	Data unavailable	Population 'doubled' between 1969-70 and 1985-87 surveys	
Razorbill (Breeding)	Data unavailable	Data unavailable	Data unavailable	No discernible trend between 1969-70 and 1985-87 surveys	
Fulmar (Breeding)	Data unavailable	Data unavailable	Data unavailable (but see UK trend information)	524% increase in Britain and Ireland between 1949 and 1985-87 (per SPA review)	
Common Gull (Breeding)	Data unavailable	Data unavailable	Data unavailable	No complete census data	
Lesser Black-backed Gull (Breeding)	Data unavailable	Data unavailable	29% increase between 1969-70 and 1985-87 surveys	29% increase between 1969-70 and 1985-87 surveys	
Herring Gull (Breeding)	Data unavailable	'Increased' between 1969-70 and 1985-87 surveys	'Decreased' between 1969-70 and 1985-87 surveys	36% decline between 1969-70 and 1985-87 surveys	
Kittiwake (Breeding)	Data unavailable	'Increased' between 1969-70 and 1985-87 surveys	Data unavailable	20% increase between 1969-70 and 1985-87 surveys	
Puffin (Breeding)	Data unavailable	Data unavailable	Data unavailable	No discernible trend between 1969-70 and 1985-87 surveys	

SPECIES	SITE TREND	NI TREND¹	IRISH TREND¹	UK TREND¹	COMMENTS
Seabird Assemblage (Component species: Fulmar, Common Gull, Lesser Black-backed Gull, Herring Gull, Kittiwake, Guillemot, Razorbill, Puffin)	Data unavailable	N/a	N/a	N/a	

¹ UK, Northern Ireland and Ireland trend information for seabirds is based on the 1969-70 and 1985-87 national surveys (per SPA Review), except where stated. Seabird 2000 data is not yet available for more up-to-date comparison. Note however there are differences in survey methods and coverage between the two surveys and trends must therefore be treated with caution.

ANNEX I

Feature (SPA) –Breeding birds of prey

* = primary attribute. One failure among primary attribute = unfavourable condition

= optional factors – these can be in unfavourable condition without the site being in unfavourable condition

Attribute	Measure	Targets	Comments
*Peregrine Falcon breeding population	Annual count of occupied nest sites (see Gilbert <i>et al.</i> 1998). Calculate new five year running mean (2005 onwards). Plot running five-year means.	No significant decrease in population against national trends	Site condition favourable if: 5 yr mean greater than 3 (i.e. within 50% of designation population) or 5 yr mean is above minimum historical count
# Fledging success	Annual productivity surveys (see Gilbert <i>et al.</i> 1998). Determine number of fledged young. Calculate productivity as the total number of young fledged divided by the number of occupied nest sites nests.	Site condition favourable if: Mean of one chick fledges per pair ¹	Present condition not known - productivity data unavailable

¹ Mean productivity across UK is 1.28 young / pair (BTO/JNCC/RSPB/Raptor Study Group survey 1991)

Feature (SPA) – Breeding seabirds

* = primary attribute. One failure among primary attribute = unfavourable condition

= optional factors – these can be in unfavourable condition without the site being in unfavourable condition

Attribute	Measure	Targets	Comments
* Guillemot breeding population	Survey as per Seabird 2000 methodology (see also Gilbert <i>et al.</i> 1998). Calculate new population mean	No significant decrease in population against national trends	Requirement that data is collected once every reporting cycle. Mean population greater than 47,784 (i.e. within 50% of 2000 population) or above minimum historical count
# Fledging success	Annual productivity surveys (see Gilbert <i>et al.</i> 1998)	Site condition favourable if: Mean of 0.7 chicks fledge per pair, each year.	Appropriate level of fledgling survival to be determined
* Razorbill breeding population	Survey as per Seabird 2000 methodology (see also Gilbert <i>et al.</i> 1998). Calculate new population mean	No significant decrease in population against national trends	Requirement that data is collected once every reporting cycle. Mean population greater than 10,430 (i.e. within 50% of 2000 population) or above minimum historical count
# Fledging success	Annual productivity surveys (see Gilbert <i>et al.</i> 1998)	Site condition favourable if: Mean of 0.7 chicks fledge per pair, each year.	Appropriate level of fledgling survival to be determined
# Fulmar breeding population	Survey as per Seabird 2000 methodology (see also Gilbert <i>et al.</i> 1998). Calculate new population mean	No significant decrease in population against national trends	Requirement that data is collected once every reporting cycle. Mean population greater than 1016 (i.e. within 50% of 2000 population) or above minimum historical count
# Common Gull breeding population	Survey as per Seabird 2000 methodology (see also Gilbert <i>et al.</i> 1998). Calculate new population mean	No significant decrease in population against national trends	Requirement that data is collected once every reporting cycle. Mean population greater than 46 (i.e. within 50% of 2000 population) or above minimum historical count
# Lesser Black-backed Gull breeding population	Survey as per Seabird 2000 methodology (see also Gilbert <i>et al.</i> 1998). Calculate new population mean	No significant decrease in population against national trends	Requirement that data is collected once every reporting cycle. Mean population greater than 64 (i.e. within 50% of 2000 population) or above minimum historical count
# Herring Gull breeding population	Survey as per Seabird 2000 methodology (see also Gilbert <i>et al.</i> 1998). Calculate new population mean	No significant decrease in population against national trends	Requirement that data is collected once every reporting cycle. Mean population greater than 7 (i.e. within 50% of 2000 population) or above minimum historical count
# Kittiwake breeding population	Survey as per Seabird 2000 methodology (see also Gilbert <i>et al.</i> 1998). Calculate new population mean	No significant decrease in population against national trends	Requirement that data is collected once every reporting cycle. Mean population greater than 4,959 (i.e. within 50% of 2000 population) or above minimum historical count
# Puffin breeding population	Survey as per Seabird 2000 methodology (see also Gilbert <i>et al.</i> 1998). Calculate new population mean	No significant decrease in population against national trends	Requirement that data is collected once every reporting cycle. Mean population greater than 790 (i.e. within 50% of 2000 population) or above minimum historical count

* Seabird assemblage breeding population	Survey as per Seabird 2000 methodology (see also Gilbert <i>et al.</i> 1998). Calculate new population mean	No significant decrease in population against national trends	Requirement that data is collected once every reporting cycle. Mean population greater than 71,134 (i.e. within 50% of designation population).or above minimum historical count
* Seabird assemblage breeding population	Species diversity	Maintain species diversity contributing to the Seabird Assemblage	

Non-Avian Factors - habitat

Attribute	Measure	Targets	Comments
* Habitat extent	Extent of natural and semi-natural habitat	Maintain the extent of natural and semi-natural habitats used by notified species, within the SPA, subject to natural processes.	Monitor linear cliff length utilised by breeding seabirds

ANNEX II

Feature (ASSI) –

= primary attribute. One failure among primary attribute = unfavourable condition

= optional factors – these can be in unfavourable condition without the site being in unfavourable condition

Attribute	Measure	Targets	Comments
See SAC conservation objectives for ASSI feature details			

Appendix N: Forth Islands SPA

Conservation Objectives for Forth Islands Special Protection Area

To avoid deterioration of the habitats of the qualifying species (listed below) or significant disturbance to the qualifying species, thus ensuring that the integrity of the site is maintained; and

To ensure for the qualifying species that the following are maintained in the long term:

- Population of the species as a viable component of the site
- Distribution of the species within site
- Distribution and extent of habitats supporting the species
- Structure, function and supporting processes of habitats supporting the species
- No significant disturbance of the species

Qualifying Species:

- Arctic tern (*Sterna paradisaea*)
- Common tern (*Sterna hirundo*)
- Cormorant (*Phalacrocorax carbo*)*
- Gannet (*Morus bassanus*)
- Guillemot (*Uria aalge*)*
- Herring gull (*Larus argentatus*)*
- Kittiwake (*Rissa tridactyla*)*
- Lesser black-backed gull (*Larus fuscus*)
- Puffin (*Fratercula arctica*)
- Razorbill (*Alca torda*)*
- Roseate tern (*Sterna dougallii*)
- Sandwich tern (*Sterna sandvicensis*)
- Shag (*Phalacrocorax aristotelis*)

- Seabird assemblage

* indicates assemblage qualifier only

The site overlaps with Isle of May Special Area of Conservation

Appendix O: Flamborough and Filey Coast SPA

**European Site Conservation Objectives for
Flamborough Head and Bempton Cliffs Special
Protection Area
Site Code: UK9006101**



With regard to the SPA and the individual species and/or assemblage of species for which the site has been classified (the 'Qualifying Features' listed below), and subject to natural change;

Ensure that the integrity of the site is maintained or restored as appropriate, and ensure that the site contributes to achieving the aims of the Wild Birds Directive, by maintaining or restoring;

- **The extent and distribution of the habitats of the qualifying features**
- **The structure and function of the habitats of the qualifying features**
- **The supporting processes on which the habitats of the qualifying features rely**
- **The population of each of the qualifying features, and,**
- **The distribution of the qualifying features within the site.**

This document should be read in conjunction with the accompanying *Supplementary Advice* document, which provides more detailed advice and information to enable the application and achievement of the Objectives set out above.

Qualifying Features:

A188 *Rissa tridactyla*; Black-legged kittiwake (Breeding)

Explanatory Notes: European Site Conservation Objectives

These Conservation Objectives are those referred to in the Conservation of Habitats and Species Regulations 2017 (as amended) ('the Habitats Regulations'). They must be considered when a competent authority is required to make a 'Habitats Regulations Assessment' including an Appropriate Assessment, under the relevant parts of this legislation.

These Conservation Objectives, and the accompanying Supplementary Advice (where this is available), will also provide a framework to inform the management of the European Site and the prevention of deterioration of habitats and significant disturbance of its qualifying features

These Conservation Objectives are set for each bird feature for a [Special Protection Area \(SPA\)](#).

Where these objectives are being met, the site will be considered to exhibit a high degree of integrity and to be contributing to achieving the aims of the Wild Birds Directive.

Publication date: 21 February 2019 (version 3). This document updates and replaces an earlier version dated 30 June 2014 to reflect the consolidation of the Habitats Regulations in 2017.

Appendix P: Skomer. Skokholm SPA

**CYNGOR CEFN GWLAD CYMRU
COUNTRYSIDE COUNCIL FOR WALES**

**CORE MANAGEMENT PLAN
INCLUDING CONSERVATION OBJECTIVES**

FOR

**SKOMER AND SKOKHOLM SPA
(SPECIAL PROTECTION AREA)**

Version: 6

Date: 2 April 2008

Approved by: Tracey Lovering

A Welsh version of all or part of this document can be made available on request.



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PREFACE

This document provides the main elements of CCW's management plan for the site named. It sets out what needs to be achieved on the site, the results of monitoring and advice on the action required. This document is made available through CCW's web site and may be revised in response to changing circumstances or new information. This is a technical document that supplements summary information on the web site.

One of the key functions of this document is to provide CCW's statement of the Conservation Objectives for the relevant Natura 2000 site. This is required to implement the Conservation (Natural Habitats, &c.) Regulations 1994, as amended (Section 4). As a matter of Welsh Assembly Government Policy, the provisions of those regulations are also to be applied to Ramsar sites in Wales.

1. VISION FOR THE SITE

This is a descriptive overview of what needs to be achieved for conservation on the site. It brings together and summarises the Conservation Objectives (part 4) into a single, integrated statement about the site.

The maritime cliff and crevice communities, and the littoral rock communities will be present in those areas where they occur naturally around the periphery of the islands. These communities and habitats tend to be self-maintaining and do not require active intervention. Maritime grassland will be restricted to the more seaward extremities of the islands. The sward will be open and mainly close-cropped but with occasional hummocks and occasional areas of bare ground. The sward species composition will be much modified by a combination of rabbit grazing and disturbance and/or nutrient enrichment by the thousands of seabirds, and will be dominated by species characteristic of this habitat, including thrift, often found in hummocks, red fescue, sea campion, and spring squill. Bracken, scrub and Yorkshire fog will be restricted in cover.

The nationally rare and scarce plants on Skomer, including the Red Data Book species three-lobed crowfoot *Ranunculus tripartitus* and golden hair lichen *Teloschistes flavicans*, will be maintained. Objectives for each species will be developed with advice from the local BSBI recorder, and CCW specialists.

CCW's aim for the grey seal populations on the islands will be to continue to contribute towards maintaining the West Wales population.

The Skomer vole, endemic to Skomer, is strongly associated with bracken and therefore the retention of sufficient areas of bracken will be crucial to the maintenance of this species in favourable conservation status. There will be at least 15,000 individuals present every 10 years when sampled using the method as outlined by Dr. T Healing in 1992.

The populations of qualifying SPA features: chough, short-eared owl, storm petrel, lesser black backed gull, Manx shearwater and puffin, together with razorbill, guillemot, kittiwake, will meet the targets set out in their individual conservation objectives.

Vegetation of variable structure together with a much-indented and variable coastline will provide a good variety of microclimates for the numerous invertebrates that have been recorded on the island. More work will be required on the island's invertebrates and their habitat requirements before objectives can be set.

2. SITE DESCRIPTION

2.1 Area and Designations Covered by this Plan

Grid references: Skomer Island (centre) SM724094
Middleholm Island (centre) SM 746090
Skokholm Island (centre) SM 736050

Unitary authority: Pembrokeshire Coast National Park

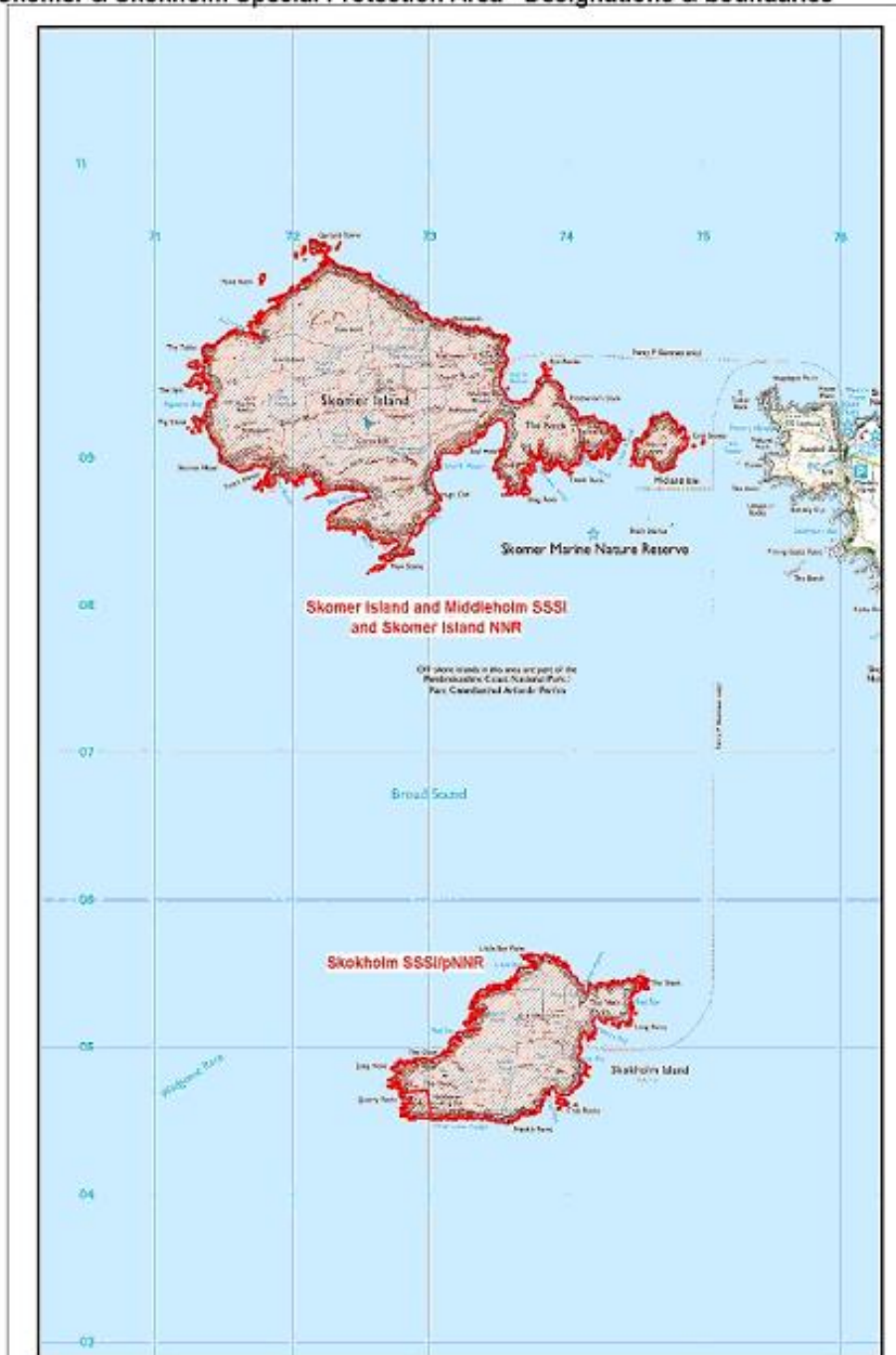
Area (hectares): 427.71

Designations covered: Skokholm SSSI
Skomer Island and Middleholm SSSI
Skomer Island NNR
Skokholm pNNR
Pembrokeshire Marine SAC (intertidal sections)
Skomer Marine Nature reserve (to HAT)

Detailed maps of the designated sites are available through CCW's web site:

A summary map showing the coverage of this document is shown below

Skomer & Skokholm Special Protection Area - Designations & boundaries



2.2 Outline Description

Skomer Island is owned by the Countryside Council for Wales (CCW) and leased to the Wildlife Trust, South and West Wales (WTSWW). The foreshore around both Skomer and Middleholm is leased to CCW from the Crown Estate. Middleholm is owned by the National Trust. Skomer Island down to Mean Low Water Mark, and the foreshore around Middleholm, is designated as a National Nature Reserve. The foreshore from Highest Astronomical Tide (HAT) seawards is included within Skomer Marine Nature Reserve. The foreshore and the cliff faces are also included within Pembrokeshire Marine/Sir Benfro Fôrol Special Area for Conservation (SAC) for its reef and grey seal features, and for otter, an occasional visitor to the islands. Skomer Island and Middleholm are part of the Skomer and Skokholm Special Protection Area (SPA).

Skokholm Island is owned mainly by the WTSWW, except for a small area around the lighthouse that is owned by Trinity house Lighthouse Service. The foreshore (up to MHW) is also included within Pembrokeshire Marine/Sir Benfro Fôrol Special Area for Conservation (SAC) for its reef and grey seal features. Skokholm form the remaining part of the Skomer and Skokholm Special Protection Area (SPA).

The site as a whole is of special interest for its breeding seabird colonies, in particular for Manx shearwater *Puffinus puffinus*, puffin *Fratercula arctica*, storm petrel *Hydrobates pelagicus*, razorbill *Alca torda*, guillemot *Uria aalge*, lesser black-backed gull *Larus fuscus*, kittiwake *Rissa tridactyla*, as well as for breeding chough *Pyrrhocorax pyrrhocorax* and short-eared owl *Asio flammeus*. Skomer and Skokholm islands are part of the National Seabird Monitoring Programme, and as a result there is considerable research, monitoring and surveillance effort undertaken here, which allows us to monitor and report back on a good range of attributes of these species, including breeding productivity, and survival rates. Grey seal *Halichoerus grypus* regularly use the site to haul-out and/or breed. The endemic Skomer vole *Clethrionomys glareolus skomerensis* also breeds on Skomer Island, and a number of nationally rare and scarce plants and lichens occur including three-lobed crowfoot *Ranunculus tripartitus* the scheduled golden hair lichen *Teloschistes flavicans* and an assemblage of nationally scarce lichens.

2.3 Outline of Past and Current Management

The islands' flora and fauna have been created and maintained by a combination of traditional farming methods such as grazing and mowing (and to a lesser extent, burning), and by natural processes such as exposure to wind, salt spray, waves, and drought conditions. The many thousands of seabirds which use the islands have also contributed to the vegetation types and species present, principally through disturbance, or through the deposition of guano, both of which has resulted in local nutrient enrichment. The majority of present day management is directed towards the management of visitors and visitor facilities such as footpaths. There is some vegetation management including bracken control but, for the most part, these habitats are maintained by natural processes. Habitat and species management tends to be restricted to scything, hand pulling, 'bruising' and brush cutting of bracken along all path edges, rabbit exclosures and other small areas, and occasional use of Asulam for chemical bracken control where mechanical control is problematic. Maintenance of the rabbit exclosures is on-going.

2.4 Management Units

The plan area has been divided into management units to enable practical communication about features, objectives, and management. This will also allow us to differentiate between the different designations where necessary. In this plan the management units have been based on tenure. Detailed maps showing the management units referred to in this plan are attached.

The following tables confirm the relationships between the management units and the designations covered:

Unit 1	Skokholm separate ownership unit. SPA
Unit 2	Skokholm separate ownership unit. SPA and marine SAC overlap. SPA extends down to MLWM, marine SAC extends up to top of cliff
Unit 3	Skokholm main island. SPA
Unit 4	Skokholm main island. SPA and marine SAC overlap. SPA extends down to MLWM, marine SAC extends up to top of cliff
Unit 5	Skomer. SPA
Unit 6	Skomer. SPA and marine SAC overlap. SPA extends down to MLWM, marine SAC extends up to top of cliff
Unit 7	Middleholm. SPA
Unit 8	Middleholm. SPA and marine SAC overlap. SPA extends down to MLWM, marine SAC extends up to top of cliff
Unit 9	Middleholm. SPA, marine SAC and MNR overlap. SPA extends down to MLWM, marine SAC extends up to top of cliff, MNR extends up to HAT.
Unit 10	Skomer. SPA, marine SAC and MNR overlap. SPA extends down to MLWM, marine SAC extends up to top of cliff, MNR extends up to HAT

Unit number	SPA	SSSI	Marine SAC	CCW owned	NT owned	MNR	NNR	pNNR
Skokholm SSSI								
1	✓	✓						✓
2	✓	✓	✓					✓
3	✓	✓						✓
4	✓	✓	✓					✓
Skomer Island and Middleholm SSSI								
5	✓	✓	✓	✓		✓	✓	
6	✓	✓	✓	✓			✓	
7	✓	✓			✓			
8	✓	✓	✓				✓	
9	✓	✓	✓			✓	✓	
10	✓	✓	✓	✓		✓	✓	

3. THE SPECIAL FEATURES

3.1 Confirmation of Special Features

<i>Designated feature</i>	<i>Relationships, nomenclature etc</i>	<i>Conservation Objective in part 4</i>
<i>SAC features</i>		
<i>Reef, grey seal, otter</i>	Dealt with in the Pembrokeshire Marine SAC Regulation 33 package	
<i>SPA features</i>		
Populations of European importance of the following species listed on Annex I of the Directive:		
Chough <i>Pyrrhocorax pyrrhocorax</i>	SPA & SSSI feature	4.1
Short-eared owl <i>Asio flammeus</i>	SPA & SSSI feature	4.2
Storm petrel <i>Hydrobates pelagicus</i>	SPA & SSSI feature	4.3
Populations of European importance of the following migratory species:		
Lesser black-backed gull <i>Larus fuscus</i>	SPA & SSSI feature	4.4
Manx shearwater <i>Puffinus puffinus</i>	SPA & SSSI feature	4.5
Puffin <i>Fratercula arctica</i>	SPA & SSSI feature	4.6
Assemblage qualification: Seabird assemblage of international importance including:		
Razorbill <i>Alca torda</i> Guillemot <i>Uria aalge</i> , Kittiwake <i>Rissa tridactyla</i> Puffin <i>Fratercula arctica</i> Lesser black-backed gull <i>Larus fuscus</i> Manx shearwater <i>Puffinus puffinus</i> Storm petrel <i>Hydrobates pelagicus</i>	During the breeding season, the area regularly supports 67,278 individual seabirds (Count period ongoing). This assemblage is an SPA feature, not an SSSI feature. However, the individual members of the assemblage are all independently qualifying SSSI features, and the site also qualifies as an SSSI since there is a total of more than 10,000 breeding seabirds.	4.7
<i>Ramsar features</i>		
Not applicable		
<i>SSSI features</i>		
SSSI features have not been included in this management plan as some features do not yet have conservation objectives whilst others are currently or soon to be the subject of monitoring contracts to develop objectives. Other SSSI features are also SAC features and do not require separate SSSI conservation objectives. It is likely that most of the management for SAC features will be sympathetic to these SSSI features.		
Maritime cliff and crevice communities		

Coastal Grassland		
Coastal heathland		
Flushes, springs and standing water		
Bracken/acid grassland		
Marshy grassland		
Wet heath		
Golden hair lichen <i>Teloschistes flavicans</i>		
Lichen <i>Parmelia tinctoria</i>		
Grey Seal <i>Halichoerus grypus</i>	Marine SAC feature -see Reg. 33	
Skomer Vole <i>Clethrionomys glareolus skomerensis</i>		
Storm petrel <i>Hydrobates pelagicus</i>	SPA feature	
Manx shearwater <i>Puffinus puffinus</i>	SPA feature,	
Razorbill <i>Alca torda</i>	SPA feature	
Puffin <i>Fratercula arctica</i>	SPA feature	
Guillemot <i>Uria aalge</i>	SPA feature	
Lesser black-backed gull <i>Larus fuscus</i>	SPA feature	
Kittiwake <i>Rissa tridactyla</i>	SPA feature	
Chough <i>Pyrrhocorax pyrrhocorax</i>	SPA feature	
Short-eared owl <i>Asio flammeus</i>	SPA feature	
Seabird assemblage		
Assemblages of RDB and Nationally Scarce lichens		
Assemblage of RDB and/or Nationally Scarce vascular plants		
Coastal invertebrate assemblage		
Littoral rock	Marine SAC feature	
Surge gullies	Marine SAC feature	
Silurian igneous rock		

3.2 Special Features and Management Units

This section sets out the relationship between the special features and each management unit. This is intended to provide a clear statement about what each unit should be managed for, taking into account the varied needs of the different special features. All special features are allocated to one of seven classes in each management unit. These classes are:

Key Features

KH - a 'Key Habitat' in the management unit, i.e. the habitat that is the main focus of management and monitoring effort, perhaps because of the dependence of a key species (see KS below). There will rarely be more than one Key Habitat in a unit.

KS – a 'Key Species' in the management unit, often driving both the selection and management of a Key Habitat.

Geo – an earth science feature that is the main focus of management and monitoring effort in a unit.

Other Features

Sym - habitats, species and earth science features that are of importance in a unit but are not the main focus of management or monitoring. These features will benefit from management for the key feature(s) identified in the unit. These may be classed as 'Sym' features because:

- a) they are present in the unit but are of less conservation importance than the key feature; and/or
- b) they are present in the unit but in small areas/numbers, with the bulk of the feature in other units of the site; and/or
- c) their requirements are broader than and compatible with the management needs of the key feature(s).

Nm - an infrequently used category where features are at risk of decline within a unit as a result of meeting the management needs of the key feature(s), i.e. under Negative Management. These cases will usually be compensated for by management elsewhere in the plan, and can be used where minor occurrences of a feature would otherwise lead to apparent conflict with another key feature in a unit.

Mn - Management units with no special feature present but which are of importance for management of features elsewhere on a site e.g. livestock over-wintering area included within designation boundaries.

x – Features not present in the management unit.

The table below sets out the relationship between the special features and management units identified in this plan:

Skomer and Skokholm SPA	Management unit									
	Skokholm Island SSSI					Skomer Island and Middleholm SSSI				
	1	2	3	4	5	6	7	8	9	10
SPA	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
SAC		✓		✓		✓		✓	✓	✓
SSSI	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
NNR/CCW owned	pNNR	pNNR	pNNR	pNNR	✓	✓		✓	✓	✓
MNR									✓	✓
SPA features										
Chough <i>Pyrhocorax pyrrhocorax</i>	KS	*	KS	*	KS		KS	*	*	*
Short-eared owl <i>Asio flammeus</i>	KS		KS		KS		KS			
Storm petrel <i>Hydrobates pelagicus</i>	KS		KS		KS		KS			
Lesser black-backed gull <i>Larus fuscus</i>	KS		KS		KS		KS			
Manx shearwater <i>Puffinus puffinus</i>	KS		KS		KS		KS			
Puffin <i>Fratercula arctica</i>	KS		KS		KS		KS			
Assemblage qualification: A seabird assemblage of international importance.	KS		KS		KS		KS			
SSSI features										
Maritime cliff and crevice communities										
Coastal grassland	KH		KH		KH		KH			
Coastal heathland	KH		KH		KH		KH			
Flushes, springs and standing water										
Bracken/acid grassland										
Marshy grassland										
Wet heath										
Golden hair lichen <i>Teloschistes flavicans</i>										
Lichen <i>Parmelia tinctoria</i>										
Grey seal <i>Halichoerus grypus</i>										
Skomer vole <i>Clethrionomys glareolus skomerensis</i>										
Storm petrel <i>Hydrobates pelagicus</i>										
Manx shearwater <i>Puffinus puffinus</i>										
Razorbill <i>Alca torda</i>										
Puffin <i>Fratercula arctica</i>										
Guillemot <i>Uria aalge</i>										

Lesser black-backed gull <i>Larus fuscus</i>										
Kittiwake <i>Rissa tridactyla</i>										
Chough <i>Pyrhocorax pyrrhocorax</i>										
Short-eared owl <i>Asio flammeus</i>										
Seabird assemblage										
Assemblages of RDB and Nationally Scarce lichens										
Assemblage of RDB and/or Nationally Scarce vascular plants										
Coastal invertebrate assemblage										
Littoral rock		*		*		*		*	*	*
Surge gullies		*		*		*		*	*	*
Silurian igneous rock										

***See Pembrokeshire Marine SAC plan**

4. CONSERVATION OBJECTIVES

Background to Conservation Objectives:

a. Outline of the legal context and purpose of conservation objectives.

Conservation objectives are required by the 1992 'Habitats' Directive (92/43/EEC). The aim of the Habitats Directives is the maintenance, or where appropriate the restoration of the 'favourable conservation status' of habitats and species features for which SACs and SPAs are designated (see Box 1).

In the broadest terms, 'favourable conservation status' means a feature is in satisfactory condition and all the things needed to keep it that way are in place for the foreseeable future. CCW considers that the concept of favourable conservation status provides a practical and legally robust basis for conservation objectives for Natura 2000 and Ramsar sites.

Box 1

Favourable conservation status as defined in Articles 1(e) and 1(i) of the Habitats Directive

“The conservation status of a natural habitat is the sum of the influences acting on it and its typical species that may affect its long-term natural distribution, structure and functions as well as the long term survival of its typical species. The conservation status of a natural habitat will be taken as favourable when:

- Its natural range and areas it covers within that range are stable or increasing, and
- The specific structure and functions which are necessary for its long-term maintenance exist and are likely to continue to exist for the foreseeable future, and
- The conservation status of its typical species is favourable.

The conservation status of a species is the sum of the influences acting on the species that may affect the long-term distribution and abundance of its populations. The conservation status will be taken as 'favourable' when:

- population dynamics data on the species indicate that it is maintaining itself on a long-term basis as a viable component of its natural habitats, and
- the natural range of the species is neither being reduced nor is likely to be reduced for the foreseeable future, and
- There is, and will probably continue to be, a sufficiently large habitat to maintain its populations on a long-term basis.”

Achieving these objectives requires appropriate management and the control of factors that may cause deterioration of habitats or significant disturbance to species.

As well as the overall function of communication, conservation objectives have a number of specific roles:

- Conservation planning and management.

The conservation objectives guide management of sites, to maintain or restore the habitats and species in favourable condition.

- Assessing plans and projects.

Article 6(3) of the ‘Habitats’ Directive requires appropriate assessment of proposed plans and projects against a site's conservation objectives. Subject to certain exceptions, plans or projects may not proceed unless it is established that they will not adversely affect the integrity of sites. This role for testing plans and projects also applies to the review of existing decisions and consents.

- Monitoring and reporting.

The conservation objectives provide the basis for assessing the condition of a feature and the status of factors that affect it. CCW uses ‘performance indicators’ within the conservation objectives, as the basis for monitoring and reporting. Performance indicators are selected to provide useful information about the condition of a feature and the factors that affect it.

The conservation objectives in this document reflect CCW’s current information and understanding of the site and its features and their importance in an international context. The conservation objectives are subject to review by CCW in light of new knowledge.

b. Format of the conservation objectives

There is one conservation objective for each feature listed in part 3. Each conservation objective is a composite statement representing a site-specific description of what is considered to be the favourable conservation status of the feature. These statements apply to a whole feature as it occurs within the whole plan area, although section 3.2 sets out their relevance to individual management units.

Each conservation objective consists of the following two elements:

1. Vision for the feature
2. Performance indicators

As a result of the general practice developed and agreed within the UK Conservation Agencies, conservation objectives include performance indicators, the selection of which should be informed by JNCC guidance on Common Standards Monitoring¹.

There is a critical need for clarity over the role of performance indicators within the conservation objectives. **A conservation objective, because it includes the vision for the feature, has meaning and substance independently of the performance indicators, and is more than the sum of the performance indicators.** The performance indicators are simply what make the conservation objectives measurable, and are thus part of, not a substitute for, the conservation objectives. Any feature attribute identified in the performance indicators should be represented in the vision for the feature, but not all elements of the vision for the feature will necessarily have corresponding performance indicators.

As well as describing the aspirations for the condition of the feature, the Vision section of each conservation objective contains a statement that the factors necessary to maintain those desired conditions are under control. Subject to technical, practical and resource constraints, factors which have an important influence on the condition of the feature are identified in the performance indicators.

¹ Available through www.jncc.gov.uk and follow links to Protected Sites and Common Standards Monitoring.

4.1 Conservation Objective for Feature 1: Chough *Pyrrhocorax pyrrhocorax*

Vision for feature 1

The vision for this feature is for it to be in a favourable conservation status, where all of the following conditions are satisfied:

- The Skomer breeding population will be at least 3 pairs
- The Skokholm breeding population will be at least 1 pair
- The SPA breeding population will be 4 pairs, (this currently represents around 5 % of the Pembrokeshire chough population and 1.2% of the GB population)
- Breeding success will be 1.5 chicks/pair
- Sufficient suitable habitat will be present to support the populations
- The factors affecting the feature are under control

Performance indicators for Feature 1

The performance indicators are part of the conservation objective, not a substitute for it. Assessment of plans and projects must be based on the entire conservation objective, not just the performance indicators.

<i>Performance indicators for feature condition</i>		
<i>Attribute</i>	<i>Attribute rationale and other comments</i>	<i>Specified limits</i>
A1. Breeding population	Based on performance indicators and targets as set out in Skomer Island SSSI management plan (part 5), Skokholm Island management statement and SPA review site account.	<i>Upper limit:</i> None set <i>Lower limit:</i> To contribute towards maintaining the chough population in a favourable condition where, in 3 out of 5 consecutive years: <ul style="list-style-type: none"> • The Skomer breeding population is at least 3 pairs • The Skokholm breeding population is at least 1 pair
A2. Breeding productivity	Based on performance indicators and targets as set out in Skomer Island SSSI management plan and Skokholm Island management statement	<i>Upper limit:</i> None set <i>Lower limit:</i> To contribute towards the maintenance of the chough population in a favourable condition where, in 3 out of 5 consecutive years: <ul style="list-style-type: none"> • Breeding success is at least 1.5 chick/pair
<i>Performance indicators for factors affecting the feature</i>		
<i>Factor</i>	<i>Factor rationale and other comments</i>	<i>Operational Limits</i>
F1. Disturbance	Based on performance indicators and targets as set out in Skomer Island SSSI management plan and Skokholm Island management statement	<i>Upper limit:</i> there will be no unauthorised access away from the footpaths <i>Lower limit:</i> None set
F2. Foraging habitat condition	Feeding choughs require short-sward and invertebrate-rich habitats. The maintenance of Rabbits grazing and areas of bare earth, particularly amongst the coastal grassland is important on Skomer.	Existing forage areas both within and outside the SSSI will be maintained as being suitable for the chough as appropriate.

4.2 Conservation Objective for Feature 2: Short-eared owl *Asio flammeus*

Vision for feature 2

The vision for this feature is for it to be in a favourable conservation status, where all of the following conditions are satisfied:

- The breeding population will be at least 6 pairs
- Breeding success will be at least 1 chicks/pair
- Sufficient suitable habitat will be present to support the populations
- The factors affecting the feature are under control

Performance indicators for Feature 2

The performance indicators are part of the conservation objective, not a substitute for it. Assessment of plans and projects must be based on the entire conservation objective, not just the performance indicators.

<i>Performance indicators for feature condition</i>		
<i>Attribute</i>	<i>Attribute rationale and other comments</i>	<i>Specified limits</i>
A1. Breeding population size	Based on performance indicators and targets as set out in Skomer Island SSSI management plan (part 5).	<i>Upper limit:</i> None set <i>Lower limit:</i> To contribute towards the maintenance of the short-eared owl population in a favourable condition where, in 3 out of 5 consecutive years: <ul style="list-style-type: none"> • The Skomer breeding population is 6 pairs
A3. Availability of nest sites	Current distribution records are being followed up, will be digitised and specified limits will follow as appropriate.	To be developed.
<i>Performance indicators for factors affecting the feature</i>		
<i>Factor</i>	<i>Factor rationale and other comments</i>	<i>Operational Limits</i>
F1. Disturbance	Based on performance indicators and targets as set out in Skomer Island SSSI management plan.	<i>Upper limit:</i> Skomer: there will be no unauthorised access away from the footpaths <i>Lower limit:</i> None set
F2. Prey availability	Based on performance indicators as set out in Skomer Island SSSI management plan. Targets apply only to Skomer Island.	<i>Upper limit:</i> None set <i>Lower limit:</i> Skomer Island only: The density of voles should be: <ul style="list-style-type: none"> • In Grid C (high density) is 370/ha (5 yr mean) • In Grid E (low density) is 30/ha (5 yr mean) • Wood mice should be present in Grid C.

4.3 Conservation Objective for Feature 3: Storm petrel *Hydrobates pelagicus*

Vision for feature 3

The vision for this feature is for it to be in a favourable conservation status, where all of the following conditions are satisfied:

- The population of storm petrel will be at least 3500 pairs within the SPA,
- Sufficient suitable nesting sites will be present to support at least the current populations
- The factors affecting the feature are under control

NB. Breeding success is not examined in this species due to its sensitivity to disturbance

Performance indicators for Feature 3

The performance indicators are part of the conservation objective, not a substitute for it. Assessment of plans and projects must be based on the entire conservation objective, not just the performance indicators.

<i>Performance indicators for feature condition</i>		
<i>Attribute</i>	<i>Attribute rationale and other comments</i>	<i>Specified limits</i>
A1. Breeding population size	Based on SPA review site account.	<i>Upper limit:</i> None set <i>Lower limit:</i> The population of storm petrel should be at least 3500 pairs within the SPA,
A2. Breeding productivity	Not measured for this species because of their sensitivity to disturbance.	<i>Upper limit:</i> None set <i>Lower limit:</i> None set
A3. Availability of nest sites	Current distribution records are being followed up, will be digitised and specified limits will follow as appropriate.	To be developed.
<i>Performance indicators for factors affecting the feature</i>		
<i>Factor</i>	<i>Factor rationale and other comments</i>	<i>Operational Limits</i>
F1. Disturbance	Based on performance indicators and targets as set out in Skomer Island SSSI management plan and Skokholm Island management statement.	<i>Upper limit:</i> Whole SPA: there will be no unauthorised access away from the footpaths. <i>Lower limit:</i> None set
F2. Predators	Based on performance indicators and targets as set out in Skomer Island SSSI management plan and Skokholm Island management statement. Little owl targets apply only to Skomer Island.	<i>Upper limit:</i> There should be no mammalian land predators present in the SPA and there should be no more than 5 breeding pairs of little owl on Skomer. <i>Lower limit:</i> None set
F3. Food availability	Sufficient preferred fish species will need to be available to maintain breeding populations. Management of this factor needs to be undertaken at national/international level therefore limits have not been set.	N/A
F4. Oil Spill	Contingency plans are in place in West Wales area to ensure that response to any spill will take these species into account.	N/A

4.4 Conservation Objective for Feature 4: Lesser black-backed gull *Larus fuscus*

Vision for feature 4

The vision for this feature is for it to be in a favourable conservation status, where all of the following conditions are satisfied:

- During the breeding season the population of lesser black-backed gull will be at least 20,300 pairs within the SPA. This represents around 16.4% of the current breeding Western European/Mediterranean/western African population
- Breeding success will be at least 0.4 chicks/pair
- Sufficient suitable nesting sites will be present to support at least the current populations
- The factors affecting the feature are under control

Performance indicators for Feature 4

The performance indicators are part of the conservation objective, not a substitute for it. Assessment of plans and projects must be based on the entire conservation objective, not just the performance indicators.

<i>Performance indicators for feature condition</i>		
<i>Attribute</i>	<i>Attribute rationale and other comments</i>	<i>Specified limits</i>
A1. Population size	Based on SPA review site account.	<i>Upper limit:</i> None set <i>Lower limit:</i> During the breeding season the population of lesser black-backed gull should be at least 20,300 pairs within the SPA
A2. Adult survival rate	Based on performance indicators and targets as set out in Skomer Island SSSI management plan and Skokholm Island management statement.	<i>Upper limit:</i> None set <i>Lower limit:</i> Adult survival rates should be at least 80%
A3. Breeding productivity	Based on performance indicators and targets as set out in Skomer Island SSSI management plan and Skokholm Island management statement.	<i>Upper limit:</i> None set <i>Lower limit:</i> Breeding success rate should be at least 0.4 chicks per pair
A4. Availability of nest sites	Current distribution records are being followed up, will be digitised and specified limits will follow as appropriate.	<i>See also F3 below</i>
<i>Performance indicators for factors affecting the feature</i>		
<i>Factor</i>	<i>Factor rationale and other comments</i>	<i>Operational Limits</i>
F1. Disturbance	Based on performance indicators and targets as set out in Skomer Island SSSI management plan and Skokholm Island management statement.	<i>Upper limit:</i> there will be no unauthorised access away from the footpaths. <i>Lower limit:</i> None set
F2. Predators	Based on performance indicators and targets as set out in Skomer Island SSSI management plan and Skokholm Island management statement.	<i>Upper limit:</i> There should be no mammalian land predators present in the SPA <i>Lower limit:</i> None set

Performance indicators for factors affecting the feature (cont.d)		
Factor	Factor rationale and other comments	Operational Limits
F.3 Nest siting & distribution on heathland	Based on performance indicators as set out in Skomer Island SSSI management plan.	<i>Upper limit:</i> None set <i>Lower limit:</i> the distribution of breeding gulls will be allowed to develop, but there should be no lesser black-backed gulls successfully nesting in or within 2m of any of the heather enclosures.
F3. Food availability	Sufficient preferred fish species will need to be available to maintain breeding populations. Management of this factor needs to be undertaken at national/international level therefore limits have not been set.	N/A
F4. Oil spill	Contingency plans are in place in West Wales area to ensure that response to any spill will take these species into account.	N/A

4.5 Conservation Objective for Feature 5: Manx shearwater *Puffinus puffinus*

Vision for feature 5

The vision for this feature is for it to be in a favourable conservation status, where all of the following conditions are satisfied:

- During the breeding season the population of Manx shearwater will be at least 150,000 pairs within the SPA (this represents around half of the current breeding population).
- Breeding success will be at least 0.5 chicks per egg laid
- The factors affecting the feature are under control

Performance indicators for Feature 5

The performance indicators are part of the conservation objective, not a substitute for it. Assessment of plans and projects must be based on the entire conservation objective, not just the performance indicators.

<i>Performance indicators for feature condition</i>		
<i>Attribute</i>	<i>Attribute rationale and other comments</i>	<i>Specified limits</i>
A1. Population size	Based on SPA review site account.	<i>Upper limit:</i> None set <i>Lower limit:</i> During the breeding season the population of Manx shearwater should be at least 150,000 pairs within the SPA.
A2. Adult survival rate	Based on performance indicators and targets as set out in Skomer Island SSSI management plan and Skokholm Island management statement (Seabird Monitoring programme data)	<i>Upper limit:</i> None set <i>Lower limit:</i> Adult survival rates should be at least 85%
A3. Breeding productivity	Based on performance indicators and targets as set out in Skomer Island SSSI management plan and Skokholm Island management statement	<i>Upper limit:</i> None set <i>Lower limit:</i> The annual breeding success in 3 of any 5 consecutive years is 0.5 per egg laid.
<i>Performance indicators for factors affecting the feature</i>		
<i>Factor</i>	<i>Factor rationale and other comments</i>	<i>Operational Limits</i>
F1. Disturbance	Based on performance indicators and targets as set out in Skomer Island SSSI management plan and Skokholm Island management statement	<i>Upper limit:</i> there will be no unauthorised access away from the footpaths <i>Lower limit:</i> None set
F2. Predators	Based on performance indicators and targets as set out in Skomer Island SSSI management plan and Skokholm Island management statement	<i>Upper limit:</i> There should be no mammalian land predators present in the SPA <i>Lower limit:</i> None set
F3. Soil erosion	Based on performance indicators as set out in Skomer Island SSSI management plan. Targets apply only to Skomer Island. Since natural soil erosion is not something that can be controlled, this target relates to anthropogenic soil erosion (e.g. around footpaths etc)	<i>Upper limit:</i> Skomer only: Soil erosion should not exceed 0.5cm/year (See SSSI management plan for details) <i>Lower limit:</i> None set

Performance indicators for factors affecting the feature (cont.d)		
Factor	Factor rationale and other comments	Operational Limits
F4. Bracken distribution	Based on performance indicators as set out in Skomer Island SSSI management plan Targets apply only to Skomer Island.	<i>Upper limit:</i> Skomer only: Coastal bracken distribution will not exceed that in Bray 1981. (See SSSI management plan for details) <i>Lower limit:</i> None set
F3. Food availability	Sufficient preferred fish species will need to be available to maintain breeding populations. Management of this factor needs to be undertaken at national/international level therefore limits have not been set.	<i>N/a</i>
F4. Oil Spill	Contingency plans are in place in West Wales area to ensure that response to any spill will take these species into account.	<i>N/a</i>

4.6 Conservation Objective for Feature 6: Puffin *Fratercula arctica*

Vision for feature 6

The vision for this feature is for it to be in a favourable conservation status, where all of the following conditions are satisfied:

- During the breeding season the population of puffins will be at least 9,500 pairs within the SPA, (this represents at least 1.1% of the current breeding population)
- Breeding success will be 0.7 chicks/pair
- The factors affecting the feature are under control

Performance indicators for Feature 6

The performance indicators are part of the conservation objective, not a substitute for it. Assessment of plans and projects must be based on the entire conservation objective, not just the performance indicators.

Performance indicators for feature condition		
Attribute	Attribute rationale and other comments	Specified limits
A1. Population size	Based on SPA review site account.	<i>Upper limit:</i> None set <i>Lower limit:</i> During the breeding season the population of puffins should be at least 9,500 pairs within the SPA
A2. Adult survival rate	Based on performance indicators and targets as set out in Skomer Island SSSI management plan and Skokholm Island management statement.	<i>Upper limit:</i> None set <i>Lower limit:</i> Adult survival rates should be at least 84%
A3. Breeding productivity	Based on performance indicators and targets as set out in Skomer Island SSSI management plan and Skokholm Island management statement.	<i>Upper limit:</i> None set <i>Lower limit:</i> The annual breeding success in 3 of any 5 consecutive years is 0.7 per egg laid
Performance indicators for factors affecting the feature		
Factor	Factor rationale and other comments	Operational Limits
F1. Disturbance	Based on performance indicators and targets as set out in Skomer Island SSSI management plan and Skokholm Island management statement	<i>Upper limit:</i> there will be no unauthorised access away from the footpaths. <i>Lower limit:</i> None set
F2. Predators	Based on performance indicators and targets as set out in Skomer Island SSSI management plan and Skokholm Island management statement.	<i>Upper limit:</i> There should be no mammalian land predators present in the SPA. <i>Lower limit:</i> None set
F3. Food availability	Sufficient preferred fish species will need to be available to maintain breeding populations. Management of this factor needs to be undertaken at national/international level therefore limits have not been set.	N/A
F4. Oil Spill	Contingency plans are in place in West Wales area to ensure that response to any spill will take these species into account.	N/A

4.7 Conservation Objective for Feature 7: Assemblage qualification: A seabird assemblage of international importance.

Vision for feature 7

The vision for this feature is for it to be in a favourable conservation status, where all of the following conditions are satisfied:

- Each of the component species of the seabird assemblage will be in favourable condition for the assemblage as a whole to achieve Favourable Condition
- During the breeding season the SPA will regularly support at least 67,000 individual seabirds of the following species, most of which also qualify independently as SPA features:
 - Razorbill *Alca torda*
 - Guillemot *Uria aalge*
 - Kittiwake *Rissa tridactyla*
 - Puffin *Fratercula arctica*
 - Lesser black-backed gull *Larus fuscus*
 - Manx shearwater *Puffinus puffinus*
 - Storm petrel *Hydrobates pelagicus*

Performance indicators for Feature 7

The performance indicators are part of the conservation objective, not a substitute for it. Assessment of plans and projects must be based on the entire conservation objective, not just the performance indicators.

<i>Performance indicators for feature condition</i>		
<i>Attribute</i>	<i>Attribute rationale and other comments</i>	<i>Specified limits</i>
A1. Population size	Based on SPA review site account.	<i>Upper limit:</i> None set <i>Lower limit:</i> During the breeding season the SPA should regularly support at least 67,000 individual seabirds of the following species, all of which also qualify independently as SPA features: <ul style="list-style-type: none"> • Razorbill <i>Alca torda</i> • Guillemot <i>Uria aalge</i> • Kittiwake <i>Rissa tridactyla</i> • Puffin <i>Fratercula arctica</i> • Lesser black-backed gull <i>Larus fuscus</i> • Manx shearwater <i>Puffinus puffinus</i> • Storm petrel <i>Hydrobates pelagicus</i>
A2. Other attributes	There are a number of specific attributes relevant to individual species - see individual species Conservation Objectives.	<i>Upper limit:</i> See individual species targets <i>Lower limit:</i> See individual species targets.
<i>Performance indicators for factors affecting the feature</i>		
<i>Factor</i>	<i>Factor rationale and other comments</i>	<i>Operational Limits</i>
F1.	There are a number of specific factors relevant to individual species - see individual species Conservation Objectives.	<i>Upper limit:</i> See individual species targets <i>Lower limit:</i> See individual species targets.

5. ASSESSMENT OF CONSERVATION STATUS AND MANAGEMENT REQUIREMENTS

This part of the document provides:

- A summary of the assessment of the conservation status of each feature.
- A summary of the management issues that need to be addressed to maintain or restore each feature.

5.1 Conservation Status and Management Requirements of Feature 1: Chough *Pyrrhonorax pyrrhonorax*

Conservation Status of Feature 1

1-4 pairs have bred on Skomer, there were 3 in 1996, 5% of the Pembs populations. 1-2 pairs have bred on Skokholm. Breeding success has been within limits in recent years. The population is considered **FAVOURABLE MAINTAINED**.

Management Requirements of Feature 1

Chough feeding on Skomer and Skokholm is almost exclusively restricted to invertebrates on maritime cliffs and coastal grassland, although birds have been recorded on inland grassland. In the breeding season ants appear to be favoured (these are probably fed exclusively to nestlings, Meyer et al 1994). At other sites in West Wales beetles and dipterous larvae, especially tipulids, were found to be the predominant food. When invertebrate food is lean, dung fauna (which is limited on Skomer) is important. Cereal grain and winter stubbles are important in the winter.

Feeding choughs require short-sward and invertebrate-rich habitats. The maintenance of rabbit grazing and areas of bare earth, particularly amongst the coastal grassland is important on Skomer. Operational limits for rabbit grazing are based on current levels, this produces areas of short sward, but work is needed to see if this is an optimum condition.

There is an obvious need to consider the Pembs Chough Conservation Strategy. Amongst its broad policies the following are particularly pertinent; the continuation of monitoring and research programmes, mapping feeding areas (including outside the SPA), the provision of artificial nest sites where appropriate and land management. The first two are currently carried out however nest sites on Skomer are often inaccessible and have generally poor vantage points for nest observations. There has been no evidence of a shortage of nest sites in the SPA, but nest boxes will be considered if this was thought to be a limiting factor. The importance of management work on the Deer Park and at other sites on the Marloes Peninsula is recognised. There has been much discussion on land management on Skomer, notably the experimental ploughing of Calves Park could provide useful winter stubbles as well as potentially improving nesting habitat for ground nesting birds, which are also Features. Rabbit enclosure by fencing of the area is a prerequisite. Considerable management work is being undertaken on Ramsey to benefit chough and elsewhere in Wales. Liaison with relevant bodies will inform any land management decisions in the SPA.

A key role of island management is to limit human disturbance to breeding birds. The approach of visitors, staff and researchers to nest sites could cause disturbance.

5.2 Conservation Status and Management Requirements of Feature 2: Short-eared owl *Asio flammeus*

Conservation Status of Feature 2

Short-eared owls have bred on Skomer since at least the late 1900s. A pair bred from 1961-66. Since 1967 between 2-6 pairs have bred most years, but note there was no breeding in 1973 and 1974 and exceptional numbers of 14 (1993) and 9 pairs (1994). In 1997, 6 pairs bred. However, for the last 5 years, no more than 4 pairs have bred. The higher numbers from 1997 may reflect the level of effort at the time. Further survey and monitoring work needs to be undertaken of this species to ensure that the targets set for it accurately reflect the population. New monitoring Common Standard Monitoring methodology is being developed which should be considered for use here. At present, the population is considered **UNFAVOURABLE**.

Management Requirements of Feature 2

Breeding success can be difficult to determine and there is a risk that regular nest site visits could increase predation rates. Fledged birds can usually be identified by their darker faces, but a better assessment is to determine the number of chicks hissing from nest areas.

The population uses the island as a breeding site. It is subject to many external influences during and outside this period. Direct monitoring or surveillance of the Skomer breeding birds out of the breeding season is not possible. Despite ringing in the past there have been no recoveries to date. Owls are present in the winter but it has not been proved whether these are the breeding birds.

In the past short-eared owls appear to have used nest sites within heathland. Nests have been found in heather but also in dead bracken amongst bluebells. Food supply on the island is important, particularly small mammals. It has been estimated that owls may account for up to 25% of the voles and mice taken on Skomer each year, although rabbits also appear to form a proportion of prey. Data on the woodmouse population is obtained from the Vole monitoring Grid E. It is not ideal for mice studies but does provide an index of abundance.

A key role of island management is to limit human disturbance to breeding birds.

5.3 Conservation Status and Management Requirements of Feature 3: Storm petrel *Hydrobates pelagicus*

Conservation Status of Feature 3

The storm petrel population has been estimated using different methods since the 1960s and this makes meaningful comparison problematic. Some previous estimates were also made during July and August, and may have included prospecting non-breeders. Current work focuses on occupied sites, established by response to tape playback and site smell, although there are some inaccessible colonies that cannot be censused in this way. In 1996 some 69 occupied sites were identified. An additional 34 pairs were suggested from observations of inaccessible sites at night, using image intensification equipment. In c.1997, AOSs (apparently occupied sites) were identified. The overall population of c.100 pairs is certainly lower than most estimates in the past, although similar to that of James (1982). Certainly some colonies have disappeared since the 1960s, but the effect on the whole population is not known. Censusing methods mean that there is more concern over precise targets than for other features. There is some disagreement about whether storm petrels have declined substantially, it is the general view of the Management Plan Working Group (1997) that they had not. The feature appears to be within limits for Skomer, but Skokholm is not. This may be because the monitoring methods used on Skokholm have not been entirely successful. It is therefore for the moment considered **UNFAVOURABLE unclassified**.

Management Requirements of Feature 3

The population uses the island as a breeding site. It is subject to many external influences during and outside this period. There is interchange with the much larger population on Skokholm.

Food availability during the breeding season, in their wintering quarters (the waters off South Africa), and on passage to and from it, is of vital significance. Monitoring or surveillance of relevant fish stocks is highly problematic and complex. In the long-term it is essential that national management of fish stocks take seabirds into account. It would be possible to monitor food brought to chicks and it would be of interest to know whether chick growth on the island was normal. Such studies are probably more easily done on Skokholm.

The continued absence of mammalian land predators is fundamental.

An oil pollution incident during the breeding season could have a great impact on the adult population.

Predation by little owls may be locally significant although it may have been more so in the past and may vary between years. One pair of little owls were present 1960-64, then none until 1977 when two pairs bred. There have been 2-4 pairs since then (but 6 in 1985). Storm petrel remains have also been found in the pellets of short-eared owls. Predation by herring gulls can occur where they nest close to petrel colonies but is not significant island-wide.

A key role of island management is to limit human disturbance to breeding birds. The collapse of scree etc by visitors, staff and researchers away from the footpaths could cause damage to the breeding habitat (and be dangerous). Natural processes could damage but also create breeding habitat.

5.4 Conservation Status and Management Requirements of Feature 4: Lesser black-backed gull *Larus fuscus*

Conservation Status of Feature 4

The Skomer population has increased since 1946, dramatically so during the 1980s to a peak of over 20,000 pairs, as birds took advantage of increased fishery discards (Sutcliffe 1993). As this resource disappeared, breeding success fell and this has led to the current fall in the breeding population (to c.14, 300 pairs in 1997, with 111 AOTs on Middleholm). On Skokholm trends since the 1970s show a stable population in the early to mid 70s, an increase to a peak in the early 80s, and then a general gentle downward trend. The last 3 years adult numbers have increased again. Breeding success however remains low. Adult survival rates have not decreased. Its status is considered **UNFAVOURABLE no change**, since the lower limits set for breeding success have not been met on Skokholm.

Management Requirements of Feature 4

The population use the islands as a breeding site. It is subject to many external influences during and outside this period, which may be reflected in annual adult survival rates and productivity.

Food availability during the breeding season, in their wintering quarters (Spain, Portugal, Morocco and, increasingly, the UK), and on passage to and from it, is of vital significance. Direct monitoring or surveillance of relevant fish stocks is complex and problematic, and there is fundamental need for good data. Food supply during the breeding season will partly determine productivity. In the long-term it is essential that national management of fish stocks take seabirds into account.

Individual lesser black-backed gulls may practise cleptoparasitism of puffins and some may predate some pre-fledging puffin chicks outside the burrow, but this is not significant. Intra-specific predation can be high, particularly when a colony is disturbed. There is a relationship between bracken and lesser black-backed gull productivity. It is higher amongst bracken cover.

In the past there has been concern at the effects of high numbers of this species. The population on Skomer was controlled from 1981-87 and some 5000 adults were culled. Nesting sub-colonies can be very dense and few ground-nesting birds are found amongst them e.g. lapwing, curlew, meadow pipit, skylark, short-eared owl will be absent. Shearwaters may also be largely absent from regularly used gull sub-colonies. The gulls are considered a normal component of a healthy seabird colony. Academics suggest that upper limits on the numbers of gulls do not need to be set, although this is reviewed as populations or distribution changes or as other features are affected.

Gulls nesting in heather may cause considerable damage by trampling and eutrophication. When the population was expanding gulls favoured the edges of heather, if close to existing sub-colonies. Gull distribution is related to bracken distribution to some extent.

Breeding gulls are responsible for much of the eutrophication of the ponds and springs, but also a crucial factor on the presence and distribution of some lichen and lichen communities (including SSSI features), which depend upon guano enrichment.

The continued absence of mammalian land predators is important.

A key role of island management is to limit human disturbance to breeding birds.

5.5 Conservation Status and Management Requirements of Feature 5: Manx shearwater *Puffinus puffinus*

Conservation Status of Feature 5

The results of the 1994 Manx shearwater census revealed that between 10,808 and 11,288 birds successfully fledged from The Neck. It was concluded that there had been no evidence of any large change in the shearwater population on Skomer. Recent survival rates and breeding success on both Skokholm and Skomer, gauged from the study plot monitoring have been within limits. The condition of the population is **FAVOURABLE MAINTAINED**.

Management Requirements of Feature 5

The population uses the islands as a breeding site. It is subject to many external influences during and outside this period. Food availability and feeding conditions during the breeding season, in their wintering quarters (the waters off Brazil/Argentina/Uruguay), and on passage to and from it, is of vital significance. Direct monitoring or surveillance of relevant fish stocks is highly complex and problematic. It is difficult to monitor food brought to chicks. Annual survival rates and breeding success may reflect some of these factors to some extent. There is an international requirement for long term management of these feeding areas.

The size of the breeding population is useful information, but the resources needed to complete a whole island survey are significant, and it is not likely to be repeated regularly. Due to the large size and extent of the shearwater population, only that of a sample area is regularly estimated.

Predation by great black-backed gull can be high although evidence suggests a relatively low predation figure of 2% of adult shearwaters. This figure will clearly increase if the gull population increases. Shearwater remains have been recorded from 80-97% of all great black-backed gull nests monitored. There is a relatively large population of gulls on Middleholm that must also be taken into account. These predatory species are, of course, a normal component of a healthy seabird colony. Competition with puffins for good quality burrows occurs; although the situation is thought to be in balance with neither species having a great competitive advantage over the other. A radical increase in shearwater numbers may affect puffin numbers, although this appears unlikely. There is a relationship between rabbits and shearwaters in terms of burrow construction and usage, although Manx shearwaters do dig their own burrows. Rabbits may possibly be advantageous by keeping vegetation cropped around burrows. There may be a relationship between encroaching bracken and shearwater breeding success. Bracken has probably been present in the deep soil of the valleys for a considerable time. However there has been encroachment into some areas of coastal grassland, where there can also be a high density of shearwater burrows. Further investigation into the effects of bracken has been identified as a requirement.

A key role of island management is to limit human disturbance to breeding birds. The trampling of burrows by visitors, staff and researchers away from the footpaths could cause damage. Rafting birds at sea are vulnerable to water-borne human disturbance and oil pollution.

Natural processes (perhaps exacerbated by rabbit pressure) may lead to soil erosion, which may (in the long term) reduce breeding habitat. In the long-term, soil loss, particularly severe run-off, could alter the distribution of colonies.

Shearwater death from puffinosis is not thought to be significant. It could be monitored, but seems to be concentrated amongst fledglings. Egg collecting has been known to occur, but is a rare occurrence. Fire could have a serious effect on breeding shearwaters/chicks.

The continued absence of mammalian land predators is fundamental.

5.6 Conservation Status and Management Requirements of Feature 6: Puffin *Fratercula arctica*

Conservation Status of Feature 6

The population of this burrow nesting bird is difficult to assess. Population estimates since 1963 have been of c. 7000 pairs, but this may be an overestimate. This is much lower than estimates in the 1940s. Annual counts of birds on land and sea on spring evenings of known high attendance are the most appropriate. Survival rates have fallen since the 1970s, but the population is stable, suggesting substantial immigration. Recent survival rates and productivity has been average to high and all within limits. Although the population is now lower than at times in the past it is considered **FAVOURABLE MAINTAINED**.

Management Requirements of Feature 6

The population uses the islands as a breeding site. It is subject to many external influences during and outside this period, some of which will be reflected in annual adult survival rates. Food availability during the breeding season, in their wintering areas, and on passage to and from it, is of vital significance. Direct monitoring or surveillance of relevant fish stocks is complex and problematic. Food supply during the breeding season will partly determine productivity. In the long-term it is essential that national management of fish stocks take seabirds into account. Low input assessment on feeding rates is carried out for JNCC as part of the national monitoring programme.

Although shearwaters will arrive on Skomer and occupy burrow sites earlier than puffins this does not appear to significantly affect puffin productivity, as the two species appear to be in balance. Puffins are today confined to the coastal edge and so the impact, if any, of encroaching bracken on puffin breeding success is not considered significant.

The relationship between rabbits and puffins may be complex. Although puffins can dig their own burrows, on Skomer they have not been seen excavating their own, although they will clear out burrows when they return in spring. Rabbits will control vegetation succession on some slopes

Predation by great black-backed gulls occurs, but the current levels are not thought to be a major impact. None of the other predatory species (lesser black-backed gulls, peregrine, jackdaw) are thought to make a significant impact. These predatory species are, of course, a normal component of a healthy seabird colony.

A key role of island management is to limit human disturbance to breeding birds. The trampling of burrows by visitors, staff and researchers away from the footpaths could cause damage and in the long-term, soil loss, particularly severe run-off, could alter the distribution of colonies. Fire along the coastal edge during the breeding season could have major consequences to these burrow nesting birds.

The continued absence of mammalian land predators is fundamental. Puffins are also vulnerable to oil pollution incidents.

Further information of puffin distribution is needed. A small number of chicks are ringed each year by Edward Grey Institute (EGI), University of Oxford.

5.7 Conservation Status and Management Requirements of Feature 7: Assemblage qualification: A seabird assemblage of international importance.

Conservation Status of Feature 7

The condition of the seabird assemblage is **UNFAVOURABLE unclassified** since both storm petrel and lesser black-backed gulls are considered to be in Unfavourable condition, as reported above.

Management Requirements of Feature 7

The populations use the island as a breeding site. They are subject to many external influences during and outside this period. Direct monitoring or surveillance of the populations out of the breeding season is impossible.

Food availability during the breeding season, in the wintering quarters, and on passage to and from them, is of vital significance. Direct monitoring or surveillance of relevant fish stocks is highly problematic and complex. Food availability during the breeding season will partially determine productivity.

A key role of island management is to limit human disturbance to breeding birds and the continued absence of mammalian land predators is fundamental.

There are some specific factors relevant to individual species; soil erosion and burrow nesting birds, possible effects of bracken encroachment into coastal grassland on shearwaters, lesser black-backed gulls and heathland, little owl predation on storm petrels etc. These factors are dealt with in the individual species management requirement sections.

6. ACTION PLAN: SUMMARY

This section takes the management requirements outlined in Section 5 a stage further, assessing the specific management actions required on each management unit. This information is a summary of that held in CCW's Actions Database for sites, and the database will be used by CCW and partner organisations to plan future work to meet the Wales Environment Strategy targets for sites.

Unit Number	CCW Database Number	Unit Name	Summary of Conservation Management Issues	Action needed?
1	000823	Trinity House	Wildlife Trust management takes account of all SPA/ SAC features. No outstanding management issues.	No
3	000824	Skokholm (main island)	Wildlife Trust management takes account of all SPA/ SAC features. No outstanding management issues.	No
5	000825	Skomer Island	Wildlife Trust management takes account of all SPA/ SAC features. No outstanding management issues.	No
7	000826	Middleholm Island	Wildlife Trust management takes account of all SPA/SAC features. No outstanding management issues.	No
2	002369	Trinity House SPA/SAC overlap	This unit is considered to be under appropriate conservation management.	No
4	002370	Skokholm SPA/SAC overlap	This unit is considered to be under appropriate conservation management.	No
6	002371	Skomer SPA/SAC overlap	This unit is considered to be under appropriate conservation management.	No
8	002372	Middleholm SPA/SAC overlap	This unit is considered to be under appropriate conservation management.	No
10	002783	Skomer SPA/SAC/MNR overlap	This unit is considered to be under appropriate conservation management.	No
9	002784	Middleholm SPA/SAC/MNR	This unit is considered to be under appropriate conservation management.	No

7. GLOSSARY

This glossary defines some of the terms used in this **Core Management Plan**. Some of the definitions are based on definitions contained in other documents, including legislation and other publications of CCW and the UK nature conservation agencies. None of these definitions is legally definitive.

Action	A recognisable and individually described act, undertaking or project of any kind, specified in section 6 of a Core Management Plan or Management Plan , as being required for the conservation management of a site.
Attribute	A quantifiable and monitorable characteristic of a feature that, in combination with other such attributes, describes its condition .
Common Standards Monitoring	A set of principles developed jointly by the UK conservation agencies to help ensure a consistent approach to monitoring and reporting on the features of sites designated for nature conservation, supported by guidance on identification of attributes and monitoring methodologies.
Condition	A description of the state of a feature in terms of qualities or attributes that are relevant in a nature conservation context. For example the condition of a habitat usually includes its extent and species composition and might also include aspects of its ecological functioning, spatial distribution and so on. The condition of a species population usually includes its total size and might also include its age structure, productivity, relationship to other populations and spatial distribution. Aspects of the habitat(s) on which a species population depends may also be considered as attributes of its condition.
Condition assessment	The process of characterising the condition of a feature with particular reference to whether the aspirations for its condition, as expressed in its conservation objective , are being met.
Condition categories	The condition of feature can be categorised, following condition assessment as one of the following ² : Favourable: maintained; Favourable: recovered; Favourable: un-classified Unfavourable: recovering; Unfavourable: no change; Unfavourable: declining; Unfavourable: un-classified Partially destroyed; Destroyed.

² See JNCC guidance on Common Standards Monitoring <http://www.jncc.gov.uk/page-2272>

- Conservation management** Acts or undertaking of all kinds, including but not necessarily limited to **actions**, taken with the aim of achieving the **conservation objectives** of a site. Conservation management includes the taking of statutory and non-statutory measures, it can include the acts of any party and it may take place outside site boundaries as well as within sites. Conservation management may also be embedded within other frameworks for land/sea management carried out for purposes other than achieving the conservation objectives.
- Conservation objective** The expression of the desired **conservation status** of a **feature**, expressed as a **vision for the feature** and a series of **performance indicators**. The conservation objective for a feature is thus a composite statement, and each feature has one conservation objective.
- Conservation status** A description of the state of a **feature** that comprises both its **condition** and the state of the **factors** affecting or likely to affect it. Conservation status is thus a characterisation of both the current state of a feature and its future prospects.
- Conservation status assessment** The process of characterising the **conservation status** of a **feature** with particular reference to whether the aspirations for it, as expressed in its **conservation objective**, are being met. The results of conservation status assessment can be summarised either as ‘favourable’ (i.e. conservation objectives are met) or unfavourable (i.e. conservation objectives are not met). However the value of conservation status assessment in terms of supporting decisions about **conservation management**, lies mainly in the details of the assessment of feature **condition**, **factors** and trend information derived from comparisons between current and previous conservation status assessments and condition assessments.
- Core Management Plan** A CCW document containing the conservation objectives for a site and a summary of other information contained in a full site **Management Plan**.
- Factor** Anything that has influenced, is influencing or may influence the **condition** of a **feature**. Factors can be natural processes, human activities or effects arising from natural process or human activities, They can be positive or negative in terms of their influence on features, and they can arise within a site or from outside the site. Physical, socio-economic or legal constraints on **conservation management** can also be considered as factors.
- Favourable condition** See **condition** and **condition assessment**

- Favourable conservation status** See **conservation status** and **conservation status assessment**.³
- Feature** The species population, habitat type or other entity for which a site is designated. The ecological or geological interest which justifies the designation of a site and which is the focus of conservation management.
- Integrity** See **site integrity**
- Key Feature** The habitat or species population within a **management unit** that is the primary focus of **conservation management** and **monitoring** in that unit.
- Management Plan** The full expression of a designated site's legal status, **vision**, **features**, **conservation objectives**, **performance indicators** and management requirements. A complete management plan may not reside in a single document, but may be contained in a number of documents (including in particular **the Core Management Plan**) and sets of electronically stored information.
- Management Unit** An area within a site, defined according to one or more of a range of criteria, such as topography, location of **features**, tenure, patterns of land/sea use. The key characteristic of management units is to reflect the spatial scale at which **conservation management** and **monitoring** can be most effectively organised. They are used as the primary basis for differentiating priorities for conservation management and monitoring in different parts of a site, and for facilitating communication with those responsible for management of different parts of a site.
- Monitoring** An intermittent (regular or irregular) series of observations in time, carried out to show the extent of compliance with a formulated standard or degree of deviation from an expected norm. In **Common Standards Monitoring**, the formulated standard is the quantified expression of favourable **condition** based on **attributes**.
- Operational limits** The levels or values within which a **factor** is considered to be acceptable in terms of its influence on a **feature**. A factor may have both upper and lower operational limits, or only an upper limit or lower limit. For some factors an upper limit may be zero.
- Performance indicators** The **attributes** and their associated **specified limits**, together with **factors** and their associated **operational limits**, which provide the standard against which information from **monitoring** and other sources is used to determine the degree to which the **conservation objectives** for a **feature** are being met. Performance indicators are part of, not the same as, conservation objectives. See also **vision for the feature**.

³ A full definition of favourable conservation status is given in Section 4.

Plan or project	<p>Project: Any form of construction work, installation, development or other intervention in the environment, the carrying out or continuance of which is subject to a decision by any public body or statutory undertaker.</p> <p>Plan: a document prepared or adopted by a public body or statutory undertaker, intended to influence decisions on the carrying out of projects.</p> <p>Decisions on plans and projects which affect Natura 2000 and Ramsar sites are subject to specific legal and policy procedures.</p>
Site integrity	The coherence of a site's ecological structure and function, across its whole area, that enables it to sustain the habitat, complex of habitats and/or the levels of populations of the species for which it is designated.
Site Management Statement (SMS)	The document containing CCW's views about the management of a site issued as part of the legal notification of an SSSI under section 28(4) of the Wildlife and Countryside Act 1981, as substituted.
Special Feature	See feature .
Specified limit	The levels or values for an attribute which define the degree to which the attribute can fluctuate without creating cause for concern about the condition of the feature . The range within the limits corresponds to favourable, the range outside the limits corresponds to unfavourable. Attributes may have lower specified limits, upper specified limits, or both.
Unit	See management unit .
Vision for the feature	The expression, within a conservation objective , of the aspirations for the feature concerned. See also performance indicators .
Vision Statement	The statement conveying an impression of the whole site in the state that is intended to be the product of its conservation management . A 'pen portrait' outlining the conditions that should prevail when all the conservation objectives are met. A description of the site as it would be when all the features are in favourable condition .

8. REFERENCES

Skomer Management Plan (2004 draft update – unpublished)
Skokholm Management Plan (2007 draft update – unpublished)
Skomer and Skokholm annual reports – various up to 2007
Pembrokeshire Marine Regulation 33 advice
Pembrokeshire Marine SAC management scheme

NB: Other more extensive references and bibliographies can be found in the management plans which are being redrafted.

Appendix Q: North Colonsay and Western Cliffs SPA

**Conservation Objectives for North Colonsay and Western Cliffs
Special Protection Area**

To avoid deterioration of the habitats of the qualifying species (listed below) or significant disturbance to the qualifying species, thus ensuring that the integrity of the site is maintained; and

To ensure for the qualifying species that the following are maintained in the long term:

- **Population of the species as a viable component of the site**
- **Distribution of the species within site**
- **Distribution and extent of habitats supporting the species**
- **Structure, function and supporting processes of habitats supporting the species**
- **No significant disturbance of the species**

Qualifying Species:

- Chough (*Pyrrhocorax pyrrhocorax*)
- Guillemot (*Uria aalge*)*
- Kittiwake (*Rissa tridactyla*)*

- Seabird assemblage

* indicates assemblage qualifier only

Appendix R: Grassholm SPA

**CYNGOR CEFN GWLAD CYMRU
COUNTRYSIDE COUNCIL FOR WALES**

**CORE MANAGEMENT PLAN
INCLUDING CONSERVATION OBJECTIVES
FOR
GRASSHOLM SPA**

Version: 2

Date: 8 April 2008

Approved by: Tracey Lovering

A Welsh version of all or part of this document can be made available on request.



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PREFACE

This document provides the main elements of CCW's management plan for the site named. It sets out what needs to be achieved on the site, the results of monitoring and advice on the action required. This document is made available through CCW's web site and may be revised in response to changing circumstances or new information. This is a technical document that supplements summary information on the web site.

One of the key functions of this document is to provide CCW's statement of the Conservation Objectives for the relevant Natura 2000 site. This is required to implement the Conservation (Natural Habitats, &c.) Regulations 1994, as amended (Section 4). As a matter of Welsh Assembly Government Policy, the provisions of those regulations are also to be applied to Ramsar sites in Wales.

1. VISION FOR THE SITE

This is a descriptive overview of what needs to be achieved for conservation on the site. It brings together and summarises the Conservation Objectives (part 4) into a single, integrated statement about the site.

CCW's aim for the gannet colony is to see it contribute towards maintaining the North Atlantic gannet population in favourable conservation status. The population on Grassholm should not fall below 30,000 pairs in three consecutive years, nor should it drop by more than 25% of the previous year's figures in any one year. There should be no decline in the Grassholm/Ynys Gwales population which is significantly more than any decline in the North Atlantic population as a whole.

2. SITE DESCRIPTION

2.1 Area and Designations Covered by this Plan

Grid references: SM598093

Unitary authority: Pembrokeshire Coast National Park Authority

Area (hectares): 10.7 ha

Designations covered: Grassholm SSSI / SPA (areas below Mean High Water are part of Pembrokeshire Marine SAC and are covered by that plan)

Detailed maps of the designated sites are available through CCW's web site:
<http://www.ccw.gov.uk/interactive-maps/protected-areas-map.aspx>

See map of management units which show the area covered by this plan.

2.2 Outline Description

Grassholm Island is situated 10 miles off the Pembrokeshire coast, separated from the mainland by the often turbulent waters of the Irish sea.

In 1948 Grassholm became the first reserve to be purchased by the RSPB in Wales.

The island is a mere 9ha in size. It is a National Nature Reserve and is included within the Pembrokeshire Coast National Park. It is protected under both UK and EU legislation.

Grassholm is a tourist attraction within the St.Davids peninsula. During the breeding season the 32,000 pairs of gannets nesting on the reserve make it impossible for visitors to land without causing undue disturbance. However, boat trips around the island, run by local private operators, enable several thousand people every year to enjoy the spectacle.

The colony is of international importance, supporting approximately 12% of the world population of this species.

The island is a remnant of ancient lava flows, with shallow soils overlaying the basalt. No vegetation survives the guano and trampling of the gannets but the half of the island, as yet unoccupied by the gannets, supports a classic example of vegetation, typical of an ungrazed seabird island, including the grasses red fescue and Yorkshire fog.

Small colonies of lesser, herring and great black-backed gulls nest in the turf and rocks of the eastern side of the island, while the western rock ledges support small numbers of guillemot, razorbill and kittiwake. Small numbers of storm petrels are also thought to breed among the rock boulders.

Atlantic grey seals use the island as a seasonal haul-out, and the offshore currents and upwellings are a source of attraction for several species of cetacean including good numbers of common dolphin and frequent sightings of minke whale.

When the island is free of birds in the winter, traces of old stone walls and cairns can be seen across the summit implying human occupation in the past. The name "Grassholm" is Norse and refers to the island's once green appearance. The Welsh name "Gwales" means "sanctuary" and may itself commemorate an ancient hermitage.

The first account of gannets occupying the island comes in the late 1800s with a record of up to 20 gannet nests in 1860 and anecdotal accounts of their presence as early as 1820.

2.3 Outline of Past and Current Management

Current management comprises the following work by the RSPB:

- Protect the nesting gannets by maintaining a no landing policy on the island.
- Monitor productivity of the gannets each year.
- Carry out a full population survey every 5 years.
- Visit the island each autumn to cut free chicks entangled in fishing line.
- Liaise with, and assist, local boat operators who run trips around the island to minimise disturbance to the colony.
- Monitor other breeding seabird numbers on a periodic basis.
- Encourage additional scientific research on gannet ecology

2.4 Management Units

The plan area has been divided into management units to enable practical communication about features, objectives, and management. This will also allow us to differentiate between the different designations where necessary. In this plan the management units have been based on tenure and enclosure pattern. In some cases where, there are numerous owners of small sections of the coastal strip, these have been amalgamated into larger units.

Grassholm has been split for the purposes of this plan into the area above Mean High Water, and the area below it which, in addition to being part of the SPA - is part of Pembrokeshire Marine SAC.

The following table confirms the relationships between the management units and the designations covered:

Unit number	SSSI	SAC	SPA	Name
1	✓		✓	Grassholm
2	✓	✓	✓	Grassholm marine

3. THE SPECIAL FEATURES

3.1 Confirmation of Special Features

<i>Designated feature</i>	<i>Relationships, nomenclature etc</i>	<i>Conservation Objective in part 4</i>
<i>SPA features</i>		
1. Gannet	<i>Sula bassana</i>	4.1
<i>SSSI features</i>		
2. Reefs (Littoral Rock)		
3. Grey Seal <i>Halichoerus grypus</i>		

3.2 Special Features and Management Units

This section sets out the relationship between the special features and each management unit. This is intended to provide a clear statement about what each unit should be managed for, taking into account the varied needs of the different special features. All special features are allocated to one of seven classes in each management unit. These classes are:

Key Features

KH - a 'Key Habitat' in the management unit, i.e. the habitat that is the main focus of management and monitoring effort, perhaps because of the dependence of a key species (see KS below). There will rarely be more than one Key Habitat in a unit.

KS - a 'Key Species' in the management unit, often driving both the selection and management of a Key Habitat.

Geo - an earth science feature that is the main focus of management and monitoring effort in a unit.

Other Features

Sym - habitats, species and earth science features that are of importance in a unit but are not the main focus of management or monitoring. These features will benefit from management for the key feature(s) identified in the unit. These may be classed as 'Sym' features because:

- a) they are present in the unit but are of less conservation importance than the key feature; and/or
- b) they are present in the unit but in small areas/numbers, with the bulk of the feature in other units of the site; and/or
- c) their requirements are broader than and compatible with the management needs of the key feature(s) , e.g. a mobile species that uses large parts of the site and surrounding areas.

Nm - an infrequently used category where features are at risk of decline within a unit as a result of meeting the management needs of the key feature(s), i.e. under Negative Management. These cases will usually be compensated for by management elsewhere in the plan, and can be used where minor occurrences of a feature would otherwise lead to apparent conflict with another key feature in a unit.

Mn - Management units with no special feature present but which are of importance for management of features elsewhere on a site e.g. livestock over-wintering area included within designation boundaries, buffer zones around water bodies, etc.

x – Features not present in the management unit.

The table below sets out the relationship between the special features and management units identified in this plan:

Grassholm SPA		
	1	2
SSSI	✓	✓
SPA	✓	✓
SAC		✓
SPA feature		
1. Gannet	KS	x

4. CONSERVATION OBJECTIVES

Background to Conservation Objectives:

a. Outline of the legal context and purpose of conservation objectives.

Conservation objectives are required by the 1992 'Habitats' Directive (92/43/EEC). The aim of the Habitats Directives is the maintenance, or where appropriate the restoration of the 'favourable conservation status' of habitats and species features for which SACs and SPAs are designated (see Box 1).

In the broadest terms, 'favourable conservation status' means a feature is in satisfactory condition and all the things needed to keep it that way are in place for the foreseeable future. CCW considers that the concept of favourable conservation status provides a practical and legally robust basis for conservation objectives for Natura 2000 and Ramsar sites.

Box 1

Favourable conservation status as defined in Articles 1(e) and 1(i) of the Habitats Directive

“The conservation status of a natural habitat is the sum of the influences acting on it and its typical species that may affect its long-term natural distribution, structure and functions as well as the long term survival of its typical species. The conservation status of a natural habitat will be taken as favourable when:

- Its natural range and areas it covers within that range are stable or increasing, and
- The specific structure and functions which are necessary for its long-term maintenance exist and are likely to continue to exist for the foreseeable future, and
- The conservation status of its typical species is favourable.

The conservation status of a species is the sum of the influences acting on the species that may affect the long-term distribution and abundance of its populations. The conservation status will be taken as 'favourable' when:

- population dynamics data on the species indicate that it is maintaining itself on a long-term basis as a viable component of its natural habitats, and
- the natural range of the species is neither being reduced nor is likely to be reduced for the foreseeable future, and
- There is, and will probably continue to be, a sufficiently large habitat to maintain its populations on a long-term basis.”

Achieving these objectives requires appropriate management and the control of factors that may cause deterioration of habitats or significant disturbance to species.

As well as the overall function of communication, Conservation objectives have a number of specific roles:

- Conservation planning and management.

The conservation objectives guide management of sites, to maintain or restore the habitats and species in favourable condition.

- Assessing plans and projects.

Article 6(3) of the ‘Habitats’ Directive requires appropriate assessment of proposed plans and projects against a site's conservation objectives. Subject to certain exceptions, plans or projects may not proceed unless it is established that they will not adversely affect the integrity of sites. This role for testing plans and projects also applies to the review of existing decisions and consents.

- Monitoring and reporting.

The conservation objectives provide the basis for assessing the condition of a feature and the status of factors that affect it. CCW uses ‘performance indicators’ within the conservation objectives, as the basis for monitoring and reporting. Performance indicators are selected to provide useful information about the condition of a feature and the factors that affect it.

The conservation objectives in this document reflect CCW’s current information and understanding of the site and its features and their importance in an international context. The conservation objectives are subject to review by CCW in light of new knowledge.

b. Format of the conservation objectives

There is one conservation objective for each feature listed in part 3. Each conservation objective is a composite statement representing a site-specific description of what is considered to be the favourable conservation status of the feature. These statements apply to a whole feature as it occurs within the whole plan area, although section 3.2 sets out their relevance to individual management units.

Each conservation objective consists of the following two elements:

1. Vision for the feature
2. Performance indicators

As a result of the general practice developed and agreed within the UK Conservation Agencies, conservation objectives include performance indicators, the selection of which should be informed by JNCC guidance on Common Standards Monitoring¹.

There is a critical need for clarity over the role of performance indicators within the conservation objectives. **A conservation objective, because it includes the vision for the feature, has meaning and substance independently of the performance indicators, and is more than the sum of the performance indicators.** The performance indicators are simply what make the conservation objectives measurable, and are thus part of, not a substitute for, the conservation objectives. Any feature attribute identified in the performance indicators should be represented in the vision for the feature, but not all elements of the vision for the feature will necessarily have corresponding performance indicators.

As well as describing the aspirations for the condition of the feature, the Vision section of each conservation objective contains a statement that the factors necessary to maintain those desired conditions are under control. Subject to technical, practical and resource constraints, factors which have an important influence on the condition of the feature are identified in the performance indicators.

¹ Available through www.jncc.gov.uk and follow links to Protected Sites and Common Standards Monitoring.

4.1 Conservation Objective for Feature 1: Gannet

Vision for Gannet

The vision for this feature is for it to be in a favourable conservation status, where all of the following conditions are satisfied:

- The population will not fall below 30,000 pairs in three consecutive years,
- It will not drop by more than 25% of the previous year's figures in any one year.
- There will be no decline in this population significantly greater than any decline in the North Atlantic population as a whole.

Performance indicators for Gannet

The performance indicators are part of the conservation objective, not a substitute for it. Assessment of plans and projects must be based on the entire conservation objective, not just the performance indicators.

<i>Performance indicators for feature condition</i>		
<i>Attribute</i>	<i>Attribute rationale and other comments</i>	<i>Specified limits</i>
A1. Number of pairs	Lower limit is based on current extent	<i>Upper limit:</i> Not set <i>Lower limit:</i> 30,000
A2. Measurable change		<i>Upper limit:</i> Not required <i>Lower limit:</i> decline of 25% on previous year
<i>Performance indicators for factors affecting the feature</i>		
<i>Factor</i>	<i>Factor rationale and other comments</i>	<i>Operational Limits</i>
F1. Pollution	Oil spills and other pollution episodes may cause damage.	<i>Upper limit:</i> none set <i>Lower limit:</i> none set
F2. Litter	Marine litter, especially plastic, can result in wounding and/or death of individual gannets that become entangled. This may, for example, occur during feeding at sea, when entanglement can cause drowning, or because plastic or nylon line, together with other persistent litter is often used as a nesting material, causing entanglement on the nest of both adults and young	<i>Upper limit:</i> none set <i>Lower limit:</i> none set

<i>Performance indicators for factors affecting the feature</i>		
<i>Factor</i>	<i>Factor rationale and other comments</i>	<i>Operational Limits</i>
F3. Human disturbance	Human disturbance from visitors has been significantly reduced since landings on the island by the public were stopped in 1997. Tourist boats now circumnavigate the island, and there is a code of conduct agreed with tourist boat operators to minimise disturbance from the sea. There is still the potential for private boats to cause disturbance, although the remote nature of the island tends to deter all but the most intrepid visitors. Disturbance by RAF aircraft has occurred on occasion in the past, but there has been an agreement with the RAF in place since 1998 regarding air avoidance areas, which are avoided except in emergencies.	<i>Upper limit: none set</i> <i>Lower limit: none set</i>
F4. Fisheries Management	Changes in the availability of food due to changes in fisheries policy or fishing methods are likely to have a significant impact on the population.	<i>Upper limit: none set</i> <i>Lower limit: none set</i>

5. ASSESSMENT OF CONSERVATION STATUS AND MANAGEMENT REQUIREMENTS

This part of the document provides:

- A summary of the assessment of the conservation status of each feature.
- A summary of the management issues that need to be addressed to maintain or restore each feature.

5.1 Conservation Status and Management Requirements of Feature 1: Gannet

Conservation Status of Gannet 2004: Favourable Maintained

Monitoring has demonstrated a year-on-year increase to a current estimate of 32,409 pairs.

Management Requirements of Gannet

None.

6. ACTION PLAN: SUMMARY

This section takes the management requirements outlined in Section 5 a stage further, assessing the specific management actions required on each management unit. This information is a summary of that held in CCW's Actions Database for sites, and the database will be used by CCW and partner organisations to plan future work to meet the Wales Environment Strategy targets for sites.

Unit Number	CCW Database Number	Unit Name	Summary of Conservation Management Issues	Action needed?
1	001968	Grassholm	This unit is considered to be under appropriate conservation management	No
2	002450	Grassholm SPA unit	This unit is considered to be under appropriate conservation management	No

7. GLOSSARY

This glossary defines some of the terms used in this **Core Management Plan**. Some of the definitions are based on definitions contained in other documents, including legislation and other publications of CCW and the UK nature conservation agencies. None of these definitions is legally definitive.

Action A recognisable and individually described act, undertaking or **project** of any kind, specified in section 6 of a **Core Management Plan** or **Management Plan**, as being required for the **conservation management** of a site.

Attribute A quantifiable and monitorable characteristic of a **feature** that, in combination with other such attributes, describes its **condition**.

Common Standards Monitoring	A set of principles developed jointly by the UK conservation agencies to help ensure a consistent approach to monitoring and reporting on the features of sites designated for nature conservation, supported by guidance on identification of attributes and monitoring methodologies.
Condition	A description of the state of a feature in terms of qualities or attributes that are relevant in a nature conservation context. For example the condition of a habitat usually includes its extent and species composition and might also include aspects of its ecological functioning, spatial distribution and so on. The condition of a species population usually includes its total size and might also include its age structure, productivity, relationship to other populations and spatial distribution. Aspects of the habitat(s) on which a species population depends may also be considered as attributes of its condition.
Condition assessment	The process of characterising the condition of a feature with particular reference to whether the aspirations for its condition, as expressed in its conservation objective , are being met.
Condition categories	The condition of feature can be categorised, following condition assessment as one of the following ² : <ul style="list-style-type: none"> Favourable: maintained; Favourable: recovered; Favourable: un-classified Unfavourable: recovering; Unfavourable: no change; Unfavourable: declining; Unfavourable: un-classified Partially destroyed; Destroyed.
Conservation management	Acts or undertaking of all kinds, including but not necessarily limited to actions , taken with the aim of achieving the conservation objectives of a site. Conservation management includes the taking of statutory and non-statutory measures, it can include the acts of any party and it may take place outside site boundaries as well as within sites. Conservation management may also be embedded within other frameworks for land/sea management carried out for purposes other than achieving the conservation objectives.
Conservation objective	The expression of the desired conservation status of a feature , expressed as a vision for the feature and a series of performance indicators . The conservation objective for a

² See JNCC guidance on Common Standards Monitoring <http://www.jncc.gov.uk/page-2272>

feature is thus a composite statement, and each feature has one conservation objective.

Conservation status A description of the state of a **feature** that comprises both its **condition** and the state of the **factors** affecting or likely to affect it. Conservation status is thus a characterisation of both the current state of a feature and its future prospects.

Conservation status assessment The process of characterising the **conservation status** of a **feature** with particular reference to whether the aspirations for it, as expressed in its **conservation objective**, are being met. The results of conservation status assessment can be summarised either as ‘favourable’ (i.e. conservation objectives are met) or unfavourable (i.e. conservation objectives are not met). However the value of conservation status assessment in terms of supporting decisions about **conservation management**, lies mainly in the details of the assessment of feature **condition**, **factors** and trend information derived from comparisons between current and previous conservation status assessments and condition assessments.

Core Management Plan A CCW document containing the conservation objectives for a site and a summary of other information contained in a full site **Management Plan**.

Factor Anything that has influenced, is influencing or may influence the **condition** of a **feature**. Factors can be natural processes, human activities or effects arising from natural process or human activities, They can be positive or negative in terms of their influence on features, and they can arise within a site or from outside the site. Physical, socio-economic or legal constraints on **conservation management** can also be considered as factors.

Favourable condition See **condition** and **condition assessment**

Favourable conservation status See **conservation status** and **conservation status assessment**.³

Feature The species population, habitat type or other entity for which a site is designated. The ecological or geological interest which justifies the designation of a site and which is the focus of conservation management.

Integrity See **site integrity**

Key Feature The habitat or species population within a **management unit** that is the primary focus of **conservation management** and **monitoring** in that unit.

³ A full definition of favourable conservation status is given in Section 4.

- Management Plan** The full expression of a designated site's legal status, **vision, features, conservation objectives, performance indicators** and management requirements. A complete management plan may not reside in a single document, but may be contained in a number of documents (including in particular **the Core Management Plan**) and sets of electronically stored information.
- Management Unit** An area within a site, defined according to one or more of a range of criteria, such as topography, location of **features**, tenure, patterns of land/sea use. The key characteristic of management units is to reflect the spatial scale at which **conservation management** and **monitoring** can be most effectively organised. They are used as the primary basis for differentiating priorities for conservation management and monitoring in different parts of a site, and for facilitating communication with those responsible for management of different parts of a site.
- Monitoring** An intermittent (regular or irregular) series of observations in time, carried out to show the extent of compliance with a formulated standard or degree of deviation from an expected norm. In **Common Standards Monitoring**, the formulated standard is the quantified expression of favourable **condition** based on **attributes**.
- Operational limits** The levels or values within which a **factor** is considered to be acceptable in terms of its influence on a **feature**. A factor may have both upper and lower operational limits, or only an upper limit or lower limit. For some factors an upper limit may be zero.
- Performance indicators** The **attributes** and their associated **specified limits**, together with **factors** and their associated **operational limits**, which provide the standard against which information from **monitoring** and other sources is used to determine the degree to which the **conservation objectives** for a **feature** are being met. Performance indicators are part of, not the same as, conservation objectives. See also **vision for the feature**.
- Plan or project** **Project:** Any form of construction work, installation, development or other intervention in the environment, the carrying out or continuance of which is subject to a decision by any public body or statutory undertaker.
Plan: a document prepared or adopted by a public body or statutory undertaker, intended to influence decisions on the carrying out of **projects**.
Decisions on plans and projects which affect Natura 2000 and Ramsar sites are subject to specific legal and policy procedures.
- Site integrity** The coherence of a site's ecological structure and function, across its whole area, that enables it to sustain the habitat, complex of habitats and/or the levels of populations of the species for which it is designated.

Site Management Statement (SMS) The document containing CCW's views about the management of a site issued as part of the legal notification of an SSSI under section 28(4) of the Wildlife and Countryside Act 1981, as substituted.

Special Feature See **feature**.

Specified limit The levels or values for an **attribute** which define the degree to which the attribute can fluctuate without creating cause for concern about the **condition** of the **feature**. The range within the limits corresponds to favourable, the range outside the limits corresponds to unfavourable. Attributes may have lower specified limits, upper specified limits, or both.

Unit See **management unit**.

Vision for the feature The expression, within a **conservation objective**, of the aspirations for the **feature** concerned. See also **performance indicators**.

Vision Statement The statement conveying an impression of the whole site in the state that is intended to be the product of its **conservation management**. A 'pen portrait' outlining the **conditions** that should prevail when all the **conservation objectives** are met. A description of the site as it would be when all the **features** are in **favourable condition**.

8. REFERENCES

Minimum Format Management Plans for Tyddewi / St David's cSAC (LIFE – Nature Reports, CCW 1999)
St David's SAC Monitoring Report (Wilkinson, 2006)

Appendix S: Saltee Islands SPA

National Parks and Wildlife Service

Conservation Objectives Series

Saltee Islands SAC 000707

Saltee Islands SPA 004002



An Roinn
Ealaíon, Oidhreachta agus Gaeltachta

Department of
Arts, Heritage and the Gaeltacht



**National Parks and Wildlife Service,
Department of Arts, Heritage and the Gaeltacht,
7 Ely Place, Dublin 2, Ireland.**

[Redacted]

Citation:

NPWS (2011) Conservation Objectives: Saltee Islands SAC 000707 and Saltee Islands SPA 004002. Version 1.0.
National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht.

Series Editors: [Redacted]

ISSN 2009-4086

Introduction

The overall aim of the Habitats Directive is to maintain or restore the favourable conservation status of habitats and species of community interest. These habitats and species are listed in the Habitats and Birds Directives and Special Areas of Conservation and Special Protection Areas are designated to afford protection to the most vulnerable of them. These two designations are collectively known as the Natura 2000 network.

European and national legislation places a collective obligation on Ireland and its citizens to maintain habitats and species in the Natura 2000 network at favourable conservation condition. The Government and its agencies are responsible for the implementation and enforcement of regulations that will ensure the ecological integrity of these sites.

A site-specific conservation objective aims to define favourable conservation condition for a particular habitat or species at that site.

The maintenance of habitats and species within Natura 2000 sites at favourable conservation condition will contribute to the overall maintenance of favourable conservation status of those habitats and species at a national level.

Favourable conservation status of a habitat is achieved when:

- its natural range, and area it covers within that range, are stable or increasing, and
- the specific structure and functions which are necessary for its long-term maintenance exist and are likely to continue to exist for the foreseeable future, and
- the conservation status of its typical species is favourable.

The favourable conservation status of a species is achieved when:

- population dynamics data on the species concerned indicate that it is maintaining itself on a long-term basis as a viable component of its natural habitats, and
- the natural range of the species is neither being reduced nor is likely to be reduced for the foreseeable future, and
- there is, and will probably continue to be, a sufficiently large habitat to maintain its populations on a long-term basis.

Notes/Guidelines:

1. The targets given in these conservation objectives are based on best available information at the time of writing. As more information becomes available, targets for attributes may change. These will be updated periodically, as necessary.
2. An appropriate assessment based on these conservation objectives will remain valid even if the targets are subsequently updated, providing they were the most recent objectives available when the assessment was carried out. It is essential that the date and version are included when objectives are cited.
3. Assessments cannot consider an attribute in isolation from the others listed for that habitat or species, or for other habitats and species listed for that site. A plan or project with an apparently small impact on one attribute may have a significant impact on another.
4. Please note that the maps included in this document do not necessarily show the entire extent of the habitats and species for which the site is listed. This should be borne in mind when appropriate assessments are being carried out.
5. When using these objectives, it is essential that the relevant backing/supporting documents are consulted, particularly where instructed in the targets or notes for a particular attribute.

Qualifying Interests

* indicates a priority habitat under the Habitats Directive

000707 Saltee Islands SAC

- 1140 Mudflats and sandflats not covered by seawater at low tide
- 1160 Large shallow inlets and bays
- 1170 Reefs
- 1230 Vegetated sea cliffs of the Atlantic and Baltic coasts
- 1364 Grey Seal *Halichoerus grypus*
- 8330 Submerged or partially submerged sea caves

004002 Saltee Islands SPA

- A009 Fulmar *Fulmarus glacialis* breeding
- A016 Gannet *Morus bassanus* breeding
- A018 Shag *Phalacrocorax aristotelis* breeding
- A188 Kittiwake *Rissa tridactyla* breeding
- A199 Guillemot *Uria aalge* breeding
- A200 Razorbill *Alca torda* breeding
- A204 Puffin *Fratercula arctica* breeding

Supporting documents, relevant reports & publications (listed by date)

Supporting documents, NPWS reports and publications are available for download from: www.npws.ie/Publications

Title: Reef Investigations in Saltee Islands cSAC (Site Code: IE000707), Co. Wexford

Year: 2011

Author: Aquafact

Series: Unpublished Report to NPWS

Title: Subtidal Benthic Investigations in Saltee Islands cSAC (Site Code: IE000707), Co. Wexford

Year: 2011

Author: Aquafact

Series: Unpublished Report to NPWS

Title: BirdLife International Seabird Ecology and Foraging Range Database

Year: 2011

Author: BirdLife International

Series: <http://seabird.wikispaces.com>

Title: Seabird Monitoring Programme (SMP) Database

Year: 2011

Author: JNCC

Series: <http://jncc.defra.gov.uk/smp/Default.aspx>

Title: Saltee Islands SAC (000707): Conservation objectives supporting document - marine habitats and species [Version 1]

Year: 2011

Author: NPWS

Series: Unpublished Report to NPWS

Title: Saltee Islands SAC (000707): Conservation objectives supporting document - coastal habitats [Version 1]

Year: 2011

Author: NPWS

Series: Unpublished Report to NPWS

Title: An assessment of the breeding population of grey seals in the Republic of Ireland, 2005

Year: 2008

Author: Ó Cadhla, O.; Strong, D.; O'Keeffe, C.; Coleman, M.; Cronin, M.; Duck, C.; Murray, T.; Dower, P.; Nairn, R.; Murphy, P.; Smiddy, P.; Saich, C.; Lyons, D.; Hiby, L.

Series: Irish Wildlife Manuals No. 34

Title: Grey seal moult population survey in the Republic of Ireland, 2007

Year: 2007

Author: Ó Cadhla, O.; Strong, D.

Series: Unpublished Report to NPWS & CMRC

Title: Marine Natura 2000 recommendations for the extension of existing seabird (colony) special protection areas into the marine environment

Year: 2005

Author: Reid, J.; Webb, A.

Series: JNCC Committee Paper 05P14B

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- Title:** Harbour seal population assessment in the Republic of Ireland: August 2003
Year: 2004
Author: Cronin, M.; Duck, C.; Ó Cadhla, O.; Nairn, R.; Strong, D.; O'Keeffe, C.
Series: Irish Wildlife Manuals No. 11
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- Title:** Summary of National Parks & Wildlife Service surveys for common (harbour) seals (*Phoca vitulina*) and grey seals (*Halichoerus grypus*), 1978 to 2003
Year: 2004
Author: Lyons, D.O.
Series: Irish Wildlife Manuals No. 13
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- Title:** Seabird Populations of Britain and Ireland
Year: 2004
Author: Mitchell, P.I.; Newton, S.F.; Ratcliffe, N.; Dunn, T.E.
Series: Poyser, London
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- Title:** The status of breeding grey seals (*Halichoerus grypus*) on the east and south-east coast of Ireland
Year: 2001
Author: Lidgard, D.C.; Kiely, O.; Rogan, E.; Connolly, N.
Series: Mammalia 65 (3): 283-294
-
- Title:** Grey Seals: Status & Monitoring in the Irish & Celtic Seas
Year: 2000
Author: Kiely, O.; Lidgard, D.C.; McKibben, M.; Baines, M.E.; Connolly, N.
Series: Maritime Ireland/Wales INTERREG Report no. 3. Marine Institute
-
- Title:** Population biology of grey seals (*Halichoerus grypus* Fabricius 1791) in western Ireland
Year: 1998
Author: Kiely, O.R.M.
Series: Unpublished PhD. Thesis, National University of Ireland, University College Cork
-
- Title:** The BioMar biotope viewer: a guide to marine habitats, fauna and flora in Britain and Ireland
Year: 1997
Author: Picton, B.E.; Costello, M.J.
Series: Trinity College Dublin
-
- Title:** Seabird monitoring handbook for Britain and Ireland: a compilation of methods for survey and monitoring of breeding seabirds.
Year: 1995
Author: Walsh, P.; Halley, D.J.; Harris, M.P.; del Nevo, A.; Sim, I.M.W.; Tasker, M.L.
Series: JNCC, Peterborough
-

Spatial data sources

Year:	Interpolated 2011
Title:	1994 BioMar Survey; 2010 subtidal and intertidal surveys
GIS operations:	Polygon feature classes from marine community types base data sub-divided based on interpolation of marine survey data. Expert opinion used as necessary to resolve any issues arising
Used for:	Marine community types, 1140, 1170 (maps 2, 4 and 5)
Year:	2005
Title:	OSi Discovery series vector data
GIS operations:	High Water Mark (HWM) polyline feature class converted into polygon feature class; clipped to SAC boundary. Seaward boundary defined by expert judgement
Used for:	1160 (map 3)
Year:	2005
Title:	OSi Discovery series vector data
GIS operations:	High water mark (HWM) and low water mark (LWM) polyline feature classes converted into polygon feature classes and combined
Used for:	Marine community types base data (map 5)
Year:	2011
Title:	Internal NPWS files
GIS operations:	Digitised using the OSi six inch (1:10560) mapping series with reference to draft conservation plan map (2000). Clipped to SAC boundary. Expert opinion used as necessary to resolve any issues arising
Used for:	1230 (map 6)
Year:	Derived 2011
Title:	Coast of Ireland Oblique Imagery Survey 2003
GIS operations:	Point dataset created from visual inspection of survey
Used for:	8330 (map 6)
Year:	2011
Title:	NPWS rare and threatened species database
GIS operations:	Dataset created from spatial references in database records. Expert opinion used as necessary to resolve any issues arising
Used for:	1364 (map 7)
Year:	2005
Title:	OSi Discovery series vector data
GIS operations:	High Water Mark (HWM) polyline feature class converted into polygon feature class; clipped to SAC boundary. Expert opinion used as necessary to resolve any issues arising
Used for:	1364 (map 7)

Conservation objectives for: Saltee Islands SAC [000707]

1140 Mudflats and sandflats not covered by seawater at low tide

To maintain the favourable conservation condition of Mudflats and sandflats not covered by seawater at low tide in the Saltee Islands SAC, which is defined by the following list of attributes and targets

Attribute	Measure	Target	Notes
Habitat area	Hectares	The permanent habitat area is stable or increasing, subject to natural processes. See map 2	Habitat area was estimated using OSi data as 20ha. See marine supporting document for further details
Community extent	Hectares	The following community should be maintained in a natural condition: Intertidal sand to muddy sand dominated polychaetes community complex. See map 5	Based on information from a intertidal survey (EcoServe, 2011). See marine supporting document for further details

1160 Large shallow inlets and bays

To maintain the favourable conservation condition of Large shallow inlets and bays in the Saltee Islands SAC, which is defined by the following list of attributes and targets

Attribute	Measure	Target	Notes
Habitat area	Hectares	The permanent habitat area is stable or increasing, subject to natural processes. See map 3	Habitat area was estimated using OSi data as 3651ha. See marine supporting document for further details
Community extent	Hectares	The following communities should be maintained in a natural condition: Coarse sediment with <i>Pomatoceros</i> spp. and <i>Pisidia longicornis</i> community. See map 5	Based on information from 1994 BioMar Survey (Picton and Costello, 1997) and a subtidal survey (Aquafact, 2011). See marine supporting document for further details

1170 Reefs

To maintain the favourable conservation condition of Reefs in the Saltee Islands SAC, which is defined by the following list of attributes and targets

Attribute	Measure	Target	Notes
Distribution	Occurrence	The distribution of reefs should remain stable, subject to natural processes. See map 4	Reef mapping based on information from 1994 BioMar Survey (Picton and Costello, 1997), subtidal survey (Aquafact, 2011) and intertidal survey (EcoServe, 2011). See marine supporting document for further details
Habitat area	Hectares	The permanent habitat area is stable, subject to natural processes. See map 4	Habitat area was estimated from the 2010 survey data as 4,595ha. See marine supporting document for further details
Community structure	Biological composition	The following reef community complexes should be maintained in a natural condition: Intertidal reef community complex; and Subtidal reef dominated by echinoderms and sponges community complex. See map 5	Reef mapping based on information from 1994 BioMar Survey (Picton and Costello, 1997), subtidal survey (Aquafact, 2011) and intertidal survey (EcoServe, 2011). See marine supporting document for further details
Community extent	Hectares	The extent of <i>Laminaria</i> dominated community should be conserved, subject to natural processes. See map 5	Based on information from 1994 BioMar Survey (Picton and Costello, 1997) and subtidal reef survey (Aquafact, 2011). See marine supporting document for further details
Community structure	Biological composition	The biology of the <i>Laminaria</i> dominated community should be conserved, subject to natural processes	Based on information from 1994 BioMar Survey (Picton and Costello, 1997) and subtidal reef survey (Aquafact, 2011). See marine supporting document for further details

1230 Vegetated sea cliffs of the Atlantic and Baltic coasts

To maintain the favourable conservation condition of Vegetated sea cliffs of the Atlantic and Baltic coasts in the Saltee Islands SAC, which is defined by the following list of attributes and targets

Attribute	Measure	Target	Notes
Habitat length	Kilometres	Area stable, subject to natural processes, including erosion. For sub-sites mapped: Great Saltee Island - 5.51km and Little Saltee Island - 3.11km. See map 6	Two sub-sites were identified giving a total estimated area of 8.62km within the SAC. Cliffs are linear features and are therefore measured in kilometres. See coastal habitats supporting document for further details
Habitat distribution	Occurrence	No decline, subject to natural processes. See map 6	See coastal habitats supporting document for further details
Physical structure: functionality and hydrological regime	Occurrence of artificial barriers	No alteration to natural functioning of geomorphological and hydrological processes due to artificial structures	Maintaining natural geomorphological processes including natural erosion is important for the health of a vegetated sea cliff. Hydrological processes maintain flushes and in some cases tufa formations that can be associated with sea cliffs, although it is not known if such formations occur on the Saltee Islands. See coastal habitats supporting document for further details
Vegetation structure: zonation	Occurrence	Maintain range of sea cliff habitat zonations including transitional zones, subject to natural processes including erosion and succession	See coastal habitats supporting document for further details
Vegetation structure: vegetation height	Centimeters	Maintain structural variation within sward	See coastal habitats supporting document for further details
Vegetation composition: typical species and sub-communities	Percentage cover at a representative sample of monitoring stops	Maintain range of sub-communities with typical species listed in the Irish Sea Cliff Survey (Barron et al., 2011)	See coastal habitats supporting document for further details
Vegetation composition: negative indicator species	Percentage	Negative indicator species (including non-natives) to represent less than 5% cover	See coastal habitats supporting document for further details
Vegetation composition: bracken and woody species	Percentage	Cover of bracken (<i>Pteridium aquilinum</i>) on grassland less than 10%. Cover of woody species on grassland less than 20%	See coastal habitats supporting document for further details

1364 Grey Seal *Halichoerus grypus*

To maintain the favourable conservation condition of Grey Seal in the Saltee Islands SAC, which is defined by the following list of attributes and targets

Attribute	Measure	Target	Notes
Access to suitable habitat	Number of artificial barriers	Species range within the site should not be restricted by artificial barriers to site use. See map 7	See marine supporting document for further details
Breeding behaviour	Breeding sites	The breeding sites should be maintained in a natural condition. See map 7 for known sites	Attribute and target based on background knowledge of Irish breeding populations; review of data from Kiely et al. (2000); Lidgard et al. (2001); Lyons (2004); a comprehensive breeding survey in 2005 (Ó Cadhla et al., 2007); and unpublished National Parks & Wildlife Service records. See marine supporting document for further details
Moulting behaviour	Moult haul-out sites	The moult haul-out sites should be maintained in a natural condition. See map 7 for known sites	Attribute and target based on background knowledge of Irish populations; research by Kiely et al. (2000); a national moult survey (Ó Cadhla and Strong, 2007); and unpublished National Parks & Wildlife Service records. See marine supporting document for further details
Resting behaviour	Resting haul-out sites	The resting haul-out sites should be maintained in a natural condition. See map 7 for known sites	Attribute and target based on review of data from Kiely (1998); Kiely et al. (2000); Lyons (2004); Cronin et al. (2004); Ó Cadhla et al. (2007); Ó Cadhla and Strong (2007); and unpublished National Parks & Wildlife Service records. See marine supporting document for further details
Population composition	Number of cohorts	The grey seal population occurring within this site should contain adult, juvenile and pup cohorts annually	Attribute and target based on review of data from Kiely (1998), Kiely et al. (2000), Lyons (2004), Ó Cadhla et al. (2007), Ó Cadhla and Strong (2007); and unpublished National Parks & Wildlife Service records. See marine supporting document for further details
Disturbance	Level of impact	Human activities should occur at levels that do not adversely affect the grey seal population	See marine supporting document for further details

8330 Submerged or partially submerged sea caves

To maintain the favourable conservation condition of submerged or partly submerged sea caves in the Saltee Islands SAC, which is defined by the following list of attributes and targets subject to natural variation

Attribute	Measure	Target	Notes
Distribution	Occurrence	The distribution of sea caves should remain stable, subject to natural processes. See map 6 for known distribution	Sea cave distribution was derived from an oblique aerial survey and therefore only detects the presence of sea caves visible intertidally in the flight path
Community structure	Biological composition	Human activities should occur at levels that do not adversely affect the ecology of sea caves	

A009 Fulmar *Fulmarus glacialis*

To maintain the favourable conservation condition of Fulmar in the Saltee Islands SPA, which is defined by the following list of attributes and targets

Attribute	Measure	Target	Notes
Breeding population abundance: apparently occupied sites (AOSs)	Number	No significant decline	Measure based on standard survey methods (see Walsh et al., 1995). Mitchell et al. (2004) provides summary population information. The Seabird Monitoring Programme (SMP) online database (JNCC, 2011) provides population data for this species
Productivity rate	Mean number	No significant decline	Measure based on standard survey methods (see Walsh et al., 1995). The Seabird Monitoring Programme (SMP) online database (JNCC, 2011) provides population data for this species
Distribution: breeding colonies	Number; location; area (hectares)	No significant decline	Typically, fulmar nest near the tops of grassy cliffs on relatively wide ledges (Mitchell et al., 2004)
Prey biomass available	Kilogrammes	No significant decline	Key prey items: broad diet encompassing fish, zooplankton, squid, offal and fishery discards. Key habitats: relatively clear 'oceanic' water with high salinity, thermally stratified in summer. Shelf breaks, offshore banks, frontal zones, tide and rip currents may also be important. Foraging range: max. 664km, mean max. 311.43km, mean 69.35km (BirdLife International Seabird Database (Birdlife International, 2011))
Barriers to connectivity	Number; location; shape; area (hectares)	No significant increase	Seabird species can make extensive use of the marine waters adjacent to their breeding colonies for non site-specific behaviours (e.g. courtship, bathing, preening). Work carried out in the UK found that highest densities of fulmar performing these behaviours occurred within 2km of the breeding colony (Reid and Webb, 2005). Foraging range: max. 664km, mean max. 311.43km, mean 69.35km (BirdLife International Seabird Database (Birdlife International, 2011))
Disturbance at the breeding site	Level of impact	No significant increase	Typically, fulmar nest near the top of grassy cliffs on relatively wide ledges (Mitchell et al., 2004)
Disturbance at marine areas immediately adjacent to the colony	Level of impact	No significant increase	Seabird species can make extensive use of the marine waters adjacent to their breeding colonies for non site-specific behaviours (e.g. courtship, bathing, preening). Work carried out in the UK found that highest densities of fulmar performing these behaviours occurred within 2km of the breeding colony (Reid and Webb, 2005)

A016 Gannet *Morus bassanus*

To maintain the favourable conservation condition of Gannet in the Saltee Islands SPA, which is defined by the following list of attributes and targets

Attribute	Measure	Target	Notes
Breeding population abundance: apparently occupied nests (AONs)	Number	No significant decline	Measure based on standard survey methods (see Walsh et al., 1995). Mitchell et al. (2004) provides summary population information. The Seabird Monitoring Programme (SMP) online database (JNCC, 2011) provides population data for this species
Productivity rate	Mean number	No significant decline	Measure based on standard survey methods (see Walsh et al., 1995). The Seabird Monitoring Programme (SMP) online database (JNCC, 2011) provides population data for this species
Distribution: breeding colonies	Number; location; area (hectares)	No significant decline	Gannetries are conspicuous with high densities of nests built with seaweed, other vegetation and earth stuck together with excreta
Prey biomass available	Kilogrammes	No significant decline	Key prey items: surface schooling fish, fisheries waste; discards important for some colonies and/or in some seasons. Key habitats: Deep-water depressions, tidal mixing fronts, shelf breaks, sandbanks, inshore and coastal waters. Foraging range: max. 640km, mean max. 308.36km, mean 140.09km (BirdLife International Seabird Database (Birdlife International, 2011))
Barriers to connectivity	Number; location; shape; area (hectares)	No significant increase	Seabird species can make extensive use of the marine waters adjacent to their breeding colonies for non site-specific behaviours (e.g. courtship, bathing, preening). Work carried out in the UK found that highest densities of gannet performing these behaviours occurred within 2km of the breeding colony (Reid and Webb, 2005). Foraging range: max. 640km, mean max. 308.36km, mean 140.09km (BirdLife International Seabird Database (Birdlife International, 2011))
Disturbance at the breeding site	Level of impact	No significant increase	Gannetries are conspicuous with high densities of nests built with seaweed, other vegetation and earth stuck together with excreta. Often 'clubs' of immature and adult plumage non-breeders are discrete from the breeding birds

A016 Gannet *Morus bassanus*

To maintain the favourable conservation condition of Gannet in the Saltee Islands SPA, which is defined by the following list of attributes and targets

Attribute	Measure	Target	Notes
Disturbance at marine areas immediately adjacent to the colony	Level of impact	No significant increase	Seabird species can make extensive use of the marine waters adjacent to their breeding colonies for non site-specific behaviours (e.g. courtship, bathing, preening). Work carried out in the UK found that highest densities of gannet performing these behaviours occurred within 2km of the breeding colony (Reid and Webb, 2005)

A017 Cormorant *Phalacrocorax carbo*

To maintain the favourable conservation condition of Cormorant in the Saltee Islands SPA, which is defined by the following list of attributes and targets

Attribute	Measure	Target	Notes
Breeding population abundance: apparently occupied nests (AONs)	Number	No significant decline	Measure based on standard survey methods (see Walsh et al., 1995). Mitchell et al. (2004) provides summary population information. The Seabird Monitoring Programme (SMP) online database (JNCC, 2011) provides population data for this species.
Productivity rate	Mean number	No significant decline	Measure based on standard survey methods (see Walsh et al., 1995). The Seabird Monitoring Programme (SMP) online database (JNCC, 2011) provides population data for this species
Distribution: breeding colonies	Number; location; area (hectares)	No significant decline	Cormorant colonies are usually sited on flat or rocky islets or sea stack tops, less often on cliffs (Walsh et al., 1995)
Prey biomass available	Kilogrammes	No significant decline	Key prey items: fish (mostly benthic), some crustaceans. Key habitats: populations use sandy areas, rocky and vegetated substrate. Foraging range: max. 50km, mean max. 31.67km, mean 8.46km (BirdLife International Seabird Database (Birdlife International, 2011))
Barriers to connectivity	Number; location; shape; area (hectares)	No significant increase	Foraging Range: max. 50km, mean max. 31.67km, mean 8.46km (BirdLife International Seabird Database (Birdlife International, 2011))
Disturbance at the breeding site	Level of impact	No significant increase	Cormorant colonies are usually sited on flat or rocky islets or stack tops, less often on cliffs (Walsh et al., 1995)

Conservation objectives for: Saltee Islands SPA [004002]

A018 Shag *Phalacrocorax aristotelis*

To maintain the favourable conservation condition of Shag in the Saltee Islands SPA, which is defined by the following list of attributes and targets

Attribute	Measure	Target	Notes
Breeding population abundance: apparently occupied nests (AONs)	Number	No significant decline	Measure based on standard survey methods (see Walsh et al., 1995). Mitchell et al. (2004) provides summary population information. The Seabird Monitoring Programme (SMP) online database (JNCC, 2011) provides population data for this species
Productivity rate	Mean number	No significant decline	Measure based on standard survey methods (see Walsh et al., 1995). The Seabird Monitoring Programme (SMP) online database (JNCC, 2011) provides population data for this species
Distribution: breeding colonies	Number; location; area (hectares)	No significant decline	Shags can nest in small groups spread along several kilometres of coastline. In general, colonies are discrete and normally on cliffs/offshore islands (Mitchell et al., 2004)
Prey biomass available	Kilogrammes	No significant decline	Key prey items: benthic, demersal and schooling pelagic fish- especially sandeels (<i>Ammodytes</i> spp.). Key habitats: shallow waters, particularly over sand and gravel banks, areas of high tidal flow. Foraging range: max. 20km, mean max. 16.42km, mean 6.53km (BirdLife International Seabird Database (Birdlife International, 2011))
Barriers to connectivity	Number; location; shape; area (hectares)	No significant increase	Foraging range: max. 20km, mean max. 16.42km, mean 6.53km (BirdLife International Seabird Database (Birdlife International, 2011))
Disturbance at the breeding site	Level of impact	No significant increase	Shags can nest in small groups spread along several kilometres of coastline. In general colonies are discrete and normally on cliffs/offshore islands (Mitchell et al., 2004)

A183 Lesser Black-backed Gull *Larus fuscus*

To maintain the favourable conservation condition of Lesser Black-backed Gull in the Saltee Islands SPA, which is defined by the following list of attributes and targets

Attribute	Measure	Target	Notes
Breeding population abundance: apparently occupied nests (AONs)	Number	No significant decline	Measure based on standard survey methods (see Walsh et al., 1995). Mitchell et al. (2004) provides summary population information. The Seabird Monitoring Programme (SMP) online database (JNCC, 2011) provides population data for this species
Productivity rate	Mean number	No significant decline	Measure based on standard survey methods (see Walsh et al., 1995). The Seabird Monitoring Programme (SMP) online database (JNCC, 2011) provides population data for this species
Distribution: breeding colonies	Number; location; area (hectares)	No significant decline	Lesser black-backed gull nests colonially, often with other gull species on offshore islands and coastal cliffs often within vegetated areas (Mitchell et al., 2004)
Prey biomass available	Kilogrammes	No significant decline	Lesser black-backed gulls are surface feeders whose diet includes fish, invertebrates and fishery-related discards. max. foraging range 40km
Barriers to connectivity	Number; location; shape; area (hectares)	No significant increase	Foraging range: max. 40km
Disturbance at the breeding site	Level of impact	No significant increase	Lesser black-backed gull nests colonially, often with other gull species on offshore islands and coastal cliffs often within vegetated areas (Mitchell et al., 2004)

A184 Herring Gull *Larus argentatus*

To maintain the favourable conservation condition of Herring Gull in the Saltee Islands SPA, which is defined by the following list of attributes and targets

Attribute	Measure	Target	Notes
Breeding population abundance: apparently occupied nests (AONs)	Number	No significant decline	Measure based on standard survey methods (see Walsh et al., 1995). Mitchell et al. (2004) provides summary population information. The Seabird Monitoring Programme (SMP) online database (JNCC, 2011) provides population data for this species
Productivity rate	Mean number	No significant decline	Measure based on standard survey methods (see Walsh et al., 1995). The Seabird Monitoring Programme (SMP) online database (JNCC, 2011) provides population data for this species
Distribution: breeding colonies	Number; location; area (hectares)	No significant decline	Rocky coastline with cliffs, islets and offshore islands, is the preferred breeding habitat (Mitchell et al., 2004)
Prey biomass available	Kilogrammes	No significant decline	Primarily a coastal feeder, mainly in the littoral and shallow sub-littoral zones; also targets anthropogenic sources of food in both marine and terrestrial areas. max. foraging range approximately 50km
Barriers to connectivity	Number; location; shape; area (hectares)	No significant increase	Foraging range: max. 50km
Disturbance at the breeding site	Level of impact	No significant increase	Herring gull colonies are usually sited on flat or rocky islets or stack stops, less often on cliffs (Walsh et al., 1995)

A188 Kittiwake *Rissa tridactyla*

To maintain the favourable conservation condition of Kittiwake in the Saltee Islands SPA, which is defined by the following list of attributes and targets

Attribute	Measure	Target	Notes
Breeding population abundance: apparently occupied nests (AONs)	Number	No significant decline	Measure based on standard survey methods (see Walsh et al., 1995). Mitchell et al. (2004) provides summary population information. The Seabird Monitoring Programme (SMP) online database (JNCC, 2011) provides population data for this species
Productivity rate	Mean number	No significant decline	Measure based on standard survey methods (see Walsh et al., 1995). The Seabird Monitoring Programme (SMP) online database (JNCC, 2011) provides population data for this species
Distribution: breeding colonies	Number; location; area (hectares)	No significant decline	In general, kittiwake colonies are found on vertical rocky sea cliffs
Prey biomass available	Kilogrammes	No significant decline	Key prey items: small pelagic shoaling fish, marine invertebrates. Key habitats: fronts, tidal upwellings and eddies, offshore sandbanks, areas over rocky seabed. Foraging range: max. 200km, mean max. 65.81km, mean 25.45km (BirdLife International Seabird Database (Birdlife International, 2011))
Barriers to connectivity	Number; location; shape; area (hectares)	No significant increase	Foraging range: max. 200km, mean max. 65.81km, mean 25.45km (BirdLife International Seabird Database (Birdlife International, 2011))
Disturbance at the breeding site	Level of impact	No significant increase	In general, kittiwake colonies are found on vertical rocky sea cliffs

A199 Guillemot *Uria aalge*

To maintain the favourable conservation condition of Guillemot in the Saltee Islands SPA, which is defined by the following list of attributes and targets

Attribute	Measure	Target	Notes
Breeding population abundance: individual adult	Number	No significant decline	Measure based on standard survey methods (see Walsh et al., 1995). Mitchell et al. (2004) provides summary population information. The Seabird Monitoring Programme (SMP) online database (JNCC, 2011) provides population data for this species
Productivity rate	Mean number	No significant decline	Measure based on standard survey methods (see Walsh et al., 1995). The Seabird Monitoring Programme (SMP) online database (JNCC, 2011) provides population data for this species
Distribution: breeding colonies	Number; location; area (hectares)	No significant decline	In general, guillemot colonies are found on vertical rocky sea cliffs and sea stacks
Prey biomass available	Kilogrammes	No significant decline	Key prey items: schooling pelagic fish, crustaceans. Key habitats: fronts and other ocean features that concentrate prey, offshore sandbanks, areas of sandy sediment. Foraging range: max. 200km, mean max. 60.61km, mean 24.49km (BirdLife International Seabird Database (Birdlife International, 2011))
Barriers to connectivity	Number; location; shape; area (hectares)	No significant increase	Seabird species can make extensive use of the marine waters adjacent to their breeding colonies for non site-specific behaviours (e.g. courtship, bathing, preening). Work carried out in the UK found that highest densities of guillemot performing these behaviours occurred within 1km of the breeding colony (Reid and Webb, 2005). Foraging range: max. 200km, mean max. 60.61km, mean 24.49km (BirdLife International Seabird Database (Birdlife International, 2011))
Disturbance at the breeding site	Level of impact	No significant increase	In general, guillemot colonies are found on vertical rocky sea cliffs and sea stacks
Disturbance at marine areas immediately adjacent to the colony	Level of impact	No significant increase	Seabird species can make extensive use of the marine waters adjacent to their breeding colonies for non site-specific behaviours (e.g. courtship, bathing, preening). Work carried out in the UK found that highest densities of guillemot performing these behaviours occurred within 1km of the breeding colony (Reid and Webb, 2005)

A200 Razorbill *Alca torda*

To maintain the favourable conservation condition of Razorbill in the Saltee Islands SPA, which is defined by the following list of attributes and targets

Attribute	Measure	Target	Notes
Breeding population abundance: individual adult	Number	No significant decline	Measure based on standard survey methods (see Walsh et al., 1995). Mitchell et al. (2004) provides summary population information. The Seabird Monitoring Programme (SMP) online database (JNCC, 2011) provides population data for this species
Productivity rate	Mean number	No significant decline	Measure based on standard survey methods (see Walsh et al., 1995). The Seabird Monitoring Programme (SMP) online database (JNCC, 2011) provides population data for this species
Distribution: breeding colonies	Number; location; area (hectares)	No significant decline	Razorbill breed mainly on small ledges or in cracks of rocky cliffs and in associated screes, and on boulder fields (Mitchell et al., 2004)
Prey biomass available	Kilogrammes	No significant decline	Key prey items: Sandeels (<i>Ammodytes</i> spp.), clupeids. Key habitats: shallow waters, sandy seabeds, upwelling areas and tidal fronts. Foraging range: max. 51km, mean max. 31km, mean 10.27km (BirdLife International Seabird Database (Birdlife International, 2011))
Barriers to connectivity	Number; location; shape; area (hectares)	No significant increase	Seabird species can make extensive use of the marine waters adjacent to their breeding colonies for non site-specific behaviours (e.g. courtship, bathing, preening). Work carried out in the UK found that highest densities of razorbill performing these behaviours occurred within 1km of the breeding colony (Reid and Webb, 2005). Foraging range: max. 51km, mean max. 31km, mean 10.27km (BirdLife International Seabird Database (Birdlife International, 2011))
Disturbance at the breeding site	Level of impact	No significant increase	Razorbill breed mainly on small ledges or in cracks of rocky cliffs and in associated screes, and on boulder fields (Mitchell et al., 2004)
Disturbance at marine areas immediately adjacent to the colony	Level of impact	No significant increase	Seabird species can make extensive use of the marine waters adjacent to their breeding colonies for non site-specific behaviours (e.g. courtship, bathing, preening). Work carried out in the UK found that highest densities of razorbill performing these behaviours occurred within 1km of the breeding colony (Reid and Webb, 2005)

A204 Puffin *Fratercula arctica*

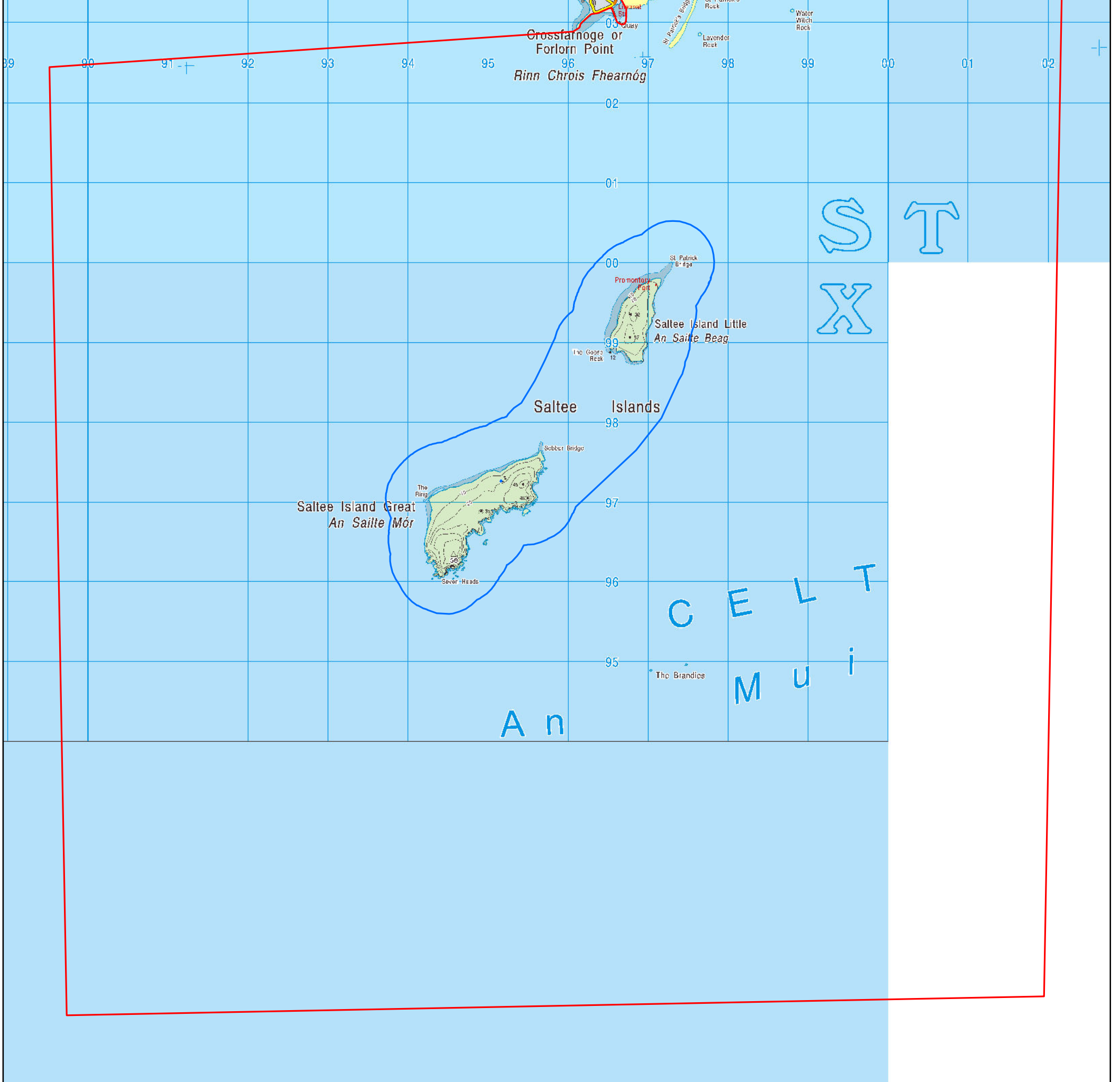
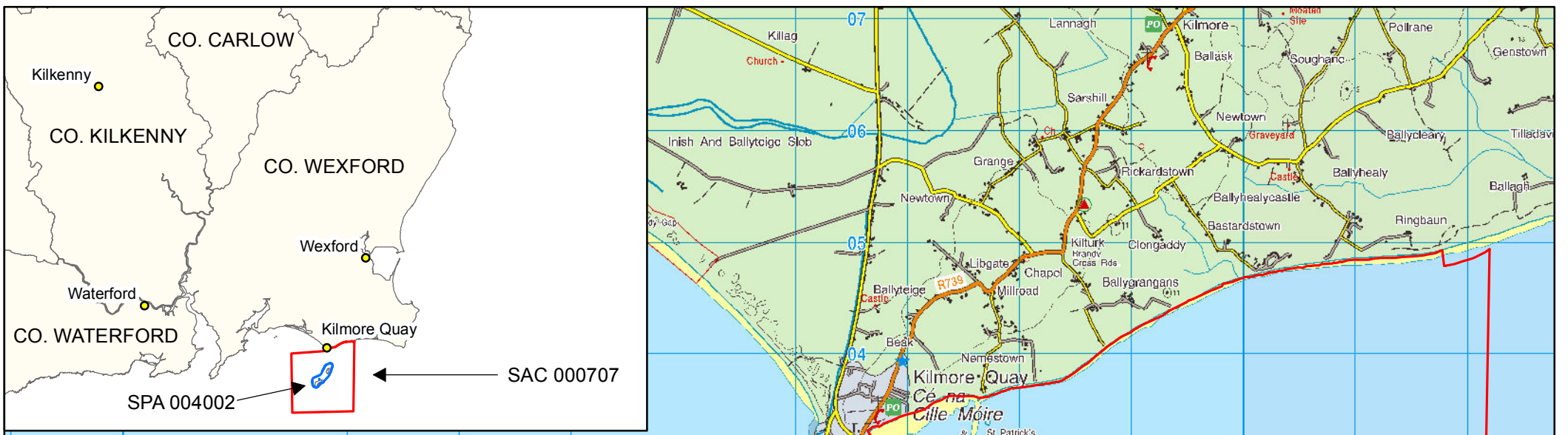
To maintain the favourable conservation condition of Puffin in the Saltee Islands SPA, which is defined by the following list of attributes and targets

Attribute	Measure	Target	Notes
Breeding population abundance: apparently occupied burrow (AOB)	Number	No significant decline	Measure based on standard survey methods (see Walsh et al., 1995). Mitchell et al. (2004) provides summary population information. The Seabird Monitoring Programme (SMP) online database (JNCC, 2011) provides population data for this species.
Productivity rate	Mean number	No significant decline	Measure based on standard survey methods (see Walsh et al., 1995). The Seabird Monitoring Programme (SMP) online database (JNCC, 2011) provides population data for this species
Distribution: breeding colonies	Number; location; area (hectares)	No significant decline	Highly colonial species with pairs typically nesting underground in burrows dug in the soil of offshore islands. If such habitat is in short supply puffins can nest among boulder screes or at low densities in cracks in sheer cliffs (Mitchell et al., 2004)
Prey biomass available	Kilogrammes	No significant decline	Key prey items: mid-sized schooling mid-water fish, especially sandeels (<i>Ammodytes</i> spp.). Key habitats: shallow waters, tidal fronts. Foraging range: max. 200km, mean max. 62.2km, mean 30.35km (BirdLife International Seabird Database (Birdlife International, 2011))
Barriers to connectivity	Number; location; shape; area (hectares)	No significant increase	Seabird species can make extensive use of the marine waters adjacent to their breeding colonies for non site-specific behaviours (e.g. courtship, bathing, preening). Work carried out in the UK found that highest densities of puffin performing these behaviours occurred within 1km of the breeding colony (Reid and Webb, 2005). Foraging range: max. 200km, mean max. 62.2km, mean 30.35km (BirdLife International Seabird Database (Birdlife International, 2011))
Disturbance at the breeding site	Level of impact	No significant increase	Highly colonial species with pairs typically nesting underground in burrows dug in the soil of offshore islands. If such habitat is in short supply Puffins can nest among boulder screes or at low densities in cracks in sheer cliffs (Mitchell et al., 2004)

A204 Puffin *Fratercula arctica*

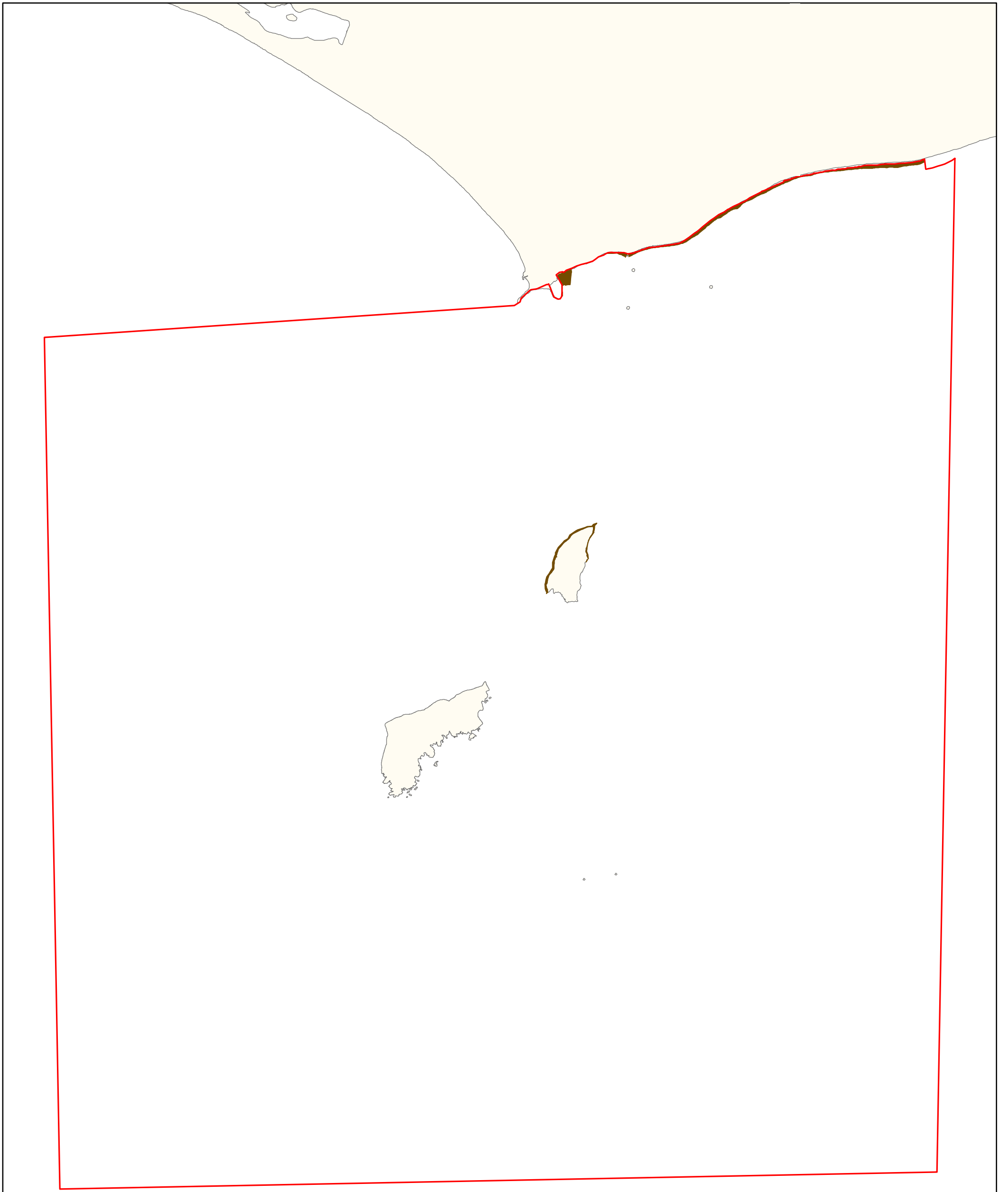
To maintain the favourable conservation condition of Puffin in the Saltee Islands SPA, which is defined by the following list of attributes and targets

Attribute	Measure	Target	Notes
Disturbance at marine areas immediately adjacent to the colony	Level of impact	No significant increase	Seabird species can make extensive use of the marine waters adjacent to their breeding colonies for non site-specific behaviours (e.g. courtship, bathing, preening). Work carried out in the UK found that highest densities of puffin performing these behaviours occurred within 1km of the breeding colony (Reid and Webb, 2005)
Occurrence of mammalian predators	Level of impact	Absent or under control	Puffin and other cavity/burrow nesting seabirds can be particularly susceptible to rat (<i>Rattus</i> spp.) predation



Legend

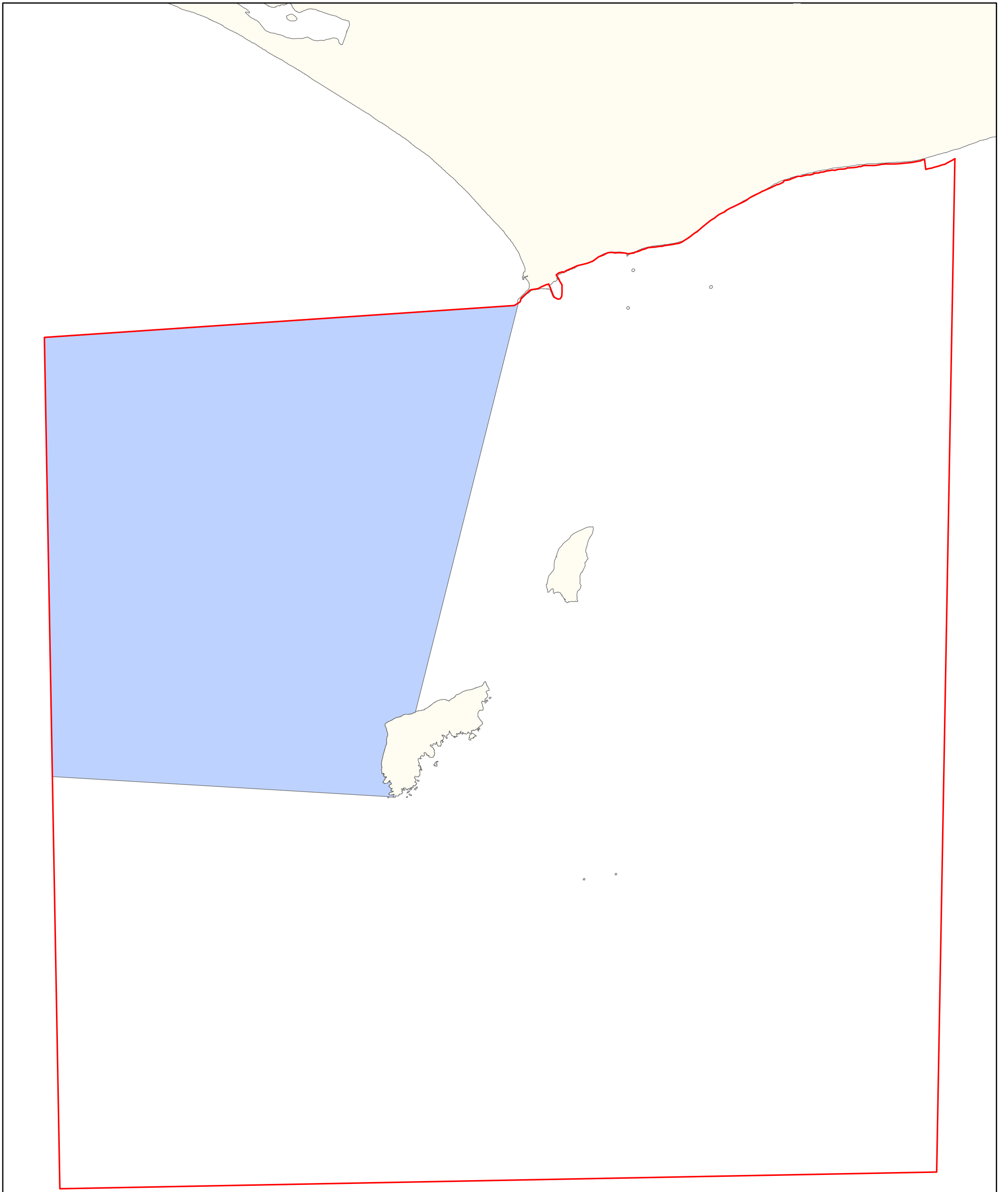
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- SPA 004002



Legend

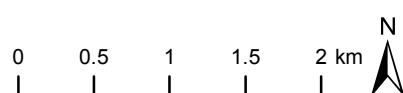
- SAC 000707
- 1140 Mudflats and sandflats not covered by sea water at low tide
- OSi Discovery Series Coastal Boundary

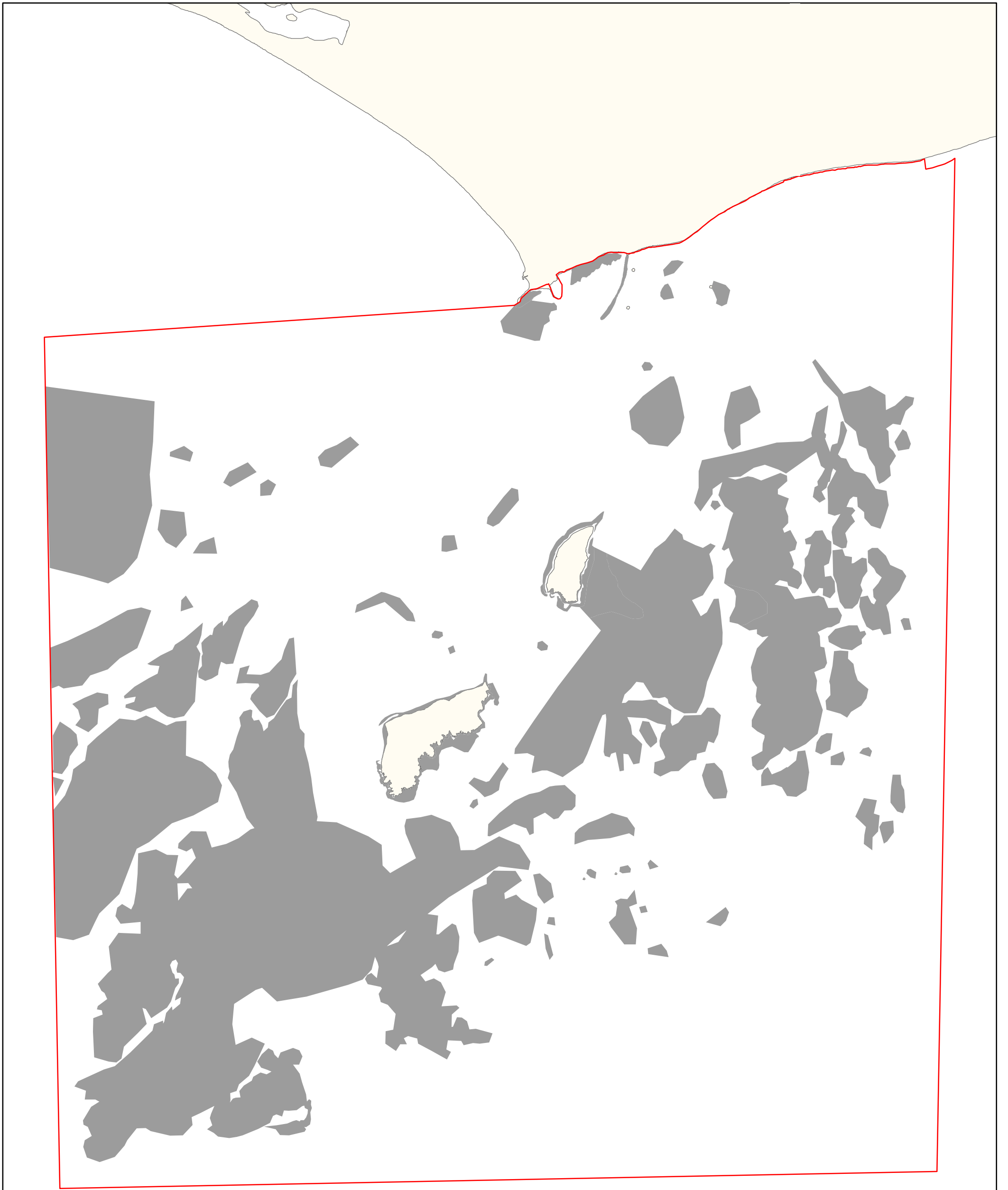




Legend

- SAC 000707
- 1160 Large shallow inlets and bays
- OSi Discovery Series Coastal Boundary



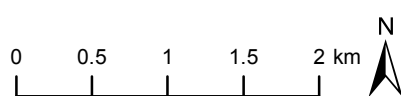
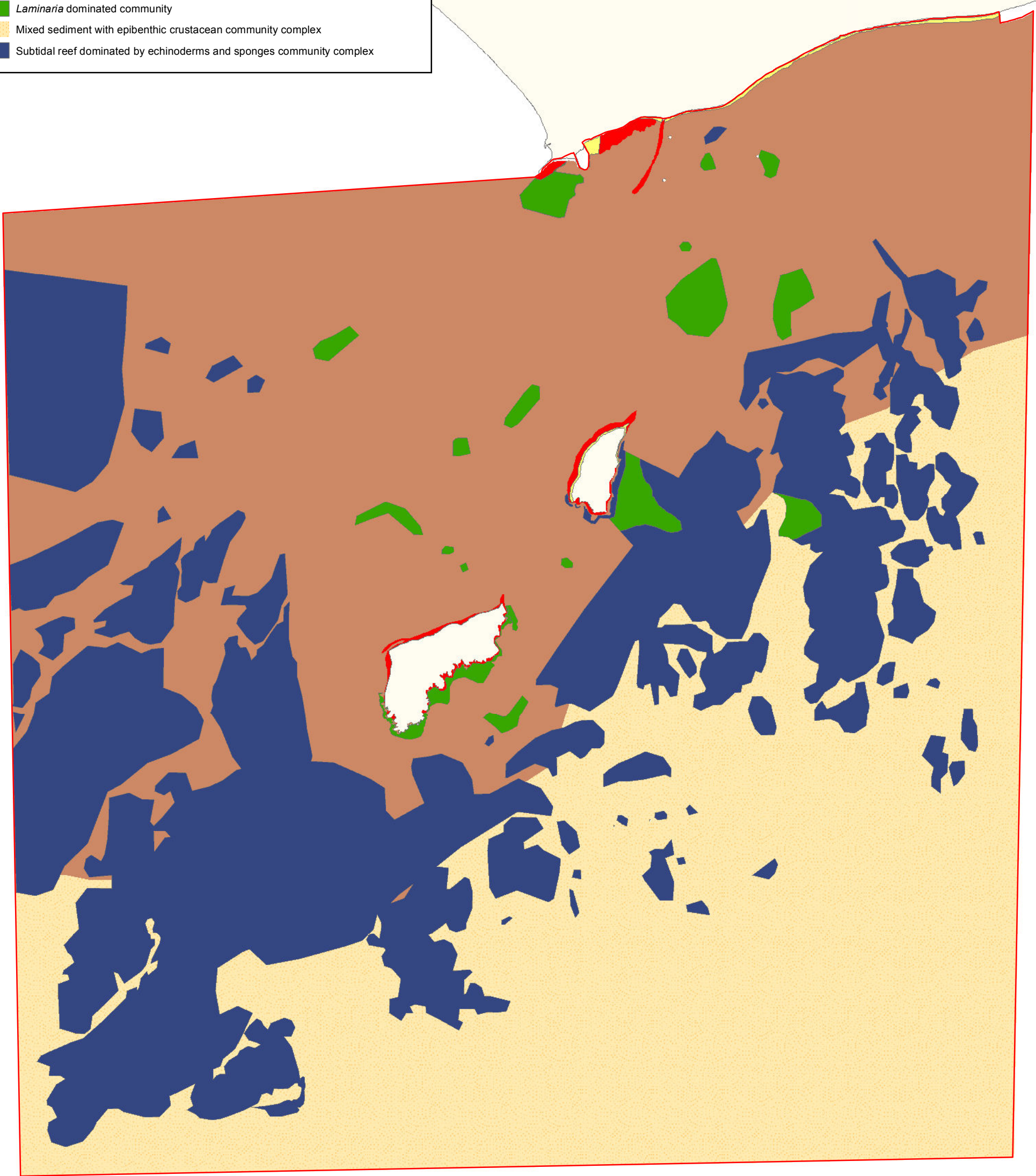


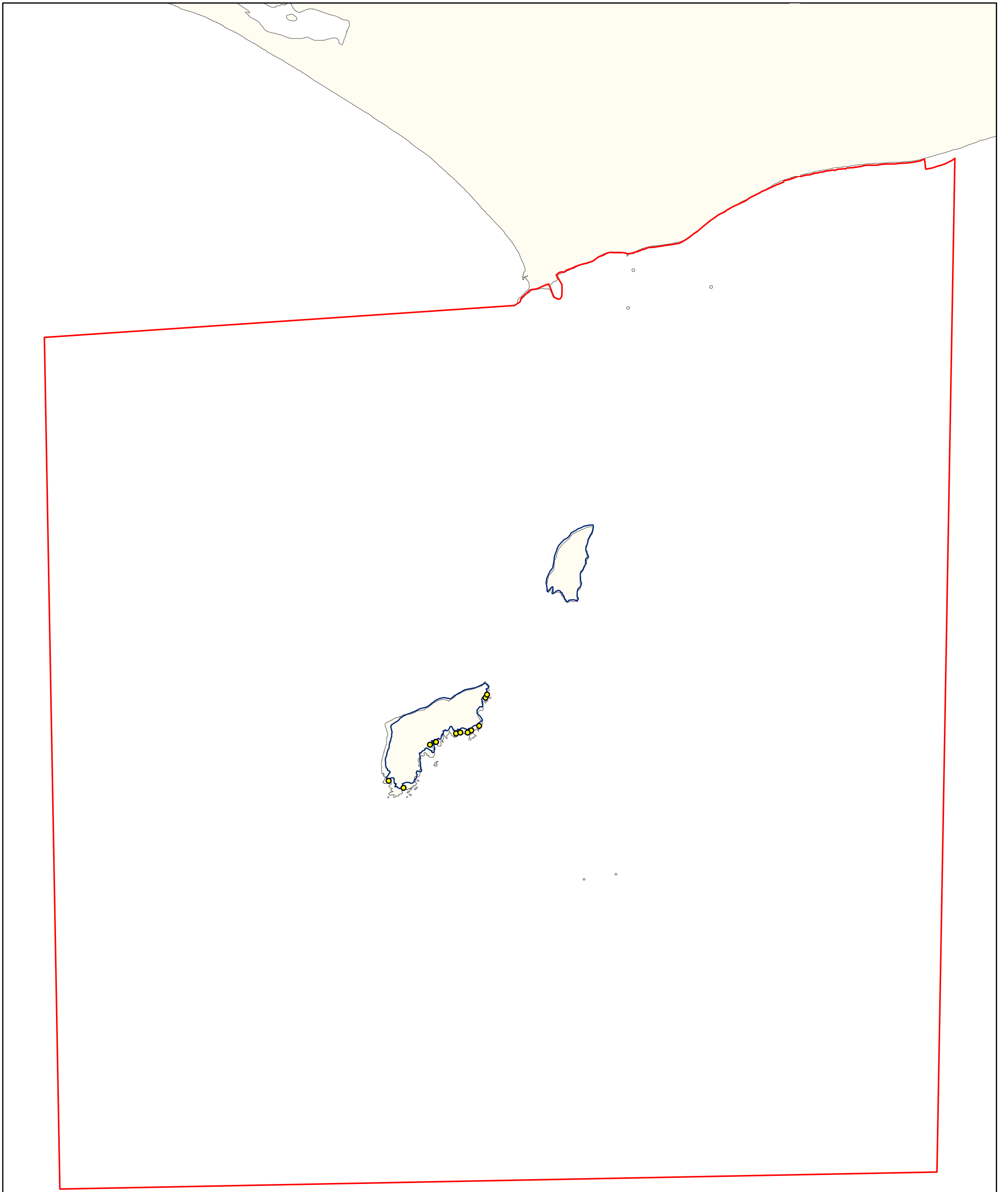
Legend

- SAC 000707
- 1170 Reefs
- OSi Discovery Series Coastal Boundary

Legend

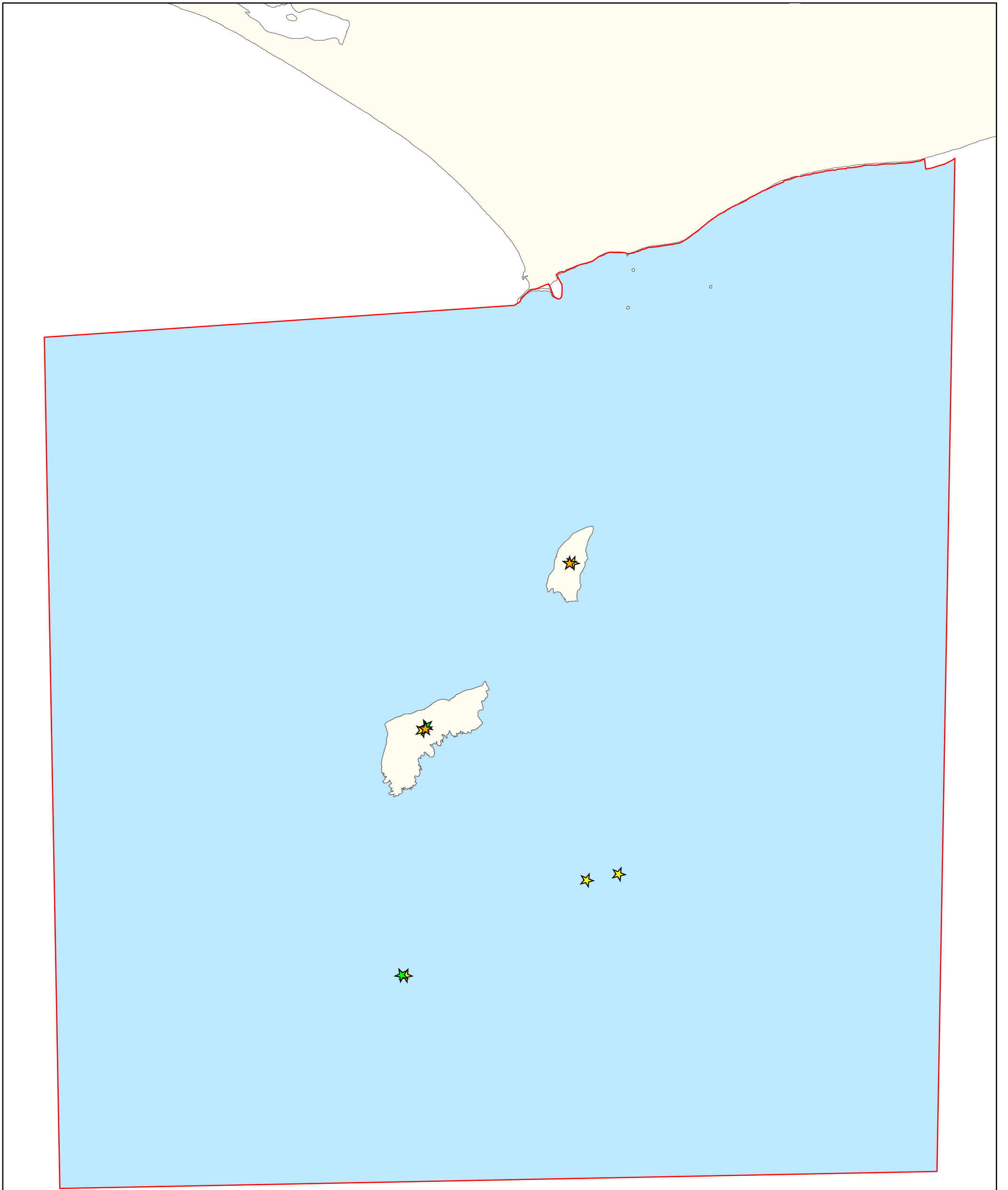
- SAC 000707
- OSi Discovery Series Coastal Boundary
- Marine Community Types**
- Coarse sediment with *Pomatoceros* spp. and *Pisidia longicornis* community complex
- Intertidal reef community complex
- Intertidal sand to muddy sand dominated by polychaetes community complex
- Laminaria* dominated community
- Mixed sediment with epibenthic crustacean community complex
- Subtidal reef dominated by echinoderms and sponges community complex





Legend

- SAC 000707
- 1230 Vegetated Sea Cliffs of the Atlantic and Baltic coasts
- 8330 Submerged or partially submerged sea caves
- OSi Discovery Series Coastal Boundary



Legend

- SAC 000707
- OSi Discovery Series Coastal Boundary
- 1364 Grey Seal - *Halichoerus grypus* habitat
- ★ 1364 Grey Seal - *Halichoerus grypus* breeding sites
- ★ 1364 Grey Seal - *Halichoerus grypus* moult haul-out sites
- ★ 1364 Grey Seal - *Halichoerus grypus* resting haul-out sites

Appendix T: Rum SPA

RUM SPECIAL PROTECTION AREA (SPA) CONSERVATION OBJECTIVES

The box below provides the draft high-level Conservation Objective statements for Rum SPA.

NatureScot is currently preparing Conservation and Management Advice for all inshore marine protected areas. The Conservation and Management Advice documents will include the full Conservation Objectives which incorporates site-specific supplementary advice and information to assist in the interpretation of the high-level Conservation Objectives. Whilst the site-specific advice and information is developed, the high-level Conservation Objectives will remain as draft but are unlikely to change. **These draft high-level Conservation Objectives should be used for Habitats Regulations Appraisals of plans or projects.**

The Conservation and Management Advice documents will also include NatureScot's initial advice to support management at these marine protected areas.

The * denotes a qualifying feature that is an assemblage feature only.

<p>Rum SPA</p> <p>Qualifying features:</p> <ul style="list-style-type: none"> • Red-throated diver (<i>Gavia stellata</i>) • Common guillemot* (<i>Uria aalge</i>) • Black-legged kittiwake* (<i>Rissa tridactyla</i>) • Manx shearwater (<i>Puffinus puffinus</i>) • Golden eagle (<i>Aquila chrysaetos</i>)
<p>Draft Conservation Objectives:</p> <p>1. To ensure that the qualifying features of Rum SPA are in favourable condition and make an appropriate contribution to achieving Favourable Conservation Status.</p> <p>2. To ensure that the integrity of Rum SPA is restored in the context of environmental changes by meeting objectives 2a, 2b and 2c for each qualifying feature:</p> <p>2a. The populations of the qualifying features are viable components of Rum SPA.</p> <p>2b. The distributions of the qualifying features throughout the site are maintained by avoiding significant disturbance of the species.</p> <p>2c. The supporting habitats and processes relevant to qualifying features and their prey/food resources are maintained, or where appropriate, restored at Rum SPA.</p>

Black-legged kittiwake is considered to be in an unfavourable condition at Rum SPA and therefore an overarching 'restore' objective is set for the site.

For the Rum SPA, when carrying out appraisals of plans or projects, the focus of the appraisal should be to understand the impact of the plan or project on site integrity. For qualifying features that are in favourable condition this means maintaining that condition. For black-legged kittiwake that is in unfavourable condition, it means ensuring that the plan or project does not prevent or reduce the potential for recovery. The expectation is not for the plan or project to restore site integrity. Should the plan or project compromise the ability of the black-legged kittiwake to recover (e.g. result in a further decline or accelerate the rate of decline, or prevent a recovery from occurring), then the Rum SPA will not make an appropriate contribution to achieving FCS across the Atlantic Biogeographic Region.

Appendix U: Mingulay and Berneray SPA

Conservation Objectives for Mingulay and Berneray Special Protection Area

To avoid deterioration of the habitats of the qualifying species (listed below) or significant disturbance to the qualifying species, thus ensuring that the integrity of the site is maintained; and

To ensure for the qualifying species that the following are maintained in the long term:

- Population of the species as a viable component of the site
- Distribution of the species within site
- Distribution and extent of habitats supporting the species
- Structure, function and supporting processes of habitats supporting the species
- No significant disturbance of the species

Qualifying Species:

- Fulmar (*Fulmaris glacialis*)*
- Guillemot (*Uria aalge*)*
- Kittiwake (*Rissa tridactyla*)*
- Puffin (*Fratercula arctica*)*
- Razorbill (*Alca torda*)
- Shag (*Phalacrocorax aristotelis*)*

- Seabird assemblage

* indicates assemblage qualifier only

Appendix V: Buchan Ness to Collieston Coast SPA

**Conservation Objectives for Buchan Ness to Collieston Coast
Special Protection Area**

To avoid deterioration of the habitats of the qualifying species (listed below) or significant disturbance to the qualifying species, thus ensuring that the integrity of the site is maintained; and

To ensure for the qualifying species that the following are maintained in the long term:

- **Population of the species as a viable component of the site**
- **Distribution of the species within site**
- **Distribution and extent of habitats supporting the species**
- **Structure, function and supporting processes of habitats supporting the species**
- **No significant disturbance of the species**

Qualifying Species:

- Fulmar (*Fulmarus glacialis*)*
- Guillemot (*Uria aalge*)*
- Herring gull (*Larus argentatus*)*
- Kittiwake (*Rissa tridactyla*)*
- Shag (*Phalacrocorax aristotelis*)*

- Seabird assemblage

* indicates assemblage qualifier only

The site overlaps with Buchan Ness to Collieston Special Area of Conservation

Appendix W: Troup, Pennan and Lion's Head SPA

**Conservation Objectives for Troup, Pennan and Lion's Heads
Special Protection Area**

To avoid deterioration of the habitats of the qualifying species (listed below) or significant disturbance to the qualifying species, thus ensuring that the integrity of the site is maintained; and

To ensure for the qualifying species that the following are maintained in the long term:

- **Population of the species as a viable component of the site**
- **Distribution of the species within site**
- **Distribution and extent of habitats supporting the species**
- **Structure, function and supporting processes of habitats supporting the species**
- **No significant disturbance of the species**

Qualifying Species:

- Fulmar (*Fulmarus glacialis*)*
- Guillemot (*Uria aalge*)
- Herring gull (*Larus argentatus*)*
- Kittiwake (*Rissa tridactyla*)*
- Razorbill (*Alca torda*)*

- Seabird assemblage

* indicates assemblage qualifier only

Appendix X: Shiant Isles SPA

Conservation Objectives for Shiant Isles Special Protection Area

To avoid deterioration of the habitats of the qualifying species (listed below) or significant disturbance to the qualifying species, thus ensuring that the integrity of the site is maintained; and

To ensure for the qualifying species that the following are maintained in the long term:

- Population of the species as a viable component of the site
- Distribution of the species within site
- Distribution and extent of habitats supporting the species
- Structure, function and supporting processes of habitats supporting the species
- No significant disturbance of the species

Qualifying Species:

- Barnacle goose (*Branta leucopsis*)
- Fulmar (*Fulmarus glacialis*)*
- Guillemot (*Uria aalge*)*
- Kittiwake (*Rissa tridactyla*)*
- Puffin (*Fratercula arctica*)
- Razorbill (*Alca torda*)
- Shag (*Phalacrocorax aristotelis*)

- Seabird assemblage

* indicates assemblage qualifier only

Appendix Y: East Caithness Cliffs SPA

Conservation Objectives for East Caithness Cliffs Special Protection Area

To avoid deterioration of the habitats of the qualifying species (listed below) or significant disturbance to the qualifying species, thus ensuring that the integrity of the site is maintained; and

To ensure for the qualifying species that the following are maintained in the long term:

- Population of the species as a viable component of the site
- Distribution of the species within site
- Distribution and extent of habitats supporting the species
- Structure, function and supporting processes of habitats supporting the species
- No significant disturbance of the species

Qualifying Species:

- Cormorant (*Phalacrocorax carbo*)*
- Fulmar (*Fulmarus glacialis*)*
- Great black-backed gull (*Larus marinus*)*
- Guillemot (*Uria aalge*)
- Herring gull (*Larus argentatus*)
- Kittiwake (*Rissa tridactyla*)
- Peregrine (*Falco peregrinus*)
- Razorbill (*Alca torda*)
- Shag (*Phalacrocorax aristotelis*)

- Seabird assemblage

* indicates assemblage qualifier only

The site overlaps with East Caithness Cliffs Special Area of Conservation

Appendix Z: Seas off St Kilda SPA

ST KILDA SPECIAL PROTECTION AREA (SPA) AND SEAS OFF ST KILDA SPA DRAFT CONSERVATION OBJECTIVES

The box below provides the draft high-level Conservation Objective statements for St Kilda SPA and Seas off St Kilda SPA.

NatureScot is currently preparing Conservation and Management Advice for all inshore marine protected areas. The Conservation and Management Advice documents will include the full Conservation Objectives which incorporates site-specific supplementary advice and information to assist in the interpretation of the high-level Conservation Objectives. Whilst the site-specific advice and information is developed, the high-level Conservation Objectives will remain as draft but are unlikely to change. **These draft high-level Conservation Objectives should be used for Habitats Regulations Appraisals of plans or projects.**

The Conservation and Management Advice documents will also include our initial advice to support management at these marine protected areas.

For the Seas off St Kilda SPA our Conservation and Management Advice is being developed in partnership with the Joint Nature Conservation Committee (JNCC).

The * denotes a qualifying feature that is an assemblage feature only.

St Kilda SPA	Seas off St Kilda SPA
<p>Qualifying features:</p> <ul style="list-style-type: none"> • Atlantic puffin (<i>Fratercula arctica</i>) • Black-legged kittiwake* (<i>Rissa tridactyla</i>) • Common guillemot* (<i>Uria aalge</i>) • European storm petrel (<i>Hydrobates pelagicus</i>) • Great skua (<i>Stercorarius skua</i>) • Leach's storm petrel (<i>Oceanodroma leucorhoa</i>) • Manx shearwater* (<i>Puffinus puffinus</i>) • Northern fulmar* (<i>Fulmarus glacialis</i>) • Northern gannet (<i>Morus bassanus</i>) • Razorbill* (<i>Alca torda</i>) 	<p>Qualifying features:</p> <ul style="list-style-type: none"> • Atlantic puffin* (<i>Fratercula arctica</i>) • Common guillemot* (<i>Uria aalge</i>) • European storm petrel* (<i>Hydrobates pelagicus</i>) • Northern fulmar* (<i>Fulmarus glacialis</i>) • Northern gannet (<i>Morus bassanus</i>)
<p>Draft Conservation Objectives:</p> <ol style="list-style-type: none"> 1. To ensure that the qualifying features of St Kilda SPA and the Seas off St Kilda SPA are in favourable condition and make an appropriate contribution to achieving Favourable Conservation Status. 2. To ensure that the integrity of St Kilda SPA and the Seas off St Kilda SPA is restored in 	

the context of environmental changes by meeting objectives 2a, 2b and 2c for each qualifying feature:

2a. The populations of qualifying features are viable components of St Kilda SPA and Seas off St Kilda SPA.

2b. The distributions of the qualifying features throughout St Kilda SPA and Seas off St Kilda SPA are maintained by avoiding significant disturbance of the species.

2c. The supporting habitats and processes relevant to qualifying features and their prey/food resources are maintained, or where appropriate restored, at St Kilda SPA and/or Seas off St Kilda SPA.

Northern fulmar, razobill, common guillemot and black-legged kittiwake are considered to be in an unfavourable condition at St Kilda SPA, with northern fulmar and common guillemot also considered to be in an unfavourable condition at the Seas off St Kilda SPA. Therefore an overarching 'restore' objective is set for the sites.

For the St Kilda SPA and Seas off St Kilda SPA, when carrying out appraisals of plans or projects, the focus of the appraisal should be to understand the impact of the plan or project on site integrity. For qualifying features that are in favourable condition this means maintaining that condition. For northern fulmar, razobill, common guillemot and black-legged kittiwake that are in unfavourable condition, it means ensuring that the plan or project does not prevent or reduce the potential for recovery. The expectation is not for the plan or project to restore site integrity. Should the plan or project compromise the ability of the respective unfavourable qualifying features to recover (e.g. result in a further decline or accelerate the rate of decline, or prevent a recovery from occurring), then the St Kilda SPA and Seas off St Kilda SPA will not make an appropriate contribution to achieving FCS across the Atlantic Biogeographic Region.

Appendix AA Handa SPA

Conservation Objectives for Handa Special Protection Area

To avoid deterioration of the habitats of the qualifying species (listed below) or significant disturbance to the qualifying species, thus ensuring that the integrity of the site is maintained; and

To ensure for the qualifying species that the following are maintained in the long term:

- Population of the species as a viable component of the site
- Distribution of the species within site
- Distribution and extent of habitats supporting the species
- Structure, function and supporting processes of habitats supporting the species
- No significant disturbance of the species

Qualifying Species:

- Fulmar (*Fulmarus glacialis*)*
- Great skua (*Catharacta skua*)*
- Guillemot (*Uria aalge*)
- Kittiwake (*Rissa tridactyla*)*
- Razorbill (*Alca torda*)

- Seabird assemblage

* indicates assemblage qualifier only

Appendix AB St Kilda SPA

ST KILDA SPECIAL PROTECTION AREA (SPA) AND SEAS OFF ST KILDA SPA DRAFT CONSERVATION OBJECTIVES

The box below provides the draft high-level Conservation Objective statements for St Kilda SPA and Seas off St Kilda SPA.

NatureScot is currently preparing Conservation and Management Advice for all inshore marine protected areas. The Conservation and Management Advice documents will include the full Conservation Objectives which incorporates site-specific supplementary advice and information to assist in the interpretation of the high-level Conservation Objectives. Whilst the site-specific advice and information is developed, the high-level Conservation Objectives will remain as draft but are unlikely to change. **These draft high-level Conservation Objectives should be used for Habitats Regulations Appraisals of plans or projects.**

The Conservation and Management Advice documents will also include our initial advice to support management at these marine protected areas.

For the Seas off St Kilda SPA our Conservation and Management Advice is being developed in partnership with the Joint Nature Conservation Committee (JNCC).

The * denotes a qualifying feature that is an assemblage feature only.

St Kilda SPA	Seas off St Kilda SPA
<p>Qualifying features:</p> <ul style="list-style-type: none"> • Atlantic puffin (<i>Fratercula arctica</i>) • Black-legged kittiwake* (<i>Rissa tridactyla</i>) • Common guillemot* (<i>Uria aalge</i>) • European storm petrel (<i>Hydrobates pelagicus</i>) • Great skua (<i>Stercorarius skua</i>) • Leach's storm petrel (<i>Oceanodroma leucorhoa</i>) • Manx shearwater* (<i>Puffinus puffinus</i>) • Northern fulmar* (<i>Fulmarus glacialis</i>) • Northern gannet (<i>Morus bassanus</i>) • Razorbill* (<i>Alca torda</i>) 	<p>Qualifying features:</p> <ul style="list-style-type: none"> • Atlantic puffin* (<i>Fratercula arctica</i>) • Common guillemot* (<i>Uria aalge</i>) • European storm petrel* (<i>Hydrobates pelagicus</i>) • Northern fulmar* (<i>Fulmarus glacialis</i>) • Northern gannet (<i>Morus bassanus</i>)
<p>Draft Conservation Objectives:</p> <ol style="list-style-type: none"> 1. To ensure that the qualifying features of St Kilda SPA and the Seas off St Kilda SPA are in favourable condition and make an appropriate contribution to achieving Favourable Conservation Status. 2. To ensure that the integrity of St Kilda SPA and the Seas off St Kilda SPA is restored in 	

the context of environmental changes by meeting objectives 2a, 2b and 2c for each qualifying feature:

2a. The populations of qualifying features are viable components of St Kilda SPA and Seas off St Kilda SPA.

2b. The distributions of the qualifying features throughout St Kilda SPA and Seas off St Kilda SPA are maintained by avoiding significant disturbance of the species.

2c. The supporting habitats and processes relevant to qualifying features and their prey/food resources are maintained, or where appropriate restored, at St Kilda SPA and/or Seas off St Kilda SPA.

Northern fulmar, razobill, common guillemot and black-legged kittiwake are considered to be in an unfavourable condition at St Kilda SPA, with northern fulmar and common guillemot also considered to be in an unfavourable condition at the Seas off St Kilda SPA. Therefore an overarching 'restore' objective is set for the sites.

For the St Kilda SPA and Seas off St Kilda SPA, when carrying out appraisals of plans or projects, the focus of the appraisal should be to understand the impact of the plan or project on site integrity. For qualifying features that are in favourable condition this means maintaining that condition. For northern fulmar, razobill, common guillemot and black-legged kittiwake that are in unfavourable condition, it means ensuring that the plan or project does not prevent or reduce the potential for recovery. The expectation is not for the plan or project to restore site integrity. Should the plan or project compromise the ability of the respective unfavourable qualifying features to recover (e.g. result in a further decline or accelerate the rate of decline, or prevent a recovery from occurring), then the St Kilda SPA and Seas off St Kilda SPA will not make an appropriate contribution to achieving FCS across the Atlantic Biogeographic Region.

Appendix AC Cape Wrath SPA

Conservation Objectives for Cape Wrath Special Protection Area

To avoid deterioration of the habitats of the qualifying species (listed below) or significant disturbance to the qualifying species, thus ensuring that the integrity of the site is maintained; and

To ensure for the qualifying species that the following are maintained in the long term:

- Population of the species as a viable component of the site
- Distribution of the species within site
- Distribution and extent of habitats supporting the species
- Structure, function and supporting processes of habitats supporting the species
- No significant disturbance of the species

Qualifying Species:

- Fulmar (*Fulmarus glacialis*)*
- Guillemot (*Uria aalge*)*
- Kittiwake (*Rissa tridactyla*)*
- Puffin (*Fratercula arctica*)*
- Razorbill (*Alca torda*)*

- Seabird assemblage

* indicates assemblage qualifier only

The site overlaps with Cape Wrath Special Area of Conservation

Appendix AD Flannan Isles SPA

Conservation Objectives for Flannan Isles Special Protection Area

To avoid deterioration of the habitats of the qualifying species (listed below) or significant disturbance to the qualifying species, thus ensuring that the integrity of the site is maintained; and

To ensure for the qualifying species that the following are maintained in the long term:

- Population of the species as a viable component of the site
- Distribution of the species within site
- Distribution and extent of habitats supporting the species
- Structure, function and supporting processes of habitats supporting the species
- No significant disturbance of the species

Qualifying Species:

- Fulmar (*Fulmarus glacialis*)*
- Guillemot (*Uria aalge*)*
- Kittiwake (*Rissa tridactyla*)*
- Leach's petrel (*Oceanodroma leucorhoa*)
- Puffin (*Fratercula arctica*)*
- Razorbill (*Alca torda*)*

- Seabird assemblage

* indicates assemblage qualifier only

Appendix AE Sule Skerry and Sule Stack SPA

Conservation Objectives for Sule Skerry and Sule Stack Special Protection Area

To avoid deterioration of the habitats of the qualifying species (listed below) or significant disturbance to the qualifying species, thus ensuring that the integrity of the site is maintained; and

To ensure for the qualifying species that the following are maintained in the long term:

- Population of the species as a viable component of the site
- Distribution of the species within site
- Distribution and extent of habitats supporting the species
- Structure, function and supporting processes of habitats supporting the species
- No significant disturbance of the species

Qualifying Species:

- Gannet (*Morus bassanus*)
- Guillemot (*Uria aalge*)*
- Leach's petrel (*Oceanodroma leucorhoa*)
- Puffin (*Fratercula arctica*)
- Shag (*Phalacrocorax aristotelis*)*
- Storm petrel (*Hydrobates pelagicus*)

- Seabird assemblage

* indicates assemblage qualifier only

Appendix AF North Rona and Sula Sgier SPA

Conservation Objectives for North Rona and Sula Sgeir Special Protection Area

To avoid deterioration of the habitats of the qualifying species (listed below) or significant disturbance to the qualifying species, thus ensuring that the integrity of the site is maintained; and

To ensure for the qualifying species that the following are maintained in the long term:

- Population of the species as a viable component of the site
- Distribution of the species within site
- Distribution and extent of habitats supporting the species
- Structure, function and supporting processes of habitats supporting the species
- No significant disturbance of the species

Qualifying Species:

- Fulmar (*Fulmarus glacialis*)*
- Gannet (*Morus bassanus*)
- Great black-backed gull (*Larus marinus*)*
- Guillemot (*Uria aalge*)
- Kittiwake (*Rissa tridactyla*)*
- Leach's petrel (*Oceanodroma leucorhoa*)
- Puffin (*Fratercula arctica*)*
- Razorbill (*Alca torda*)*
- Storm petrel (*Hydrobates pelagicus*)

- Seabird assemblage

* indicates assemblage qualifier only

The site overlaps with North Rona Special Area of Conservation

Appendix AG West Westray SPA

Conservation Objectives for West Westray Special Protection Area

To avoid deterioration of the habitats of the qualifying species (listed below) or significant disturbance to the qualifying species, thus ensuring that the integrity of the site is maintained; and

To ensure for the qualifying species that the following are maintained in the long term:

- Population of the species as a viable component of the site
- Distribution of the species within site
- Distribution and extent of habitats supporting the species
- Structure, function and supporting processes of habitats supporting the species
- No significant disturbance of the species

Qualifying Species:

- Arctic skua (*Stercorarius parasiticus*)*
- Arctic tern (*Sterna paradisaea*)
- Fulmar (*Fulmarus glacialis*) *
- Guillemot (*Uria aalge*)
- Kittiwake (*Rissa tridactyla*)*
- Razorbill (*Alca torda*)*

- Seabird assemblage

* indicates assemblage qualifier only

Appendix AH Hermaness, Saxa Vord and Valla Field SPA

**Conservation Objectives for Hermaness, Saxa Vord & Valla Field
Special Protection Area**

To avoid deterioration of the habitats of the qualifying species (listed below) or significant disturbance to the qualifying species, thus ensuring that the integrity of the site is maintained; and

To ensure for the qualifying species that the following are maintained in the long term:

- **Population of the species as a viable component of the site**
- **Distribution of the species within site**
- **Distribution and extent of habitats supporting the species**
- **Structure, function and supporting processes of habitats supporting the species**
- **No significant disturbance of the species**

Qualifying Species:

- Fulmar (*Fulmarus glacialis*)*
- Gannet (*Morus bassana*)
- Great skua (*Catharacta skua*)
- Guillemot (*Uria aalge*)*
- Kittiwake (*Rissa tridactyla*)*
- Puffin (*Fratercula arctica*)
- Red-throated diver (*Gavia stellata*)
- Shag (*Phalacrocorax aristotelis*)*

- Seabird assemblage

* indicates assemblage qualifier only