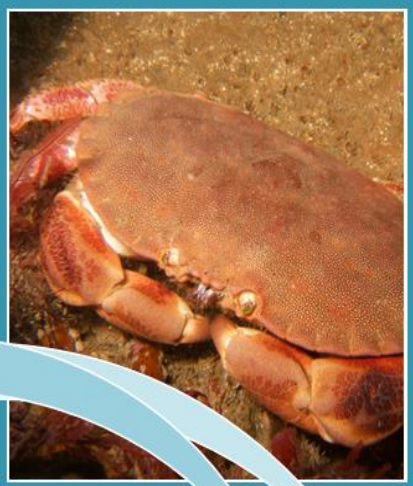
2022-2026 Flamborough Head European Marine Site Management Plan







Flamborough Head Special Area of Conservation

&

Flamborough and Filey Coast Special Protection Area

Flamborough Head European Marine Site Relevant Authorities
as part of the
Yorkshire Marine Nature Partnership Marine Protected Area Management Group

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This Management Plan has been developed by Rachel Riddell and Heather Davison-Smith on behalf of the Flamborough Head European Marine Site Relevant Authorities, which consists of the following partners:

and is supported by

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Executive Summary

This Management Plan sets out the existing and future management of the Flamborough Head European Marine Site (EMS) for the next five years. It has been developed in conjunction with Relevant Authorities and key partners in order to appropriately manage the activities and projects occurring within or adjacent to the protected area. The definitive aim of the Management Plan is to ensure that the conservation features of the EMS are not negatively affected by human disturbance or inappropriate management. This document should be used in conjunction with the Regulation 37 Conservation Advice packages and conservation objectives for the site.

Why does the EMS need a Management Plan?

The production of a Management Plan, in conjunction with an effective Management Group, demonstrates best value for money, as it assists Authorities in dispensing their duties to maintain or restore the EMS to 'favourable' condition status. The Habitats Regulations (as amended, 2019) advise that management plans be developed for EMSs as best-practice, to avoid deterioration of habitats and disturbance of species, whilst enabling a better understanding of the protection afforded to the site. Although this is not a statutory document, it details the legal responsibilities of Relevant Authorities and describes how these responsibilities will be administered in order to protect the conservation features of the site.

Who is the Management Plan for?

Primarily, this document has been produced to assist Relevant Authorities with management of the EMS and to demonstrate the protection afforded to the site. However, the Management Plan contains a wealth of information on the features of the EMS, therefore, this publicly available document may be used by a variety of individuals to inform a wide range of projects.

What is included in the Management Plan?

This document has been divided into four distinct chapters and additional appendices:

1. The European Marine Site - describes the designations and the conservation features of the EMS along with other protected areas inside the boundaries of the site.
2. Legislative Drivers and Sustainable Development Policies - details the legislation behind the designations and other policies which affect management.
3. Governance - details the organisations which are responsible for managing the EMS and explains how the site is governed.
4. Site Management - describes the activities known to occur around the EMS and the management measures employed by the Management Scheme.

Appendix A: 2022-2026 Action Plan - details the active projects which are being undertaken around the EMS, along with Relevant Authority responsibilities and Management Scheme aims.

Appendix B: Activity-specific management measures and pressures on conservation features.

Appendix C: Case studies of best practice and successful projects (2016-2021).

Appendix D: Maps and references.

Version Control

This document will be updated as necessary following changes in legislation, policy and guidance, site condition and management pressures. The table below will document any changes made to the Management Plan text. The appendices will be updated regularly, through the annual reporting system. Annual updates will *not* be recorded in the table below.

Date	Pages Changed	Summary of Changes

Review Timetable

A number of document reviews are scheduled for the duration of the Management Plan. The annual review process requests that Relevant Authorities and key partners update their specific projects as listed within the Action Plan and supply any new information as is necessary. New legislation is also expected to gain Royal Assent during the course of the Management Plan which will be taken into account during the review process.

2022	New Management Plan published
2023	Annual review process, including Action Plan update
2024	Mid-term review
2025	Annual review process, including Action Plan update
2026	New five-year Management Plan (2027-2031) developed and published

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Chapter One:
The European Marine Site

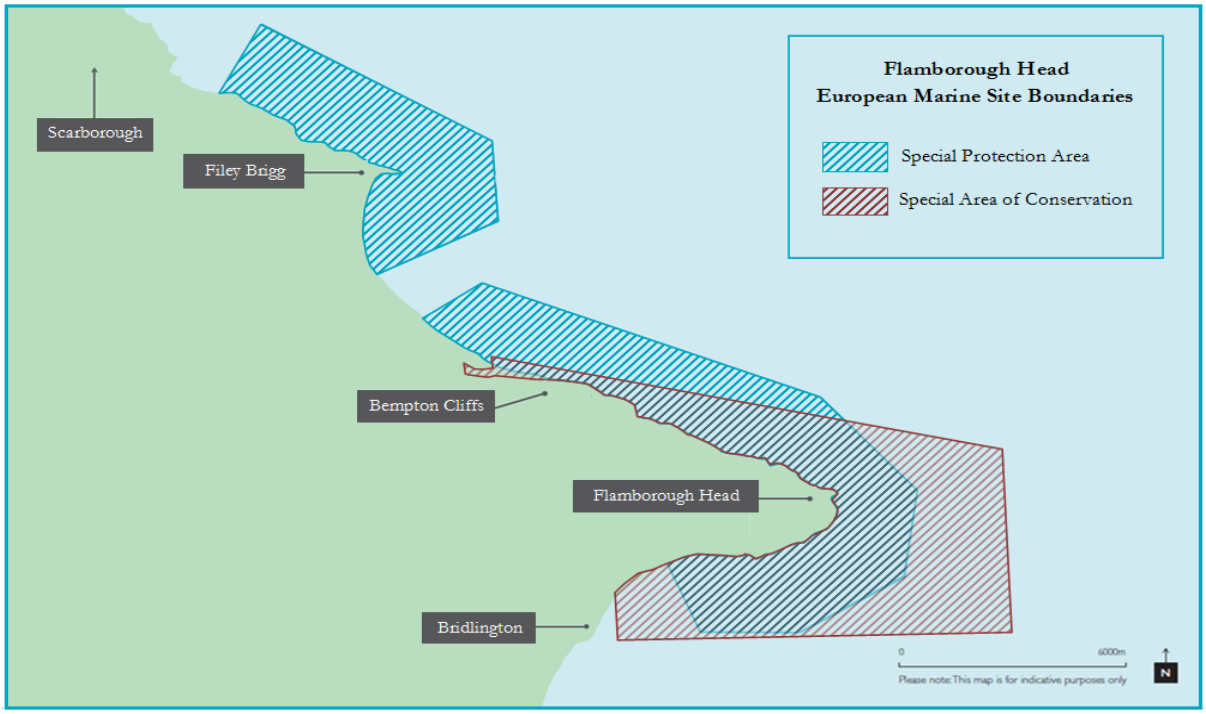
1.1 Introduction

Situated on the east coast of Yorkshire, Flamborough Head is the most northerly outcrop of coastal chalk in the UK, where white cliffs surge out of the sea to heights of more than 130 metres (m). Hundreds of sea caves have been forged from this rock by the ever-pounding waves of the North Sea, leaving smugglers' caverns and coves scattered around the shoreline. Thousands of seabirds squabble for space on the cliff face, and soar above the waves before diving below to fish for food to satisfy demanding chicks. Below the waves, on the murky chalk reef, lurk the lobsters and edible crabs which serve the UK's biggest shellfish port, Bridlington.

The high chalk cliffs of Flamborough give way northwards to the gently sloping clay cliffs of Speeton and Filey Bay, before rising again to form Filey Brigg. Although geologically very different from Flamborough Head, consisting of a mixture of sandstone and limestone, this 1.5 kilometre (km) narrow peninsula is also an important habitat for the breeding seabird colony. Rising to a modest 20m, the natural rock ledges on the harder, northern side of the peninsula enable kittiwakes, guillemots, razorbills and fulmars to breed throughout the summer months.

1.2 The European Marine Site

European Marine Site (EMS) is an umbrella term for two separate designations occurring together in tidal waters: The Special Area of Conservation (SAC) and the Special Protection Area (SPA) show in the map below and in Appendix D. These designations form part of the UK's national site network (formerly the Natura 2000 Network) of nature conservation areas, which are in place across the UK whilst also contributing to the UK's network of Marine Protected Areas (MPAs). Currently, 38% of the UK's marine environment is covered by some form of MPA designation[1].



[1] Joint Nature Conservation Committee (2021)

Regular monitoring informs managers whether features are meeting conservation objectives, by achieving 'favourable' condition status, or if further management measures are needed (see Section 1.3). Conservation objectives and descriptions of 'favourable' condition can be found in the Regulation 37 Conservation Advice for the site. Table 1 illustrates the conservation features and condition status of both the SAC and SPA, along with the parallel Site of Special Scientific Interest (SSSI) designations.

Table 1: Designations and Conservation Features of the European Marine Site

Designation	Conservation Features and Sub-features	Condition Status*
Flamborough Head Special Area of Conservation (6623 hectares)	1. Reef a. Rocky Shore Communities b. Kelp Forest Communities c. Subtidal Faunal Turf Communities 2. Submerged or Partially Submerged Sea Caves a. Microalgal and Lichen Communities b. Faunal Cushion and Crust Communities 3. Vegetated Sea Cliffs of the Atlantic and Baltic Coasts	All Features: Favourable (2010)
Flamborough and Filey Coast Special Protection Area (8039 hectares)	1. Black-Legged Kittiwake 2. Northern Gannet 3. Common Guillemot 4. Razorbill 5. Seabird Assemblage a. Northern Fulmar b. Non-listed Species (Atlantic puffin, herring gull, European shag & cormorant)	Black-Legged Kittiwake: Unfavourable All Other Features: Favourable (2016)
Site of Special Scientific Interest: Flamborough Head (315 hectares)	1. Geological Features (EC Aptian-Albian; EC Berriasian-Barremian; E Cenomanian-Maastrichtian; EC Kimmeridgian; EC Pelistocene Vertebrata; EC Quaternary of East England; IS Quaternary of East England; IA Coastal Geomorphology) 2. Biological Features a. Hard Maritime Cliff and Slope (maritime grassland [MC11 & MC8], maritime seabird cliff community [MC6]) b. Aggregations of Breeding Seabirds (Kittiwake, razorbill & guillemot; Assemblage of breeding seabirds including puffin and fulmar)	Favourable = 67%, Unfavourable Recovering = 4%, Unfavourable Declining = 29% (2015)
Site of Special Scientific Interest: Filey Brigg (28 hectares)	1. Geological Features a. EC Oxfordian 2. Aggregations of Non-Breeding Birds a. Purple Sandpiper	All Units: Favourable (2010)

* Further information about condition monitoring and current statuses can be found in Sections 1.3 and 2.1.

1.2.1 Special Area of Conservation

The Flamborough Head SAC conserves the sea caves, vegetated sea cliffs, and the chalk reef around the headland, on which so many species depend. The unique geological features of the headland and the rich waters of the North Sea - nourished by the meeting of two currents, known as the Flamborough Front - draw seabirds and other marine species to the area each year.

Feature: Reef

The chalk bedrock and boulder reefs of Flamborough Head are one of the most extensive areas of sublittoral chalk in Europe, extending up to 6km offshore. Comprising of horizontal ledges, vertical walls and broken rock, the harder chalk on the north side of the headland has created a reef habitat which supports a different range of species from those on the slightly softer southern side of the headland. This diverse temperate ecosystem is home to a wide variety of animals including sponges, sea firs, sea squirts and molluscs. Mobile species including lobsters, crabs and starfish also contribute to this 'living turf'. The unique location of the chalk reef, between the colder northern current and the warmer waters from the south, means that many species are found to be at the limits of their normal distribution range. For these reasons, the reef habitats at Flamborough are considered to be one of the most diverse in the UK. There are three sub-features within the reef habitat around Flamborough Head:

***Sub Feature**: Intertidal Rock (Rocky Shore Communities)*

This intertidal area is a biologically rich and complex environment. The exposed north-eastern shores of the headland, and the more sheltered southern shoreline, are home to a variety of species which are highly tolerant to the daily changes in temperature, salinity, and wave action. Hardy seaweeds and algal species are common in this habitat, along with limpets, mussels, and anemones.

***Sub Feature**: Infralittoral Rock (Kelp Forest Communities)*

The clarity of the relatively unpolluted sea water and the hard nature of the chalk have enabled extensive kelp forests to become established in the shallow waters around the base of the cliffs. Similar to terrestrial forests, this type of habitat is recognised as one of the most productive and dynamic ecosystems in the world, due to its ability to shelter and feed a variety of species. Small animals, such as worms and crustaceans, live amongst larger species like lumpsucker fish and sea urchins.

***Sub Feature**: Circalittoral Rock (Subtidal Faunal Turf Communities)*

Otherwise known as animal dominated submerged rock, this habitat is covered by colonial animals which can often be mistaken for seaweed species. These encrusting mats and plant-like organisms are commonly used by other animals as a substrate to live on, including crabs, molluscs, and sea slugs. One hydroid species, which resembles a bottlebrush, is a northern species found at the southernmost limit of its range around Flamborough Head.

Chalk reef is exposed at low tide in many locations around the headland, including here at Thornwick Bay.

Feature: Submerged or Partially Submerged Sea Caves

Due to the continued wave action of the North Sea and the unique geology of the headland, Flamborough has a greater number and wider variety of cave habitats than any other chalk site in Britain. There are in excess of 300 caves around the site; some extend for more than 50 metres into the cliff itself, while others are partially submerged by seawater at all times.

This archway at Selwicks Bay is typical of the caves and arches at Flamborough.

***Sub Feature**: Microalgal and Lichen Communities*

The cave systems around Flamborough are important because of the algal communities which inhabit them. Species such as the deep red sommerfelt mix with green and brown algal species on the cave walls, creating a mosaic of colour. The caves are also home to chalk-boring sponges which create round holes in the rock of up to 5 centimetres in diameter.

***Sub Feature**: Faunal Cushion and Crust Communities*

The faunal communities found within the sea caves around Flamborough Head are an important structural component of the habitat. The varied extent to which the caves are immersed and scoured by the waves has led to a diverse community. Whilst limpets and periwinkles dominate most caves, some species are only found in a handful of locations. For instance, a type of sand-concreting tube worm has only been recorded in caves at North Landing and Thornwick Bay.

Feature: Vegetated Sea Cliffs of the Atlantic and Baltic Coasts

The hard chalk cliffs of Flamborough Head, which are more commonly found on the south coast of England, host an important example of calcareous cliff vegetation. Whereas most east coast cliff sites are less influenced by salt spray than those in the south, Flamborough is an exception due to its position and the underlying geology. This maritime influence allows sea cliff species, such as thrift and sea plantain, to grow alongside herbaceous species like kidney vetch. Towards the eastern end of the site, the glacial till deposits support acidic grassland communities.

1.2.2 Special Protection Area

The Flamborough Head and Bempton Cliffs SPA was originally designated in 1993 for its internationally important colony of black-legged kittiwakes, which amounted to 2.6% of the international breeding population.

The designation has recently been extended and renamed as the Flamborough and Filey Coast SPA. This extension has provided specific protection for another three species, the overall seabird assemblage (defined as more than 20,000 breeding individuals) of approximately 333,152[2] breeding

[2] Cope, R; Aitken, D & O'Hara D. (2022). *Flamborough and Filey Coast SPA Seabird Monitoring Programme 2022 Report.* Royal Society for the Protection of Birds.

adults, an area of inshore waters and the terrestrial cliff environment of Filey Brigg (see Table 1). The protection afforded to the inshore waters around the terrestrial designation, from mean low water to 2km offshore, helps to meet some of the essential ecological requirements of the breeding seabird populations; preening activities, breeding displays and local foraging occur in these waters.

Feature: Black-legged Kittiwake

The Flamborough and Filey Coast SPA represents the only English MPA supporting black-legged kittiwake numbers of international importance. This medium-sized gull nests throughout the protected area and can raise three chicks, although it is more common for two eggs to be laid. The intertidal wave-cut platforms are used as roosting sites by juveniles and large groups of seabirds float on the sea during the summer season. Kittiwakes have been recorded foraging more than 200km offshore where they feed on small fish gathered near the surface.

Kittiwakes can lay up to three eggs but it is common for only one or two chicks to fledge.

Recent counts have indicated a significant decrease in the kittiwake population within the SPA. In 1987, approximately 83,700 pairs of kittiwakes were nesting around Flamborough Head. After an extreme low of 37,617 pairs in 2008, the population was counted at 51,372 pairs in 2017, followed by 44,574 pairs in 2022[2]. This downward trend is indicative of other North Sea kittiwake colonies, as the species is declining nationally. Reasons for this decline are currently unknown, however it has been linked to an increase in sea surface temperature reducing the availability of their main prey source (sandeels) (see Section 4.1.1). This change in population size has been reflected in the 'unfavourable declining' SSSI condition assessment for supralittoral rock (see Section 1.3). Figure 1 illustrates the general decline in kittiwake productivity, reaching a low of 0.51 chicks per pair at Flamborough Head in 2013, although recent years have been relatively stable[2].

Productivity monitoring of the kittiwakes nesting along Filey Cliffs began in 2012. During this initial monitoring year, three plots were lost due to a landslip. As seen in Figure 1, productivity at Filey has steadily increased, however this is still below the national average (0.68 chicks per pair) and lower than the productivity records for the Flamborough and Bempton Cliffs colony[2].

Feature: Northern Gannet

The gannet colony along Bempton Cliffs is the only mainland gannetry in England and represents over 2% of the North Atlantic population. The colony has grown rapidly to over 27,000[2] individuals since the 1980s, when only a handful of pairs were present. Gannets can travel hundreds of kilometres in search of prey and can dive to a depth of around 20m, reaching speeds of up to 60 miles per hour. Gannets, which rear single chicks, have shown relatively stable productivity in recent years, however a significant drop in 2022 was a result of Avian Flu affecting the colony (Figure 2)[2].

Feature: Razorbill

The razorbill colony at Flamborough Head is one of the southernmost breeding groups on the east coast of England. Like guillemots, razorbills lay a single conical shaped egg on bare rock, only utilising the sheer cliffs of the northern side of the headland. This breeding method helps to prevent mammalian egg predation, though nest sites can be exposed to adverse weather conditions. The breeding colony around Flamborough has been steadily increasing since the late 1960s and now consists of around 45,780 individuals[2]. This is reflected in the strong productivity trends shown in Figure 3[2]. Preliminary studies around Flamborough Head and Bempton Cliffs have shown that razorbills feed on sandeels during the breeding season, but have also been recorded foraging for sprats and other small fish.

Feature: Common Guillemot

Guillemots are one of the most numerous seabirds within the breeding colony; approximately 111,925[2] birds exploit the sheer cliffs and ledges to lay their single egg. Productivity has fluctuated recently (Figure 4[2]) although this remains in line with national trends. Guillemots are much less restrictive than kittiwakes and can feed successfully on sprats, sandeels and other small fish. Nesting bridled individuals have also been observed.

Feature: Seabird Assemblage

The seabird assemblage is of international importance due to the number of individual seabirds found within the site. While not a qualifying feature in their own right, northern fulmars are considered to be a main component of the assemblage, as over 2,000[2] individuals return to the cliffs to breed each summer. Found widely around the UK coast, fulmars are able to feed on a variety of prey species. The largest concentration of fulmars within the SPA is on the northern side of the headland at Speeton cliffs and around Filey Brigg.

Under the seabird assemblage, all migratory species are also afforded protection, despite not meeting the numbers of national importance (1% of national population). Therefore, Atlantic puffin, herring gull, European shag and great cormorant are also referenced as non-listed assemblage species.

Guillemots, razorbills and kittiwakes often nest close together around the protected site.

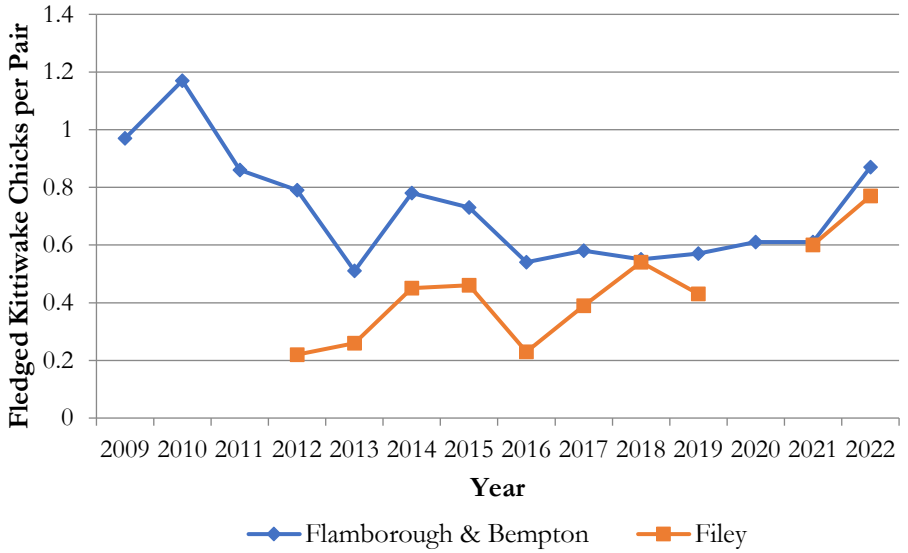


Figure 1: Kittiwake Productivity at Flamborough Head and Bempton Cliffs (2009-2022) and Filey Brigg (2012-2022)

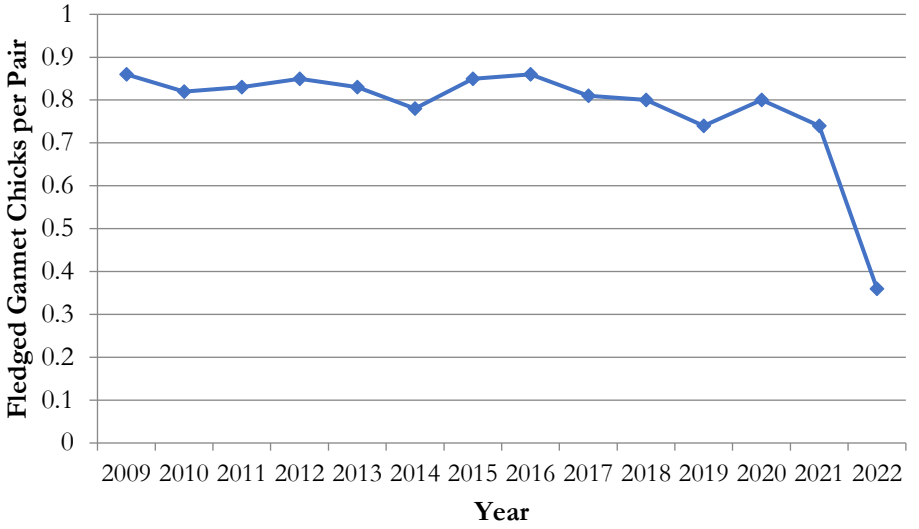


Figure 2: Gannet Productivity at Flamborough Head and Bempton Cliffs (2009-2022)

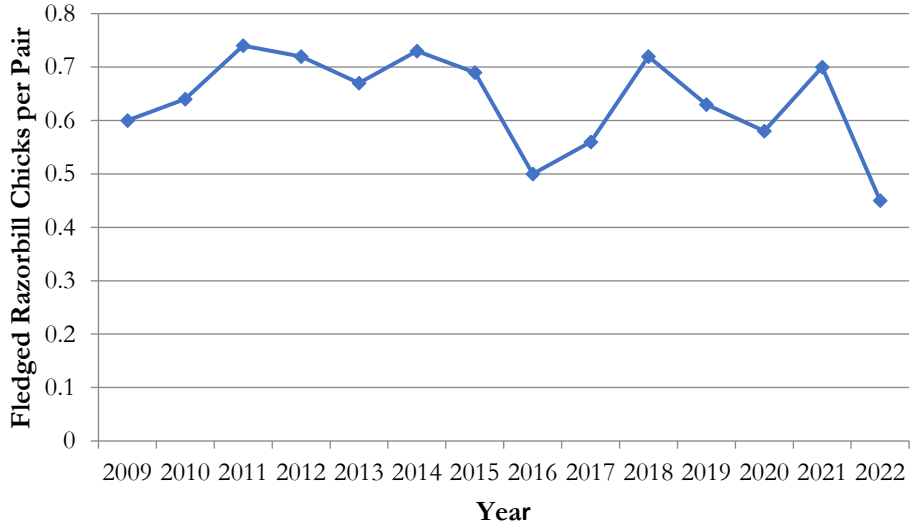


Figure 3: Razorbill Productivity at Flamborough Head and Bempton Cliffs (2009-2022)

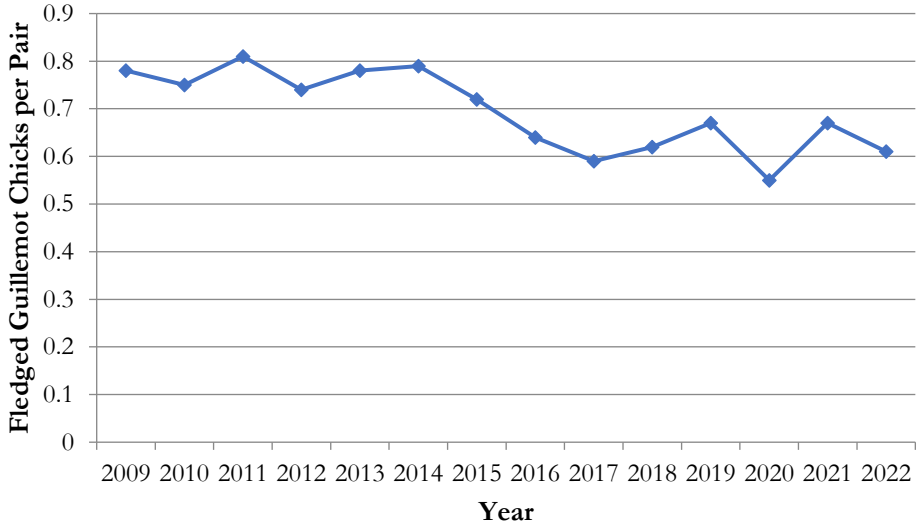


Figure 4: Guillemot Productivity at Flamborough Head and Bempton Cliffs (2009-2022)

1.2.3 Sites of Special Scientific Interest

Terrestrial SPAs in the UK are underpinned by a Site of Special Scientific Interest (SSSI), designated under the Wildlife and Countryside Act (1981). This national legislation provides the technical mechanisms for management of the European designations and allows regulatory authorities to ensure that there is no conflict between the site's features and any activities occurring within the protected area. Similarly, authorities also have a duty to investigate if an activity enacted outside of the SSSI boundaries has a negative effect on the features of the site.

Flamborough Head SSSI

First notified in 1952, this SSSI comprises the coastal cliffs of Flamborough Head between Reighton in the north and Sewerby in the south. The rock exposures provide the ledges, holes and stacks which are relied upon by the seabirds for their nesting sites and the vegetated cliff-top provides habitat for grassland species to grow alongside maritime-influenced plant varieties.

The chalk of Flamborough Head is part of an ancient cliff line which extends inland, to the west of Driffield and Beverley, and reaches southwards into the Lincolnshire Wolds. The chalk rock was formed at the bottom of an ancient sub-tropical, shallow sea through the decomposition of the remains of millions of tiny sea creatures. As such, this internationally important geological site has numerous features of interest spanning the Upper Jurassic period (about 140 million years ago) to the top of the Cretaceous period (about 70 million years ago). The cliffs are capped by boulder clay, laid down over thousands of years during consecutive ice ages. Amongst this range of sediment deposit and rock, fossilised mammals from the Pleistocene era (between 2.5 million and 11,000 years ago) can be found.

The northern cliffs are relatively simple in comparison, consisting of the iconic chalk cliffs interspersed with flint deposits. The northern side of the headland holds the majority of sea caves and, where the overlaying clay till has collapsed into these recesses, a number of blowholes have developed. The largest quantities of breeding birds can be found on the north-facing cliffs, although a small number do nest around South Landing on the southern side of the headland. This aggregation of breeding birds is protected through the SSSI because it relies directly on the supralittoral rock (or rock influenced by its maritime location) of the headland.

Filey Brigg SSSI

Filey Brigg SSSI includes the peninsula and a small proportion of the land directly behind. Whilst very different geologically from Flamborough Head, the exposures of limestone from the Corallian period (157 million-163 million years ago) make this area an important geological site. The Brigg also provides one of the best locations for examining middle calcareous grit stones, which have been mined extensively in other areas to construct notable buildings such as Ampleforth College. In addition to these geological features, the intertidal habitat of the rocky shoreline is also protected. The littoral sediment, formed as the softer glacial clay material erodes, provides habitat for nationally important numbers of over-wintering purple sandpiper. An extension to the existing SSSI, incorporating features from Filey Brigg to Scarborough South Bay, is currently under development.

1.3 Conservation Feature Monitoring

Regular monitoring of the conservation features and supporting habitats is an important management tool for the site, enabling an effective decision-making process based on the best available evidence. Activities which are controllable by the Relevant Authorities must be monitored to ensure that any negative effects on the features of the site are minimised and all stakeholders are aware of the protected area. Additionally, non-statutory monitoring can improve knowledge of the site and inform the decision-making process.

1.3.1 Condition Assessments

In order to inform site management, condition assessments must be regularly carried out by the Statutory Nature Conservation Body (Natural England). Assessments range from 'favourable', which all features should be targeted towards or maintained at, to three levels of 'unfavourable' condition. The national SSSI designations overlap and underpin the SAC and the SPA, giving many of the technical mechanisms for management. As such, the majority of the SAC and SPA features are assessed through regular SSSI monitoring, rather than individual assessments.

All conservation features of the EMS are currently classified as being in a 'favourable' condition, with the exception of kittiwake (see Table 1). This reflects the significant decline in the size of the breeding kittiwake colony since the classification of the SPA (see Section 4.1.1). The decline is also reflected in the units of the SSSI, because of the seabird's dependence on the geological features of Flamborough Head. Currently, 19 of the 28 supralittoral rock SSSI units are classed as 'unfavourable declining' to reflect the 53% reduction in the kittiwake population since notification of the SSSI. Table 2 summarises the differences in assessment procedures for each designation.

Table 2: Condition Assessment Procedure Summaries

Feature	Condition Assessment Details
SPA	Data collected through SSSI monitoring of seabird populations is often used as a proxy for SPA assessments. The national decline in kittiwake numbers is also reflected in the SSSI supralittoral rock unit assessment, due to the species' dependence on this feature.
SAC	The reef and sea cave features are individually assessed on a regular basis, at least every six years. The vegetated sea cliff feature is assessed as part of the SSSI monitoring.
SSSIs	SSSI assessments are reported to the UK Government on a national scale, with regional and site-specific breakdowns available from Natural England. Each SSSI unit is assessed, on average, every seven years. 29% of the Flamborough Head SSSI is currently classified as 'unfavourable declining' due to the reduction in the kittiwake population.

1.3.2 Non-Statutory Monitoring of the Conservation Features

There are many types of non-statutory monitoring which are undertaken around the EMS. It is most likely that this regular research will alert the Relevant Authorities to any on-site changes and

any new management measures that may need to be implemented, at an early stage. Similarly, ad-hoc monitoring such as beach cleans carried out by Yorkshire Wildlife Trust, recreational disturbance reports, beached bird surveys, invasive species monitoring and citizen science projects like Seasearch, provide Authorities with an ecosystem-wide view of the state of the local environment. Local organisations are encouraged to share data between stakeholders, in order to ensure effective management practices.

The RSPB, on behalf of Natural England, has carried out seabird population and productivity monitoring for a number of years around Flamborough Head and Filey Brigg. This monitoring gives a clear representation of the current health of the seabird colony and helps to inform the SSSI and SPA condition assessments. It fundamentally underpins knowledge of the protected seabird colony and is also important information for offshore developments (see Case Study Two).

Seabird productivity fluctuates in reaction to changes in the weather, the availability of prey and the overall health of the colony. By understanding these changes, the Relevant Authorities can effectively identify areas where pressure can be reduced, for example in disturbances caused by recreational activities. As such, it is imperative that this baseline monitoring of the seabird colony continues on an annual basis. In recognition of the importance of this seasonal monitoring, the studies have been included in the 2022-2026 Action Plan.

1.4 Overlapping and Adjacent Designations

A number of other designations exist around Flamborough Head and Filey Brigg. Although not the primary focus of the Management Group, each of the designations below is within the EMS boundaries to some degree. Therefore, the Management Group recognises the importance of managing such sites appropriately.

1.4.1 No Take Zone

As one of only four in the UK, the No Take Zone (NTZ) prohibits the removal of sea fish by any method, including intertidal hand-gathering. Situated on the southern side of the headland, the NTZ is the only one in the North Sea and is unique in that it includes the intertidal area. After extensive consultation with local fishermen and other stakeholders, the NTZ was officially formed in 2010 and provides an area which can be monitored in the absence of human activity. Since its designation, lobster and crab stock assessments have been carried out each summer to assess any change in population, along with monitoring of the blue mussel bed within the intertidal zone. The NEIFCA enforce protection of the NTZ through a local byelaw (see Table 3).

1.4.2 Heritage Coast

Heritage coasts are 'defined' rather than designated, which means that there is no statutory process like that associated with Areas of Outstanding Natural Beauty or National Parks. Nevertheless, a Heritage Coast status ensures that planning authorities take the natural landscape and character into account during the development application process. The purpose of this status is to conserve the natural beauty of the coastline and the species which inhabit it, including any heritage features.

Heritage Coast status can also encourage authorities to improve the health of the inshore waters, for example by applying environmental management measures which have been developed with due regard for possible economic and social impacts.

The Flamborough Headland Heritage Coast covers 19km of coastline, with an inland boundary which encloses 8067 acres. The original definition was based on landscape quality, although this was revised in 1992 to incorporate the flora and fauna of the headland. The most recent Heritage Coast Management Strategy was developed in 2002, however financial support on a national scale for such strategies has now been removed. This Management Plan recognises the importance of the Heritage Coast and will work with partners to maintain the landscape characteristics of the area; however, this document is not intended as a Heritage Coast strategy.

1.4.3 Other Nature Reserves

There are three Local Nature Reserves (LNRs) around the headland and a Country Park exists at Filey Brigg. The LNRs have been designated for wildlife or geological features which are of interest to the public, whilst Filey Country Park consists of camping facilities and a children's play area in addition to the cliff-top landscape. The EMS protection extends into all of these locally designated areas, by some degree. All of the LNRs adjacent to the EMS are managed by East Riding of Yorkshire Council, whereas Filey Country Park is operated by Scarborough Borough Council.

Furthermore, there are two nature reserves on the headland which are managed by the RSPB and Yorkshire Wildlife Trust. Each reserve manages land in accordance with environmental stewardship schemes, which ensures that the cliff top habitats are appropriately managed (see Section 4.3.1). For example, Holmes Gut, on the northern side of the headland and managed by Yorkshire Wildlife Trust, is an important habitat for migrant birds and provides key shelter on the otherwise exposed headland for breeding farmland birds. Here, the scrub is being managed through grazing and mechanical intervention, both to restore the calcareous grassland and introduce more diversity into the age and structure of gorse in the small valley.

1.4.4 Proposed Highly Protected Marine Areas

In June 2019 the Secretary of State announced a review (the Benyon Review) to examine how Highly Protected Marine Areas (HMPAs) could be introduced in UK waters. The Review concluded that government should introduce HPMAs for the protection and recovery of marine habitats, species and ecosystems. HPMAs are expected to prohibit extractive and destructive activities allowing only non-damaging levels of other activities to the extent permitted by international law.

A list of ecological criteria based on principles outlined in the Benyon Review have been used to select potential HPMA locations. The pilot phase of HPMAs aims to improve understanding of marine ecosystem recovery, how to monitor and manage HPMAs, the suitability of the Marine and Coastal Access Act (2009) for the designation of HPMAs and, the effects of HPMAs on sea users and coastal communities. The government has identified five pilot HPMAs in English waters and has committed to designating these by the end of 2022.

Areas within or adjacent to the Flamborough Head EMS have not been included in this first round of pilot HPMAs, however there is potential for additional sites to be designated in the future. It is unclear what impact this will have on the EMS if it comes to fruition, however current statutory duties towards the EMS will remain unchanged. Currently, there is no information on how management of HPMAs will be funded or resourced.

1.4.5 Proposed Area of Outstanding Natural Beauty

The Yorkshire Wolds is being considered for status as an Area of Outstanding Natural Beauty (AONB), to include the chalk cliffs of Flamborough Head. AONBs are designated for exceptional landscapes with a distinctive character and natural beauty that are important enough to be safeguarded in the national interest. If designated, local authorities must ensure that all decisions have regard for the purpose of conserving and enhancing the protected landscape. Furthermore, each AONB must have a management plan which aligns with and references existing environmental plans and strategies. A Yorkshire Wolds AONB would complement and support existing management measures for the Flamborough Head EMS and could provide opportunities for greater collaboration with authorities and stakeholders. An AONB designation would not change any current responsibilities towards the existing marine protected areas.

2022-2026 Flamborough Head European Marine Site Management Plan

Chapter Two: Legislative Drivers and Sustainable Development Policies

2.1 UK's Exit from the European Union

On 31 January 2020, the UK left the European Union. As a result, Special Areas of Conservation (SACs) and Special Protection Areas (SPAs) in the UK no longer form part of the EU's Natura 2000 ecological network and instead form a UK national site network. Functions from the European Commission relating to SPA and SAC designations have been transferred to the appropriate authorities in England and Wales, this means that the obligations of competent authorities towards the Flamborough Head European Marie Site have not changed.

European legislative drivers have previously outlined specific protections of our marine environment which were enacted by UK law. Following the UK referendum, the European Union Withdrawal Act 2018 was published, which transposed many EU obligations into UK law, these are referred to as 'retained EU law'. This ensures that previous EU legislation remains operable now that the UK has left the EU and ensures that the previous standards of protections afforded to the marine environment are maintained. As a result, responsibilities towards the European Marine Site remain largely unchanged.

Table 3: Transfer of EU Legislative Drivers into UK Law

Previous European Legislative Driver	Functions of the Legislation	Current UK Legislation
The European Union Birds Directive (1979)	Outlines protection for specific species and associated powers. Enables the designation of SPAs and works alongside the wildlife and countryside act (1981) to allow authorities to designate SSSIs and list specific protections for wild birds.	The functions of the Birds Directive have now been transposed to the Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019. (see 2.2.5)
The European Union Habitat Directive (1992)	Ensures the conservation of a range of plants, animals and habitats through promoting maintenance of biodiversity and designating SACs. It forms the basis of Europe's nature conservation policy along with the Birds Directive.	The functions of The Habitats Directive have now been transposed to the Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019.
The Water Framework Directive	Outlines a framework for the protection and improvement of rivers, lakes and coastal waters and ground water implemented in the UK via the Water Environment Regulations (2003).	There are no specific amendments or updates regarding the Water Framework Directive to date; functions and duties remain unchanged.

Marine Strategy Framework Directive (2008)	Outlines criteria and standards for an ecosystem-based approach to the management of human activities in the marine environment in order to achieve 'good environmental status'.	Amendments made to the Marine Strategy Regulations (2010) transpose the functions of the Marine Strategy Framework Directive into domestic law.

2.1.1 The Convention for the Protection of the Marine Environment of the North-East Atlantic (OSPAR Convention)

This convention was ratified by the UK in 1998 and replaced previous agreements which aimed to reduce marine pollution. Despite leaving the EU, the UK still has obligations under this international agreement, which include:

- The identification of ecological quality objectives for the North Sea;
- The development of lists of species and habitats in need of protection;
- The identification and selection of marine protected areas;
- The prevention and control of adverse impacts from human activities.

The OSPAR Convention does not set out a specific programme of measures which should be undertaken in order to achieve these objectives, with the exception of stating that a network of MPAs must be established. National UK legislation provides the mechanisms for achieving the goals of this agreement.

2.2 Legislative Drivers

National UK laws and regional policies affect and inform the management of the EMS and its components. The legislation which affect the management of the site are illustrated in Figure 5. Local and regional legislation is summarised in Table 3.

It is widely understood that the ecosystem approach to management is often the most suitable way to tackle declining species and vulnerable habitats. This approach uses a framework to make management decisions based on the ecosystem as a whole, rather than a single habitat or area. Whilst some of the legislation and policy which govern MPAs is geared towards this management tool, the legislative drivers behind the EMS designations afford protection to specific habitats and species, in recognition of their importance and vulnerability.

2.2.1 The Environment Act (2021)

The Environment Act gained Royal Assent in November 2021. It implements many of the policy initiatives in the Government's 25 Year Environment Plan (2018). It enshrines environmental principles in law and covers a wide range of environmental issues including air and water quality, resources management and biodiversity.

In accordance with commitments set out in the 25 Year Environment Plan to improve the quality of our marine habitat, expressed through the condition of Marine Protected Areas (MPAs), the Environment Act includes policies that may impact on management of designated marine sites:

- Mandatory biodiversity net gain: This is likely to become law in England in 2023 and mandates a minimum of 10% biodiversity net gain required by new developments. This requirement will be over and above the existing requirement for mitigation and/or compensation as laid out under the Conservation of Habitat and Species Regulations. In the coastal environment, biodiversity net gain will apply to any development above Mean Low Water. The development of biodiversity net gain regulations for the marine environment (below Mean Low Water) is expected in due course.
- Introduction of Local Nature Recovery Strategies (LNRS): LNRS are a new system of spatial strategies for nature, which will plan, map, and help drive more coordinated, practical, focussed action and investment in nature's recovery to build the national Nature Recovery Network. The Flamborough Head EMS lies within two local authority boundaries so is likely to be covered by two LNRS.
- Protected Site and Species Conservation Strategies: Species Conservation and Protected Site Strategies are designed to provide a more strategic approach to protecting and restoring species and habitats. It is not yet known how these strategies will interact with existing site management plans.
- Revised Biodiversity Duty: Rather than have regard to biodiversity, local authorities will have a legal duty to 'conserve and enhance' biodiversity. Continued active engagement with management of the Flamborough Head EMS demonstrates how Authorities are meeting this duty, towards the designated site.

More information on the implementation of the Environment Act is expected over the next few years. Relevant Authorities will continue to be updated on any relevant information and this section of the management plan will be reviewed as needed.

2.2.2 Conservation of Habitats and Species Regulations (2019)

The Conservation of Habitats and Species Regulation (2019) is a piece of domestic legislation that transposed the EU's Bird Directive (amended 2009) and the Habitats Directive (1992) into UK law. These EU Directives give the basic outline of protection and associated powers, whilst the national legislation details the controls in place to prevent damaging activities within a protected area, including lists of habitats and species that are afforded specific protection. To this end, Natural England, as the Statutory Nature Conservation Body for the UK government, provides Conservation Advice for each designated site.

This national legislation enables the designation of SACs, the formation of management schemes and EMSs, and describes authorities responsible for management of a protected area. Following the UK's decision to leave the EU, in 2019 amendments were made to parts of the Conservation of Habitats and Species Regulations (2017) to ensure the functions of these EU directives remain

operable once the UK left the EU. The 2019 amendments mostly involve transferring functions from the European Commission to the appropriate authorities in England and Wales.

The main change affecting the EMS is that SACs and SPAs in the UK no longer form part of the EU's Natura 2000 ecological network. The 2019 Regulations have created a national site network on land and at sea, including both the inshore and offshore marine areas in the UK. This new national site network will include existing and future SACs and SPAs designated under these regulations. Following the 2019 amendments, the obligations of a competent authority for the protection of sites or species do not change.

2.2.3 Conservation Advice (Regulation 37)

Under the Habitats Regulations (as amended, 2019), as soon as possible after the designation of an EMS, the appropriate nature conservation body (in this case Natural England) must provide advice to other Authorities as to the conservation features of the site and any activities which may damage those features. This is known as Regulation 37 (previously 35) Conservation Advice and is designed to help those Authorities which have responsibilities towards the site ensure that the features reach, or are maintained in a, 'favourable' condition. Furthermore, this advice sets standards against which the conservation features are assessed, both through regular monitoring and Habitats Regulation Assessments (HRAs). SSSI units are not included in the Conservation Advice; a separate Favourable Condition Table is produced for these designations, along with a list of operations requiring Natural England consent.

The Conservation Advice is not replaced by this Management Plan but should be used in conjunction with this document when developing projects which may affect the EMS. Conservation Advice packages are available online on Natural England's Designated Sites System.

2.2.4 Habitats Regulations Assessments

The Habitats Regulations (as amended, 2019) require Competent Authorities, which are those organisations able to issue statutory consents, to consider the effects of plans or projects on European sites. By undertaking HRAs, Competent Authorities can ascertain whether a plan or project is likely to have a significant effect on a European site. If a Likely Significant Effect (LSE) is identified, the Competent Authorities must proceed to an Appropriate Assessment (AA). This part of the assessment considers whether a plan or project would have an adverse effect on the integrity of the European site (summarised in Figure 5). Other assessments, through the Strategic Environmental Assessment Directive, must be undertaken on a wider scale to ensure there are no adverse effects from other plans or programmes on the marine environment. These assessments can also take place inside an EMS, where a Habitat Regulations assessment is not appropriate (Figure 5).

Species such as the exotic-looking dahlia anemone can be found around the EMS.

There are many activities that can take place inside a protected area which are not plans or projects, therefore any impacts would not be considered under the HRA process. In order to capture any negative impacts of such activities, the Relevant Authorities (as set out in the Habitat Regulations, 2019) are able to establish a management scheme. Working in partnership in this way provides a framework for the Relevant Authorities to consider any impacts of un-regulated activities on the site.

2.2.5 Marine and Coastal Access Act (2009)

Specific to England and Wales, this legislation provides legal mechanisms for ensuring clean, healthy, safe, productive and biologically diverse seas and was developed to assist with the implementation of the EU's Marine Strategy Framework Directive. The Act established the Marine Management Organisation (MMO) to operate as the planning authority for the marine environment. As part of its operations, the MMO has developed a series of marine plans, and is responsible for implementing and enforcing marine licences and managing fisheries between six and twelve nautical miles offshore. The EMS is located on the boundaries of two marine planning areas: East and North East. The East Inshore and Offshore Marine Plans were published in 2014, whilst the North East Inshore and Offshore Marine Plans were published in 2021.

The Marine Act also replaced the Sea Fisheries Committees with the Inshore Fisheries and Conservation Authorities (IFCAs). The North Eastern IFCA (NEIFCA) has responsibility for conserving the marine ecosystem within tidal limits of the River Tyne down to the south bank of the Humber Estuary and out to six nautical miles, whilst enabling a profitable and sustainable fishing sector.

Powers in the Marine and Coastal Access Act also enable the designation of Marine Conservation Zones (MCZs), which aim to halt the deterioration of the UK's marine biodiversity. Newly designated MCZs, and other types of MPA, will contribute to the UK's commitment to creating an 'ecologically coherent network' of MPAs under the OSPAR Convention.

2.2.6 Marine Strategy Regulations (2010)

The Marine Strategy Regulations (2010) require action to be taken to achieve 'good environmental status' (GES) in our seas. The Regulations require the production of a marine strategy, the objective of which is to help the UK achieve clean, healthy and biologically diverse seas. The Strategy applies an ecosystem-based approach to the management of human activities. In doing so, it seeks to keep the collective pressure of human activities within levels compatible with the achievement of GES.

The Strategy consists of a three-stage framework for achieving GES. Part One of the Strategy provides an assessment of our seas and sets objectives, targets and indicators for achieving GES. Part Two sets out how progress towards GES will be monitored, and part three outlines the measures that contribute to the achievement and maintenance of GES.

2.2.7 The Fisheries Act (2020)

The Fisheries Act (2020) was passed into law in November 2020. The Act gives the government full control of fishing in UK waters through a new foreign vessel licencing regime and puts an end to the automatic fishing rights for EU vessels. The UK's national fisheries policy authorities are required by law to produce a joint fisheries statement (JFS) of how these objectives will be met. The UK's national fisheries policy authorities are required to produce this JFS within two years of the Act being passed; this can be amended or replaced at any time and must be reviewed every six years. The JFS will aim to encompass region-specific legislation and will include several aspects of policy including: distribution of allocated quota to fishing vessels and producer organisations; fisheries management plans that will be broken down by stock, type of fishing and geographical area; actions to maintain or restore stock levels capable of producing maximum sustainable yield within the fisheries management plans.

Once development of the JFS is complete, it will provide the basis for national fisheries management plans, in the meantime fisheries authorities are able to publish fisheries management plans for particular fish stocks, fishing types and areas of sea. The Fisheries Act also implements a Secretary of State Fisheries Statement (SSFS) which will fulfil a similar role to the JFS for those functions centrally controlled by the UK government. The SSFS will set the UK's overall catch and effort quotas and the distribution of these quotas nationally.

Under the new act, any fishing by a British vessel requires a licence, apart from in very specific circumstances. Foreign fishing vessels can only enter UK waters if they are fishing with a relevant sea fishing licence, or for a purpose recognised in an international agreement between the UK and other nations.

Whilst the new act passed into law at the end of 2020, much of the specific legislation is yet to be implemented therefore the impacts of the act on the EMS are currently unknown; the Management Plan will be updated as specific legislation is published.

Vegetated sea cliffs, sea caves and chalk reef are all accessible in Selwicks Bay at low tide.

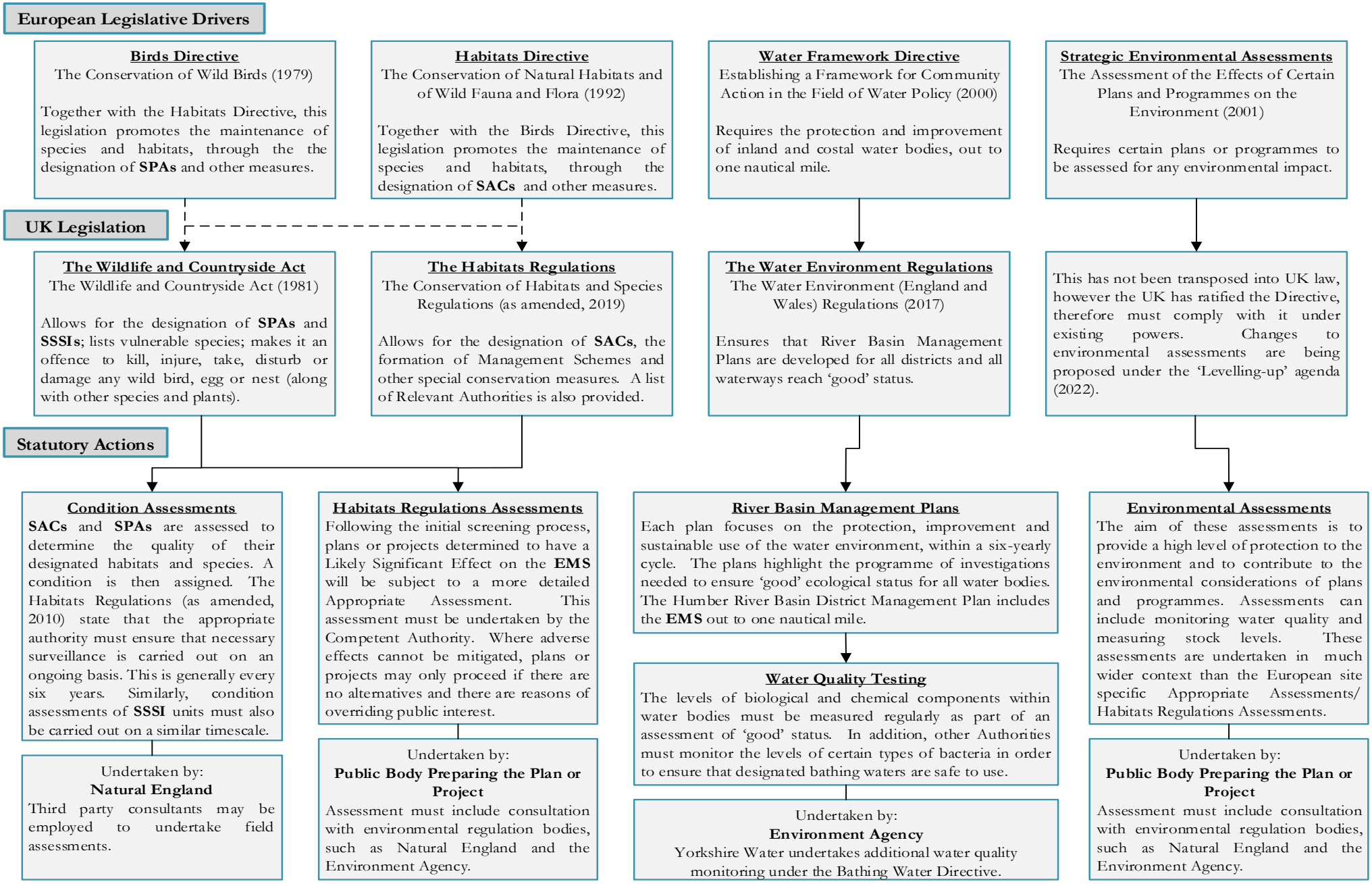


Figure 5: Statutory Management Actions Relevant to the European Marine Site

NB: New legislation arising from the Marine and Coastal Access Act (2009) and the Environment Act (2021) may impact the management of the EMS, in the future.

2.3 Local Legislation Specific to the European Marine Site

Table 4 details the local byelaws which are implemented and enforced by Relevant Authorities in order to further enhance the protection of the EMS conservation features, through the legislative drivers detailed above. Please note that this is not an exhaustive list of all byelaws and conditions enforced by these Authorities and should not be used to determine the legality of activities. Contact the appropriate Authority for further details of each byelaw.

Table 4: Local Byelaws Specific to EMS Conservation Features and the Authority Responsible for Enforcement

Local Byelaws Specific to EMS Conservation Features	Relevant Authority
Filey Bay Fisheries Byelaw (2010) Those licensed to fish for salmon or migratory trout using a T or J net, within Filey Bay, must: - Take reasonable steps to ensure that the use of a net does not result in the death of seabirds; - Release any live seabird caught in the net as quickly as possible and with the least injury possible; - Keep a record of any seabird bycatch in an official logbook and provide a copy on request to the EA. During the month of June, all licence holders must also: - Ensure all nets are removed from the water during the hours of 9pm to 5am the following morning; - Ensure the tailpiece of the net is made of high visibility, multifilament nylon and is stitched directly to the headpiece; - Ensure that the headpiece does not exceed 70 metres in length if made of monofilament material; - Ensure that the net is not left unattended in the water at any time.	Environment Agency (enforcement powers under the Environment Act, 1995)
Flamborough Head No Take Zone (2009) In an area south of Flamborough Headland, between Danes Dyke and Sewerby Steps, and 700m seaward from the cliff face, no persons shall: - Use any instrument or method of fishing, including hand gathering, for the removal or taking of sea-fish.	NEIFCA (enforcement powers under the Marine and Coastal Access Act, 2009)
Flamborough Head Fishing Byelaw (2013) Within the Flamborough Head Prohibited Trawling Area, no vessel shall: - Engage in any trawling activities unless a special permit is held; - Engage in beam and/or multi-rig trawling activities. Special permits will only be issued if the vessel already holds a permit to trawl within the EMS and until there is a formal change in ownership of the vessel. Permits are not transferable unless the new owner is the son or daughter of the original permit holder. Special permits may be suspended at any time; holders will be given a notice of ten working days.	
Method and Area of Fishing (Fixed Netting) Byelaw (2016) (Submitted, Awaiting Sign-off) Within the Flamborough and Filey Coast SPA: - A person must not fish or place fixed nets for the purposes of catching seafish between 1 March and 30 September.	
NB: Other byelaws apply across the NEIFCA district, including within the EMS. Contact NEIFCA for more details.	

2.4 Strategic Management Context

The internationally important species and habitats around the EMS are protected from unnecessary development through the various assessments which must be completed before construction begins (see Figure 5). Furthermore, national planning policies encourage the use of sustainable development practices in order to ensure the character of the landscape is not negatively affected by construction projects, and any management necessary to protect the coastline is not carried out in detriment to the features of the EMS.

2.4.1 Landscape Designations

Although the Flamborough Head Heritage Coast is a non-statutory designation, it does have planning implications for the local area and complements statutory planning policies. The Heritage Coast should conserve, protect and enhance the natural beauty of the area, including the wildlife, habitats and heritage features of the coastline. This also includes the maintenance and improvement of inshore waters, whilst taking account of the needs of agriculture, fisheries and tourism industries (additional information can be found in Section 1.4.2).

This protection is led by local authorities through their planning policies, as directed by the National Planning Policy Framework (NPPF) and presented in the area's Local Plans. Both the Scarborough Borough and the East Riding Local Plans reference the Heritage Coast and recognise the protection afforded to the landscape of Flamborough Head. Rather than preventing development automatically, Heritage Coast status compels local planning authorities to take into account the sensitive nature of a particular area. Whilst the Relevant Authorities recognise the importance of the Heritage Coast definition and will work with partners to preserve the heritage of the area, this Plan is not intended as a strategy for the Heritage Coast.

The proposed Yorkshire Wolds AONB would also require local planning authorities to take the beauty and character of the landscape into account when proposing or agreeing to development plans. The AONB is in the early stages of development, however if it is designated, it is expected to include the distinctive chalk cliffs of Flamborough Head; adding a new layer of protection for the site.

2.4.2 Shoreline Management Plans

Shoreline Management Plans (SMPs) are non-statutory documents for managing coastal flood and erosion risk to particular stretches of shoreline in England and Wales over the next 100 years. SMPs aim to balance those risks with natural processes and the consequences of climate change. They take into account existing defences and the natural and built environments and are compatible with adjacent coastal areas. It is important to note, however, that funding for schemes or other works required to ensure compliance with SMP policies, is not guaranteed.

The two SMPs which cover the area of the EMS are The Tyne to Flamborough Head led by Scarborough Borough Council (SMP2), and Flamborough Head to Gibraltar Point led by East Riding of Yorkshire Council (SMP3). The majority of the cliff line within the EMS has been recommended for 'no active intervention', signifying the intent of the relevant local authorities to allow coastal processes to continue naturally. This policy complements the features of the EMS

by ensuring that the chalk feature is not subjected to smothering or coastal squeeze as a consequence of defence engineering. Exceptions to this rule include the sea wall which defends Filey town and the slipways at North and South Landings at Flamborough. All of these locations are recommended as 'hold the line' based on an assessment of economic, environmental and social factors.

2.4.3 Terrestrial Planning

Some activities that take place on land have the potential to impact on the marine environment, including housing and tourism developments. Increased development in close proximity to the coast may lead to an increase in visitors around the EMS, which in turn may negatively impact the designations. Additionally, development along the coast can impact on the heritage coast and seascape.

In August 2020, the government announced the Planning for the Future White Paper. This proposal is set to change UK planning policy to make the planning system more accessible. If successful, this reform could result in a faster, more streamlined planning process. Additionally, every area will have to implement a local plan which designates land into three categories: growth areas; renewal areas and protected areas. The Planning for the Future White Paper is currently being reviewed by Government following a public consultation, therefore it is not currently possible to say how these proposed changes would impact the management of the EMS, if at all.

In other areas of the country, mitigation and conservation work relating to developments impacting protected sites have been successfully funded via Section 106 agreements between management groups and developers. This has been achieved through the implementation of specific strategies for development within a certain distance of a protected site. Whilst housing developments around the Flamborough and Filey coast are minimal, holiday accommodation and caravan park proposals are frequently put forward. Establishing a consistent approach to addressing the recreational and access impacts of developments, both in isolation and cumulative, would be of benefit to the EMS and other protected areas along the Yorkshire coast.

2.4.4 Marine Spatial Planning

The EMS falls within both the North East and East marine plan areas. Both these marine plans are in place to provide guidance for sustainable development and providing an evidence-based approach to inform decision-making on activities that may take place within the marine environment (see Section 2.2.5).

Marine planning is a statutory requirement, therefore marine plans for specific areas must be considered in planning discussions for developments that may impact or are within estuarine, coastal, offshore, and tidal waters. All public authorities are responsible for implementing the East and North East Marine Plans through existing regulatory and decision-making processes.

2.4.5 Local Government Reorganisation

Following a government consultation, it was announced in July 2021 that the current county, district and borough councils in North Yorkshire would be replaced with a single unitary authority. From April 2023, a new local authority will be formed and will take on all responsibilities which were previously undertaken by North Yorkshire County Council and Scarborough Borough Council. This will include responsibilities towards conserving, protecting and enhancing the marine environment.

All local authority statutory duties relating to the Flamborough Head EMS, and other relevant MPAs, will transfer to this new council. The new organisation will be supported to ensure that it continues to meet its obligations towards the designated site and an appropriate representative will be invited to sit on the Management Group. Until the current organisations are formally closed, the Management Group, and the wider YMNP, will continue to work closely with North Yorkshire County Council and Scarborough Borough Council.

The southern clay cliffs of Filey Brigg and the adjacent Carr Naze, with the tip of Flamborough Head visible on the right of the horizon.

2022-2026 Flamborough Head European Marine Site Management Plan

Chapter Three: Governance

3.1 Yorkshire Marine Nature Partnership

Following a successful bid, the National Lottery Heritage Fund (NLHF) awarded £95,300 to support the establishment of a new partnership for the Yorkshire coast. The funding enabled the Yorkshire Marine Nature Partnership (YMNP) Development Project (hosted and facilitated by East Riding of Yorkshire Council) to be established. This process resulted in the creation of the YMNP in late 2021 (see Case Study Four).

In close collaboration with a wide range of partners, the YMNP focusses on enabling more collaborative working across the region in order to build capacity and address key gaps in knowledge, management and opportunity, for the benefit of Yorkshire's marine and coastal environment. The Partnership's strategic ambitions were established through the YMNP Development Project, working towards the vision to:

'Generate a change in the way people view and use Yorkshire's marine and coastal environment, and enable our unique ecosystem to thrive. Moving away from isolated pockets of interest, which are disconnected from wider society, towards a rich seascape recognised as an integral part of our history, economy, and the region's sustainable future.'

As a key part of the Development Project, Relevant Authorities met with Public Authorities for the two Yorkshire MCZs (Runswick Bay and Holderness Inshore) to explore opportunities for joint-working and coordinated MPA management. It was agreed that a single MPA Management Group should be established under the YMNP's umbrella to support more holistic care and understanding of Yorkshire's marine and coastal ecosystems, whilst still acknowledging site-specific management needs. This sub-group would also provide opportunities for MPA managers to link with other projects and areas of activity, such as the natural capital agenda, health and wellbeing initiatives and ecosystem-scale research. Integrating MPA management into the wider partnership would support the protection afforded to these areas, encourage consistent messaging across the region, and could identify sustainable finance options to secure the long-term effectiveness of Yorkshire's MPA network.

Following the development process, an MPA Management Group was established under the YMNP in early 2022 to consider the long-term and holistic management of all MPAs along the Yorkshire coast.

3.1.1 The Marine Protected Area Management Group

The objective of the MPA Management Group is to facilitate and progress the continued management of Yorkshire's MPAs through:

- Supporting partners to understand, interpret and meet their statutory duties towards designated areas;
- Providing a forum for discussion, information-sharing, project development and collaboration, in order to proactively address and effectively respond to issues;

- Providing advice, guidance and resources to partners on marine and coastal environmental policies, strategies and wider concerns;
- Developing and delivering non-statutory projects which add value to, or support, the aims of the group;
- Exploring the role of MPAs in emerging national policies and climate change mitigation, with support from the wider YMNP;
- Advocating for sustainable, consistent and appropriate levels of funding to support effective MPA management on a regional scale;
- Sharing information, advice and expertise on the designated sites with the wider YMNP.

The MPA Management Group comprises of organisations with statutory responsibilities towards the region's MPAs, and other key partners who have an interest in the management of designated sites along the Yorkshire coast. The group's core focus is on the inshore MPAs including the Flamborough and Filey Coast SPA and the Flamborough Head SAC, although additional advice and guidance will also be available in relation to broader offshore and multi-regional MPAs, alongside terrestrial designations with marine components. The purpose of the group is met through open communication, knowledge-sharing, active engagement and collaborative action.

3.2 Governance of the European Marine Site

Organisations with specific responsibilities for the EMS, known as Relevant Authorities, have a legal duty to ensure that the features of the site are protected from any adverse effects of management activities and unregulated actions, such as human disturbance. Working in partnership to appropriately manage the EMS ensures that the responsibilities set out in the Habitat Regulations (as amended, 2019) are effectively dispensed. As such, the Relevant Authorities for the Flamborough Head EMS sit within the MPA Management Group and support a collaborative approach to the management of designated sites.

Whilst the overall purpose of the MPA Management Group is to promote, advocate for and enable holistic management of Yorkshire's MPAs, it is acknowledged that site-specific management will be also required. Should it be necessary for the group to vote on a particular course of action for the Flamborough Head EMS, only those organisations which have a legal obligation to uphold the site's management will be entitled to a vote.

3.2.1 The Relevant Authorities

Any statutory body or public office exercising legislative powers (on land or at sea) is known as a Competent Authority within the Habitats Regulations (as amended, 2019). Some of these authorities are also described as Relevant Authorities and, as such, are legally required to ensure the appropriate management of the EMS. The Habitat Regulations (as amended, 2019) contains a list of these organisations and defines Relevant Authorities as:

'Certain Competent Authorities with local powers or functions which have, or could have, an impact on the marine area within or adjacent to a European Marine Site.'

Should the 'favourable' condition status of the site be downgraded to 'unfavourable' due to inappropriate site management, the Relevant Authorities would be held accountable. As such, the Relevant Authorities will jointly agree any management decisions which could affect the features of the site, with advice from stakeholders and key partners where appropriate. Every Relevant Authority is invited to the quarterly meetings held by the MPA Management Group (see 3.1.1). Authorities are also able to access advice and guidance from YMNP staff and are provided with a personalised 'Information Pack' which details the Authority's responsibilities towards the EMS designations.

A number of Relevant Authorities give financial support to the Scheme, although this is not a pre-requisite of group membership, and some key partners have also supported the Scheme in the past. The roles and responsibilities of each Relevant Authority for the EMS are described in Table A1 as part of Appendix A.

3.2.2 The Project Officer

Where sufficient resources exist, the YMNP will employ a Project Officer to facilitate the MPA Management Group, undertake public engagement, facilitate actions set out in the Management Plan, and support the wider YMNP. The position of Project Officer is hosted by one of the Relevant Authorities (currently East Riding of Yorkshire Council) in order to provide line-management and office facilities. Hosting of the Project Officer does not, however, give the organisation additional powers within the Management Group; all Relevant Authorities have an equal vote. Furthermore, the Project Officer merely facilitates the decision-making process, acting as an impartial advisor during any management discussions, and is not entitled to a vote.

The Project Officer works closely with all Relevant Authorities to solve daily management issues, develop projects, and identify funding opportunities. Any matters arising which affect the conservation features of the site, or need full stakeholder approval, are brought before the Relevant Authorities during a quarterly meeting. The Project Officer also liaises with key partners, such as the RSPB and Yorkshire Wildlife Trust, along with other stakeholders, in order to manage the site effectively.

3.2.3 The Role of the Management Plan

By developing and following a Management Plan, the Relevant Authorities are actively working to meet their statutory obligations towards the site. Although not a statutory document, the Management Plan records and measures all management undertaken within the EMS. As such, the document both directs the actions of the Relevant Authorities and is influenced by the management undertaken around the site. To maintain its relevance, sections of the Management Plan are regularly updated by the Relevant Authorities, using the annual reporting system (see Section A1.3 in Appendix A).

3.2.4 Project Delivery

In order to effectively develop and implement specific projects, new groups may be formed consisting of Relevant Authorities, key partners and stakeholders. These groups will only be in existence for the duration of the project. Once these 'task and finish groups' have completed their assigned project, small stakeholder-led groups may be formed to ensure the continued development of a specific task. Other projects can be delivered through annual or seasonal monitoring schemes, such as the recreational disturbance monitoring system. See Appendix C for a selection of successful projects delivered through, or with the assistance of, the Flamborough Head EMS Management Scheme.

Figure 6 shows the reporting structure of the EMS for the 2022–2026 reporting cycle.

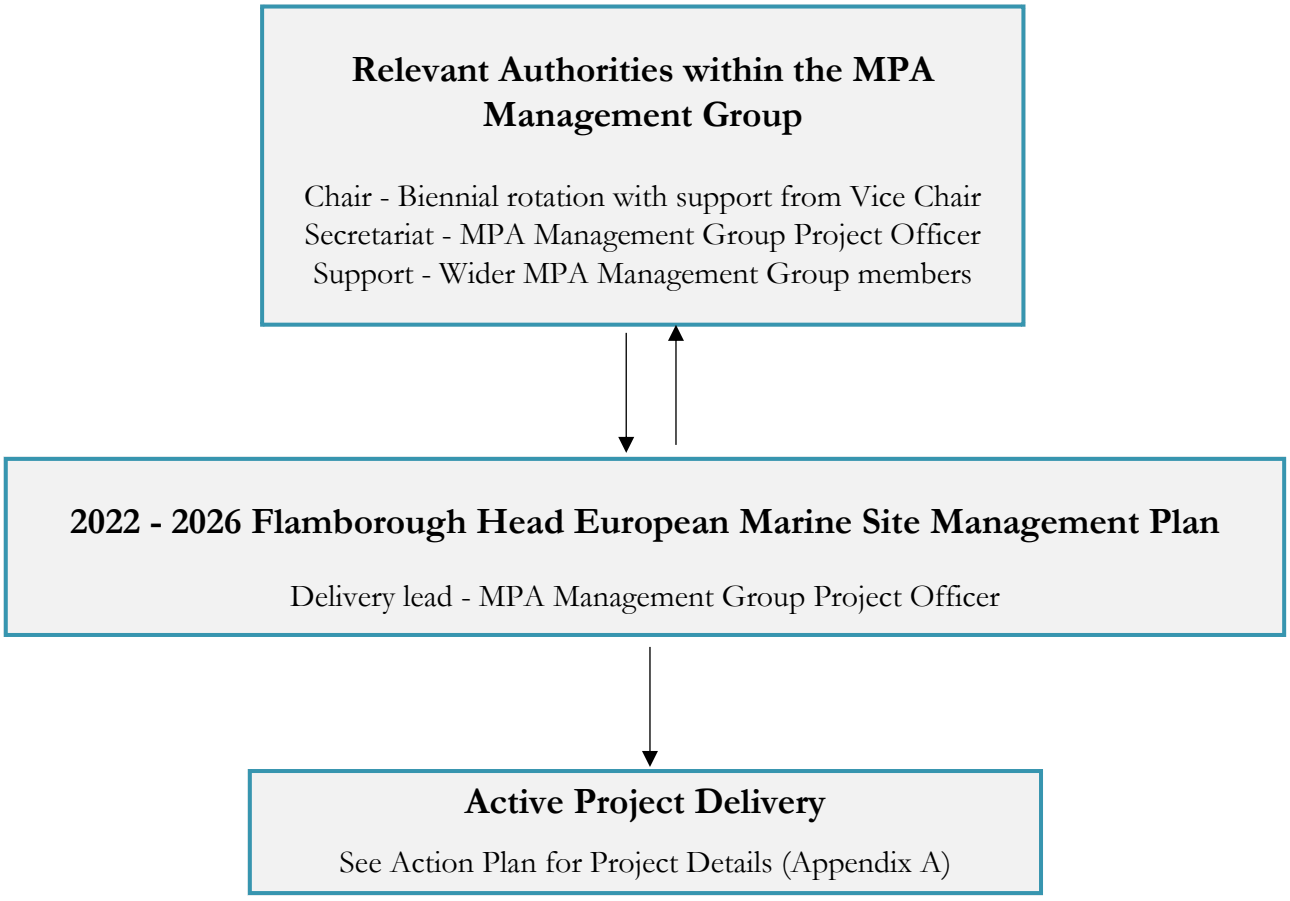


Figure 6: Management Implementation Structure (2022)

3.3 Aims and Objectives for Management of the EMS

Relevant Authorities, key partners and stakeholders will work together to ensure the conservation features, for which the site has been designated, are protected from any adverse impacts of management measures, pollution and environmental incidents, whilst promoting sustainable tourism and recreation, through the implementation of the Management Plan and the following aims:

A1: Ensure no management measures or unregulated activities adversely impact the conservation features, through regular condition assessments and implementation of Habitats Directive procedures.

Objective - Ensure that all development proposals within the EMS are referred to the appropriate Competent Authority for assessment against Habitat Regulations, and all activities are assessed and managed appropriately, in order to protect conservation features.

Objective - Working with key partners and other stakeholders, ensure that unregulated activities do not have a negative impact on the site. This may include implementing voluntary measures, the creation of new byelaws and designations, and the collation of appropriate activity information.

A2: Work to maintain and improve protection of the conservation features through the sharing of appropriate scientific research and site-specific information.

Objective – Working in partnership, create a comprehensive dataset of activities undertaken around the EMS, which will help to inform any management measures necessary to reduce negative impacts.

Objective – Foster a working environment which supports the sharing of appropriate information and scientific data on a regular basis between both stakeholders and authorities.

A3: In order to support the work of Relevant Authorities, raise public awareness about the site's importance and support sustainable recreation and tourism practices.

Objective - Through engagement events, targeted visitor communications, information displays, and partnerships with local NGOs, raise public awareness of the Flamborough Head EMS and wider marine conservation.

A4: Monitor both recreational and commercial fishing activities, ensure all relevant permits are observed and support sustainable practices, whilst engaging with the local fishing community to increase environmental awareness.

Objective - Support the use of sustainable fishing equipment and practices around the EMS, encouraging fishers to be more aware of the environmental impacts of their activities.

A5: Ensure that any non-fishing commercial activity within or adjacent to the EMS does not negatively affect the conservation features, and work to reduce the risk of marine pollution to the site.

Objective - Through the marine planning process, ensure that no offshore developments or other commercial activities negatively interact with the protected features of the site and work with partners to effectively prevent and respond to marine pollution incidents.

A6: Appropriately manage the marine environment through the monitoring of consented discharges, achieving water quality standards and ensuring all coastal environmental incidents are dealt with effectively, whilst creating a safe environment for recreational and commercial users.

Objective - Through regular water testing and assessment of discharges, including agricultural run-off, ensure that water quality is kept at a 'good' standard. Deal with any pollution incidents in an efficient and effective manner to reduce impacts on the EMS.

Objective - Ensure commercial operations are compatible with the conservation features of the EMS, including the provision of waste removal units and recording of dredge spoil disposal.

A7: Ensure that activities within the Management Plan promote the conservation of seascape and landscape character in a way which is compatible with safe maritime practices and the values of sustainable development.

Objective - To create a safe area for maritime users of the EMS, ensure that all navigation aids are maintained and functioning correctly through regular assessments and equipment checks.

Objective - Through the planning application process and the Heritage Coast Strategy (2002), support the conservation of historic seascape character, including terrestrial and maritime heritage assets, and the aesthetic qualities of the seascape.

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Chapter Four: Site Management

4.1 Managing Pressures on the Conservation Features

Whilst all activities undertaken within and immediately adjacent to the EMS must be compatible with the conservation objectives for the designated features (see Chapter One), it is acknowledged that some activities and pressures are beyond the control of the Relevant Authorities. Despite this, it is important that all partners are aware of the external pressures on the features of the EMS, in order to appropriately inform site management.

4.1.1 External Pressures on the SPA

The seabirds, for which the SPA is designated, are mobile species and, as such, may be subject to external pressures which are beyond the control of the Relevant Authorities. As mentioned in Chapter One, the kittiwake population around the EMS has declined substantially over the last few decades, in parallel with other North Sea colonies. Although the reasons for this decline are unclear, it has been suggested that rises in sea surface temperature, as a result of climate change, and pressures from international fisheries could be having a negative effect on the population.

Climate Change

The last few decades have seen an increase in sea surface temperatures around the North East Atlantic, with more rapid increases observed in the North Sea[3]. There is some evidence to suggest that higher sea surface temperatures during the winter months have a negative impact on the availability of year-one sandeels[3] (which kittiwakes almost exclusively feed on at the start of the breeding season, before switching to year-zero sandeels in order to feed their young[4]). A separate report suggests that this reduction in seabird productivity is linked to a lower abundance of planktonic species, which are a main prey species of sandeels[3], due to warmer seas.

Although the direct impacts of higher sea surface temperature on the marine ecosystem are unknown, throughout an 18-year monitoring period, one study found that seabird breeding productivity tended to improve following colder winters[3]. Additional studies have also concluded that the nutrient value of sandeels has lessened following a rise in sea surface temperatures in the North Sea[5]. Kittiwakes are specialist surface feeders, therefore should their preferred food source become unavailable, they are less likely to switch to an alternative prey. This may indicate why kittiwake colony counts have fallen within the EMS, whilst other seabirds that also feed on sandeels, but are not so specialist, are not experiencing the same declines.

International Commercial Sandeel Fishery

Although the UK does not have a large commercial sandeel fishery, international fleets are active around the Dogger Bank area of the North Sea, where the submerged sand banks provide ideal

[3] Frederiksen.M., Edwards, M., Mavor, R., Wanless, S. (2007). *Regional and annual variation in black-legged kittiwake breeding productivity is related to sea surface temperature.* Marine Ecology Progress Series. 350: 137 – 143.

[4] Frederiksen, M., Wanless, S., Harris, M.P., Rothery, P., Wilson, L.J. (2004). *The role of industrial fisheries and oceanographic change in the decline of North Sea black-legged kittiwakes.* Journal of Applied Ecology. 41: 1129 – 1139.

[5] Wanless, S., Frederiksen, M., Daunt, F., Scott, B.E., Harris, M.P. (2006). *Black-legged kittiwakes as indicators of environmental change in the North Sea: Evidence from long-term studies.* Progress in Oceanography. 72: 30-38.

Sandeels are an important food source for many seabirds, including those nesting within the EMS.

habitat for sandeels[6]. It has been suggested that the international sandeel fishery places undue strain on the seabird population, which may already be under pressure from reduced sandeel availability as described above. Evidence from the Isle of May in the Firth of Forth has indicated that the lowest period of kittiwake productivity coincided with the activity of a local sandeel fishery, however this does not explain a marked decline in productivity during 2004, when the fishery was not active[4]. Additionally, as the fishery primarily targets year-one/two sandeels during June and July when kittiwakes are feeding on year-zero sandeels, any conflict should be minimised. Nevertheless, by removing a proportion of the adult population, the fishery could be having a delayed effect on the availability of year-zero sandeels during the subsequent seabird breeding seasons[3].

These two factors, climate change and international commercial fisheries, are not within the powers of the Relevant Authorities to manage. The North Sea ecosystem is complex; therefore, it is not known how these, and other, factors interact or what relationships (direct or otherwise) may affect the seabird populations. However, it is generally accepted that both place pressure on the success of breeding seabirds and may affect the overall condition status of the SPA conservation features. As such, it is important that Relevant Authorities and key partners work together to minimise any pressures on site which fall under their management remit.

4.1.2 External Pressures on the SAC

The conservation features of the SAC are habitat-based; therefore, it can be more difficult to quantify changes caused by external factors. Nevertheless, differences in habitat composition can indicate wider environmental pressures.

Climate Change

Warming sea temperatures may already be having an effect on the immediate marine ecosystem of the EMS, albeit in a less-visible manner than the decline of the kittiwake population. There is evidence that two thirds of North Sea fisheries have shifted northwards as the seas in this area have warmed by 0.2-0.6·c per decade over the last 30 years[7]. Drawing similarities with the kittiwake population, it is thought that fluctuations in planktonic availability and distribution are having a direct effect on larval survival of demersal fish species, such as cod[8]. However, it is unclear whether

[6] Hawkins, T., Christie, J., Coull, K. (1998). *The Industrial Fishery for Sandeels*. The Atlantic Salmon Trust, Perthshire.

[7] Dulvy, N., Rogers, S., Jennings, S., Stelzenmuller, V., Dye, S., Skjoldal, H. (2008). *Climate change and deepening of the North Sea fish assemblage: a biotic indicator of warming seas.* Journal of Applied Ecology. 45. 1029-1039.

[8] Beaugrand, B., Brander, K., Lindley, J., Souissi, S., Reid, P. (2003). *Plankton effect on cod recruitment in the North Sea.* Nature. 426. 661-664.

these changes in the fishery are a direct result of climate change or a response to commercial fishing. It has been suggested that the fishing effort in the southern North Sea, particularly beam trawls targeting demersal species, has been greater than in the northern North Sea[7]. At present, it is unknown whether these changes are species specific or whether it signals a more systemic change in the ecosystem of the North Sea.

Further effects of climate change, such as rising sea levels and increased carbon dioxide levels[9], may lead to a higher number of sea-caves becoming submerged and an intensification of chalk erosion. Such changes will alter the composition of lichen communities within the cave systems and may reduce the extent of the chalk reef. Warmer, wetter winters and an earlier onset of spring could result in cliff recession through erosion and landslide, which may have an effect on the composition and extent of the vegetated sea cliff feature.

These natural processes, whether influenced by human actions or not, will cause changes to the SAC and SPA features over time. The Relevant Authorities should work together with key partners to ensure that management measures consider the impacts of climate change and act to reduce additional pressures wherever possible.

4.1.3 Overarching Management Measures

Further to any specific management required, as detailed in the Action Plan, Relevant Authorities will carry out and support the following overarching management measures which apply across the site and to all activities or projects:

- Enforce, and support the enforcement of, national and regional legislation, including those byelaws specific to the EMS (Table 3);
- Enforce and adhere to any permits or licences issued in relation to activities undertaken within the EMS or affecting the conservation features of the site;
- Ensure contractors are aware of the sensitivity of the EMS and that required consents are obtained before any commencement of works;
- Report on statutory actions and non-statutory projects affecting the EMS on a regular basis and through the annual reporting system;
- Report all significant incidents affecting the protected features of the EMS to the Management Group and work to reduce these incidents in the future, consulting with other Authorities and partners where necessary in order to rectify the issue;
- Promote sustainable tourism strategies which do not encourage intense levels of activity in sensitive locations within the EMS.

The following sections summarise current management measures for all activities and pressures known to be occurring around the EMS, in addition to the management described above.

[9] Harley, C., Hughes, A., Hultgren, K., Miner, B., Sorte, C., Thornber, C., Rodriquez, C., Tomanek, L., Williams, S. (2006). *The impacts of climate change in coastal marine systems.* Ecology Letters. 9. 228-241.

4.2 Activity-Specific Management Measures - Marine

All activities which occur around the site have the potential to place additional pressure on the conservation features; it is the Relevant Authorities' responsibility to identify these pressures and employ management measures to reduce any negative impacts. For the most part, this is undertaken using statutory powers, such as Habitats Regulations assessments and byelaws, however recreational activities are not regulated by one single authority. Therefore, all Relevant Authorities have a responsibility to manage any impacts caused by recreation.

There is substantial social and economic value attached to the fisheries within the SAC and the wider coastal area. In recent years, many fishing boats have also diversified to take advantage of the tourist season and offer visitors angling and nature-watching trips. The offshore energy industry has also grown rapidly and is one of the most important economic activities in the North Sea, which may present new challenges for the management of the site.

4.2.1 Commercial Fisheries within the EMS

The waters around the EMS, and the wider North Sea region, support a high level of commercial and recreational fishing activity. The unique position of the headland in the North Sea, at the meeting of two water bodies, results in a rich and productive marine ecosystem. Historic records and archaeological evidence clearly indicate that fishing has taken place along this stretch of coast for as long as humans have been present, with the headland providing shelter to boats which could be launched even in adverse weather. Flamborough Head SAC currently supports a mixed fishery which encompasses commercial potting, trawling, netting and lines.

Interaction with Conservation Features

Around Flamborough Head there is a potential for bottom-trawled gear, potting and anchoring to damage or remove the reef feature (and associated sub-features) for which the SAC is designated. Other types of fishing, such as netting which primarily takes place in Filey Bay, can result in seabirds (particularly guillemots and razorbills) becoming entangled and may be an additional pressure on the internationally important seabird colony.

Existing Management

On a national scale, the MMO works with partner agencies, including the European Commission, to negotiate and set conservation reference sizes (previously known as minimum landing sizes) for many species of shellfish and seafish landed around the UK. Similarly, species quotas and discard policies are all negotiated on a national and international scale. The MMO is additionally responsible for closing certain areas at sea to commercially licensed fishing vessels and for managing fisheries 'effort' (the number of days a vessel can spend at sea).

Edible crabs are an important source of income for the shellfishery around Flamborough Head.

Locally, the NEIFCA is responsible for fisheries management within six nautical miles of the shoreline, which includes the EMS. Specifically, fisheries within the site are subject to a number of byelaws which restrict where fishing can take place (see Table 3 for EMS specific byelaws). These local regulations are in addition to regional management, which must also be adhered to within the EMS, such as the protection of 'V' notched lobsters and the stipulation that permits must be granted before any commercial activities commence.

The salmon and sea trout fishery, primarily active in this area within Filey Bay, is subject to a Net Limitation Order (NLO) which is set by the Environment Agency as the manager of migratory salmon and sea trout stocks. NLOs are designated under the Salmon and Freshwater Fisheries Act (1975) and are used to regulate the fishery around the country, in addition to any site-specific management such as the Filey Bay Fisheries Byelaw (see Table 3). The latest NLO was introduced in 2012 and is currently being reviewed.

The management of all fishing activities within the site is regularly reviewed to ensure there is no significant impact on the conservation features. For more details on fisheries management, please contact the appropriate organisation (contact details can be found in Appendix D).

2022 – 2026 Management Measures

Through effective communication and partnership working, the Management Group will be kept updated on the amount of bycatch recorded by the Filey Bay fishery and support the work to further reduce this number. Should any trigger levels be breached, the Management Group will work with partners to respond effectively and appropriately. The Environment Agency now also requires the supervision of any nets which are actively fishing (i.e submerged in water), throughout the district. This may help to reduce seabird bycatch in other locations, although it is recognised that some longline nets (which are set from the beach adjacent to the EMS) are inaccessible when fishing. Furthermore, NEIFCA have established a seasonal closure of netting activities under their jurisdiction (within the SPA) in order to remove any risk of seabird bycatch within the rest of the protected area.

The appropriate Relevant Authorities will continue to dispense their statutory duties to monitor the fisheries' effort within the SAC and assess any impacts on the features of the site, which will, in turn, be reported to the wider Management Group.

4.2.2 Shipping and Navigation

The only permanent moorings immediately adjacent to the EMS are within Bridlington Harbour, which is subject to navigational dredging on an annual basis. This dredge spoil has been disposed of at a site approximately 3km east of the harbour, within the boundaries of the SAC, for more than 25 years (see map in Appendix D). A small number of local boats launch from North and South Landings on the headland, whilst other local authority launch sites exist at Filey and south of Bridlington.

Trinity House maintains general aids to navigation. In the waters around Flamborough and Filey, these include the iconic lighthouse, the fog station and buoys marking submerged sand banks. In addition, Trinity House has overall superintendence and management duties for local aids to

navigation maintained by local lighthouse authorities. Should there be a wreck within the EMS, Trinity House will be responsible for marking or removing the wrecked vessel, or both, in order to ensure safe navigation.

Interaction with Conservation Features

There is a risk that the dredge spoil deposits at Smithic Bank may cause increased sedimentation of the chalk reef, thereby degrading a conservation feature of the site (see Table 1). However, a report by the Centre for Environment, Fisheries and Aquaculture Science (Cefas) in 2010 found that the current level of disposal does not have a negative impact upon the integrity of the site.

A major risk to the EMS with regards to shipping may come from outside the boundaries of the site. The North Sea is a frequently utilised thoroughfare for merchant and passenger ships. If pollutants were released through the discharge of ballast water or otherwise, there could be negative impacts upon both the breeding seabirds and the chalk features.

Existing Site Management

In order to limit any impact on the conservation features, dredged material is disposed of in the lower section of the disposal site, and only at certain tide times. The suspended material is initially carried in an easterly direction, away from the key features of the SAC, whilst the sediment that settles on the seabed may be less mobile, moving only when currents exceed a certain threshold. To ensure that the dredge spoil from Bridlington Harbour does not create an adverse effect on the SAC, particular conditions are attached to the dredge licence which is issued by the MMO. These are:

- Specific parts of the harbour are designated as 'no dredge' areas, due to the amounts of contaminants bound within the sediment;
- Samples of dredge spoil must be periodically analysed for such contaminants;
- Although a three-year licence is issued which allows the disposal of 60,000 tonnes of spoil, the total annual quantity for disposal at the site is limited to 20,000 tonnes per year;
- The appropriate authorities must be notified of any changes to the method of disposal, and;
- The effects of the dredge disposal site within the SAC will continue to be monitored by Natural England.

The Bridlington Harbour Commissioners, North Landing Harbour Commissioners and the local authorities are responsible for ensuring that their launch sites have suitable waste reception facilities, including oil disposal where appropriate. Bridlington Harbour also operates a Waste Management Plan, a Port Marine Safety Plan and an Oil Spill Contingency Plan, which is a statutory requirement of all large harbour authorities.

The North Sea is recognised as a 'Special Area' under the international Marpol agreement, which aims to reduce pollution from ships by controlling the operational discharges from vessels. More specifically, Flamborough Head has been identified as a Marine Environmental High-Risk Area, which informs mariners of the high environmental sensitivity of the site.

2022 – 2026 Management Measures

Relevant Authorities will continue to monitor the dredge spoil disposal site at Smithic Bank and will receive regular updates about the amount of material deposited from the Bridlington Harbour Commissioners. Proposals to significantly redevelop Bridlington Harbour have recently been explored by the Harbour Commissioners and East Riding of Yorkshire Council. Whilst plans have been put on hold for now, if the redevelopment goes ahead in the future, it is likely that additional dredging of the harbour will be required.

All waste management procedures will continue to be followed and any incident of pollution will be dealt with by the appropriate authorities swiftly and effectively. The Management Group may be directly involved in this process (where resources allow utilising assistance from volunteers), although the Scheme's main remit will be to offer local advice and work with the authorities to ensure that any impact on the conservation features is minimised.

4.2.3 Offshore Renewable Energy Development

In recent years, the development of energy industries off the Yorkshire coast has rapidly increased. Historically the North Sea has been subject to hydrocarbon extraction, with some prospecting licences granted for the marine area adjacent to Flamborough Head. However, the potential for renewable energy created by offshore wind farms has now become the focus of development in the northern North Sea region.

A number of wind farms are now operating or under construction in the seas adjacent to the EMS, as described in Table 5 below. Although not within the EMS boundaries, these development areas have been shown to sit directly within the SPA's seabird foraging ranges.

Interaction with Conservation Features

The potential for renewable energy developments in the offshore environment is rapidly expanding, however due to the industry being relatively new, data is constantly being gathered to inform the environmental impacts of such developments.

The RSPB have carried out innovative research around Flamborough Head, and other UK locations, tracking the foraging flights of kittiwakes and gannets in order to discern the level of interaction between these internationally important species and the proposed wind farm areas. Initial conclusions suggest that foraging flights range in direction and distance; whilst the highest density of birds is within a 50-150km range of the EMS, a significant number regularly frequent the Hornsea and Dogger Bank zones. In addition to a potential for collision, it is thought that the presence of wind farms in these locations could result in the birds being displaced to areas which are perhaps less favourable for foraging[10]. Such displacement may also increase competition between species and cause the birds to be away from the nest for longer periods. If displacement does occur, the development of wind turbines in these important foraging areas could be a major

[10] Busch, M. & Garthe, S. (2016). *Approaching population thresholds in presence of uncertainty: Assessing displacement of seabirds from offshore wind farms.* Environmental Impact Assessment Review. 56.

pressure on the breeding seabird colonies of the EMS. Cumulative effects of offshore developments in close proximity to the seabird colony are quantified during the assessment stage, however it is difficult to fully calculate the impacts due to wide year-to-year variations in factors such as weather conditions and prey availability, which is then compounded when multiple projects are considered.

Table 5: Wind Farm Development Areas Adjacent to the Flamborough Head EMS

Development Name	Approximate Size	Expected Completion Date	Locality to EMS
Dogger Bank Sites A and B are currently in construction, along with Sofia. Site C is in development.	8660km²/ 4.8GW capacity in four stages. Potential for 800 turbines spread across the site.	A development consent order was awarded in 2015. Onshore construction began in 2020 with offshore development expected to being in 2022. Three phases expected to be complete in 2026.	The development area is situated between 125km and 190km off the Yorkshire coast. The first two developments (tranche A) will be 131km offshore and slightly north of Flamborough Head.
Hornsea Offshore Projects One and Two have been approved	4735km²/ 4GW capacity in a number of stages. When complete the zone will consist of around 600 turbines.	Offshore construction of Project One completed in 2020. Project Two is currently under construction with expected completion in 2022. Project Three and Four are currently in development.	The development area begins just 31km off the east Yorkshire coast and stretches to the edge of the UK continental shelf. If the area becomes fully developed, part of the array will be directly adjacent to the Flamborough Head EMS.
Westermost Rough www.westermostrough.co.uk	35km²/ 210MW capacity with 35 turbines in total.	Construction was completed in May 2015.	Although only 8km from the shore, this wind farm is significantly south of the Flamborough Head EMS.
Humber Gateway www.eonenergy.com	24.8km²/ 219MW capacity with 73 turbines in total.	Construction was completed in April 2015.	Similar to the Westermost Rough, this development is considerably south of the EMS, though only 8km from the shore.
East Anglia www.eastangliawind.com	6000km²/ 7.2GW capacity with the potential for 1200 turbines over several stages.	Construction of East Anglia (EA) ONE was complete in 2020. Construction for EA Three expected to commence in 2022 and EA TWO and ONE North expected to be underway in 2023	Although significantly south of the EMS, provisional seabird tracking data show some interaction with the large development zone.

The area of the North Sea directly adjacent to the SPA seabird colony is already very active in terms of commercial and recreational vessel movements. During all phases of offshore development, an increase in activity levels could create disturbance issues for rafting species, such

as auks. Guillemots and razorbills begin a swimming migration in the late summer months, which can leave them vulnerable to boat traffic (see Section 4.4.1).

Existing Management

Gannets can be sensitive to offshore developments in the North Sea region.

Prior to any type of development, the appropriate authorities must assess the potential for negative impacts on the environment. During this process, stakeholders must be given the opportunity to comment on the proposals and supply evidence to support any objections. In addition, the area which is proposed for development must have already been identified as a suitable location by the landowner (the Crown Estate, in the case of offshore developments) and the MMO as the marine planning authority. Locations earmarked for development are usually identified a number of years before proposals are made by energy companies, through the area's marine plan.

An environmental statement should be developed by the energy company which ensures that any significant negative impacts on the environment are either mitigated against or removed from the plans. The final decision to approve a proposed development is made by the Secretary of State, where socio-economic needs are taken into account along with any environmental impacts. The Management Group can feed into this process through its Relevant Authorities, in particular the MMO and Natural England, however the Management Group itself cannot support, object to or prevent any development.

Working collaboratively with Natural England, RSPB and offshore developers, the YMNP (representing the Flamborough Head EMS) sits on the Flamborough and Filey Coast Seabird Monitoring Group. This innovative partnership explores how developers and regulators can work together to fill gaps in knowledge about the seabird colony and agree on a collaborative research plan. This ensures that all parties are comfortable with the methods of data collection, whilst still allowing datasets to be analysed and interpreted independently by each organisation.

2022-2026 Management Measures

Where evidence suggests that any development would have an adverse effect on the conservation features of the site, YMNP staff will work with the appropriate Authorities and key partners to offer advice and explore options for a resolution. In order to maintain a positive working relationship, the Relevant Authorities will be expected to exchange appropriate information regarding offshore developments with other Authorities and key partners, such as the RSPB, through Management Group meetings. Continued engagement with the Seabird Monitoring Group will ensure clear communication and collaborative research with industry and regulators. Similarly, key partners will be encouraged to share any research with the Management Group which may help to inform decisions.

4.2.4 Consented/Non-consented Discharges and Diffuse Pollution

The only industrial discharge directly inside the EMS comes from the Muntons plc. maltings factory, which is situated on the southern side of the headland. The factory is permitted to discharge wastewater by the Environment Agency into the sea adjacent to Sewerby Steps, on the southern side of the headland. Additionally, there are two sewage outfall pipes within the EMS; these are located at Filey Brigg and Flamborough, South Landing. Both of these pipes discharge treated effluent into the North Sea from the nearby sewage treatment works and can also reduce pressure on other systems by carrying excess storm water if necessary. Storm water may also be released into the North Sea through existing water courses such as Gypsy Race (into Bridlington harbour) and Hartendale Gutter at Flamborough. Further sewage outfall pipes exist in Bridlington Bay and off Filey Brigg, whilst the McCain's food processing factory near Scarborough discharges treated industrial wastewater near to Cayton Bay, north of Filey.

Interaction with Conservation Features

Poor water quality, as a result of high levels of sewage or wastewater being discharged into the marine environment, could alter the ecosystem structure of the protected site if permitted to continue for a significant length of time. For instance the black-legged kittiwake relies on shoals of sandeels as a main prey source; these small fish feed on planktonic species which are highly sensitive to changes in the marine environment[5]. As such, inferior water quality may place an additional burden on species already under pressure from other external sources.

Equally, discharges containing sediment or similar material may contribute to smothering of the chalk feature and an increase in turbidity, which could reduce the levels of light in the water. A number of species found within the EMS are at the farthest extent of their ranges, therefore slight changes in habitat could reduce the biodiversity of the chalk-reliant fauna.

The consented discharges positioned outside of the EMS are not thought to directly affect the water quality of the site due to the nature of the tidal currents, however in extreme circumstances such as significant weather events, these discharges could contribute to a cumulative effect.

Existing Management

Muntons plc. are permitted to discharge into the sea adjacent to Sewerby Hall by consent of the Environment Agency and are required to adhere to the conditions of the permit. The Environment Agency regularly monitors the bathing water quality adjacent to the outfall pipe and can perform spot checks on the waste discharged by the factory to ensure compliance with the environmental permit.

Yorkshire Water recently invested in upgrading the sewage treatment works along the Yorkshire Coast, in order to reduce the amount of untreated effluent released into the North Sea. This investment aimed to ensure that the bathing water beaches in the area reach the revised Bathing Water Directive standards as required from 2015 onwards. Further engagement with homeowners and businesses whose drains are misconnected, causing waste to be carried into storm water pipes rather than sewage treatment plants, is currently ongoing. Additionally, Yorkshire Water are working to replace the outfall pipe south of Scarborough, which discharges wastewater from the

McCain's food processing plant, in 2016. A new longer, high-density plastic pipe will replace the original structure, which has been subject to fractures in recent years.

2022-2026 Management Measures

Working with Relevant Authorities, such as the Environment Agency and Yorkshire Water, the Management Group will support plans to improve water quality and educate the public about their impact on coastal waters. The Management Group will explore the possibility of working with the Environment Agency, and other partners, to achieve coastal water standards expected by the Water Framework Directive via site-specific actions, where appropriate. Additionally, effective communication between key partners and the Management Group will provide the mechanisms for an efficient response if a pollution incident should occur. Such communication within the Group will also make certain that Relevant and Competent Authorities are aware of their responsibilities towards the EMS and will appropriately consider the impact any water quality issues may have on the conservation features.

Supplementary Information in Appendix - Marine

- Netting: T&J (salmon and sea trout fishery in Filey Bay) - Appendix B; page xv
- Netting: Static/Passive/Intertidal/Subtidal - Appendix B; page xvi
- Shellfish Potting - Appendix B; page xvii
- Trawling - Appendix B; page xviii
- Discharges (at sea) - Appendix B; page xix
- Harbour Waste - Appendix B; page xx
- Navigational Dredging - Appendix B; page xxi
- Offshore Energy Development - Appendix B; page xxii
- Diffuse Pollution - Appendix B; page xxiii
- Consented/Non-consented Discharges from Land - Appendix B; page xxiv

4.3 Activity-Specific Management Measures - Terrestrial

The EMS designations contain a number of terrestrial features (see Chapter One) which must also be managed in conjunction with the protection afforded to the marine environment. Poor land management may have a negative effect on the marine features, due to wrongly connected drains or inappropriate agricultural practices.

4.3.1 Agriculture

The land adjacent to the vegetated sea cliffs is primarily used as agricultural land for both arable crops and livestock. A large proportion of agricultural land within and immediately adjacent to the EMS is managed under a countryside stewardship scheme. In addition to individual landowners, the local authorities, RSPB and Yorkshire Wildlife Trust all manage land within the EMS and associated SSSI.

Interaction with Conservation Features

Intensive farming and run-off from the use of agricultural chemicals can alter the sea cliff vegetation and the littoral chalk plant communities. Changes to the levels of nitrogen and phosphates in the soil as a result of inappropriate chemical use may favour some species, whilst hindering the growth of others. This, in turn, could result in vegetation which is much less diverse. Additionally, changes to drainage patterns through the use of culverts or ditches on the headland could negatively affect the distribution of protected flora.

Existing Management

The 2015 Countryside Stewardship scheme encourages land managers to protect and enhance the natural environment and the biodiversity of wildlife through considerate farming and forestry practices. Much of the land under stewardship around the EMS is covered by Higher Level Environmental Stewardship (HLS) agreements focussed around maintaining the calcareous grassland habitat and supporting farmland birds. From 2024 onwards, the new Environmental Land Management scheme will be rolled out, which will encourage more sustainable and nature-friendly farming.

In addition to stewardship schemes, any construction or maintenance work which needs to be carried out within the SSSI, and does not require a Habitats Regulation assessment, must be evaluated by Natural England. Permission will then be granted for the works to go ahead if there is no likelihood of damage to the notified features of the site.

2022-2026 Management Measures

Management measures agreed by the landowner and Natural England under a stewardship arrangement are specific to each site, therefore management will vary. Nevertheless, landowners will continue to be encouraged to take environmental considerations into account.

4.3.2 Collection of Materials and Intertidal Species

Commercial collection of shellfish, such as mussels, must be compliant with food safety law.

Historically, the areas around Flamborough headland have been utilised by the local community for the collection of both building materials and food resources. Until the 1950s, seabird eggs were regularly collected for trade or local consumption, and many buildings in the surrounding area have been constructed using Flamborough chalk. More recently, due to the protection now afforded to seabirds and to the chalk habitat on which they depend, collection activities around the headland on this scale have all but ceased. However, intertidal hand gathering activities do take place along the rocky shore for both commercial and recreational purposes, on a small scale. Where commercial hand-gathering of shellfish is undertaken, it must be compliant with food safety regulations in addition to fisheries management legislation. Similarly, anecdotal evidence suggests that quantities of chalk have occasionally been removed from beaches around Flamborough Head. There are no known regular collection activities occurring around Filey Brigg, other than low-scale bait-digging on the adjacent beach.

Interaction with Conservation Features

Since the Protection of Birds Act (1954), the risk to the seabird population from egg collecting has diminished. This has been further strengthened by consequent legislation, including the EMS designations. The collection of chalk materials and fossils from both the cliff face and the beaches may, however, pose some threat to the geological conservation features of the SSSI and the SAC. Furthermore, should intertidal hand-gathering activities reach an unsustainable level, this could negatively impact the sub-features of the site (detailed in Table 1).

Existing Management

Stringent legislation, enforced by Natural England and the police, is now in place which protects the seabirds from disturbance, injury, or destruction. This includes the collection of eggs for any purpose. As such, the appropriate authorities can effectively deal with any issues as they arise.

The NEIFCA issues permits for the collection of shellfish on the shore (whether for recreational or commercial purposes) and has circulated best practice guidance. There are no intertidal shellfish beds around the EMS which are approved for commercial use, therefore the Management Group will work with the local authorities' environmental health services to share information on any commercial intertidal hand-gathering activities. Additionally, the collection of intertidal species is prohibited within the No Take Zone (see Section 1.4.1).

More widely around the headland and Filey Brigg, the extraction of chalk and limestone from the cliffs is listed in the operations requiring Natural England's consent. The clearance of boulders, stones and loose rock from the beach or shore is also listed, to prevent unregulated activities modifying the natural features of the site. Common rights exist which permit the local community to collect materials which are found loose on the shore for their own consumption, unless superseded by more recent legislation such as the No Take Zone. This type of collection must also be within reasonable limits; it cannot damage or destroy any feature of the EMS or SSSI designations or be done without permission from the relevant landowner(s).

2022 – 2026 Management Measures

Current known levels of collection and hand-gathering do not seem to cause a significant effect on the conservation features of the site, however there is little information regarding the 'operational limits' or the amount of collection which may be unsustainable. Should a significant incident occur, or a request be made for permission to undertake a considerable project, Natural England will apply the 'precautionary principle' (see Section 2.1.4) in order to protect the conservation features. Where opportunities arise, the Management Group will attempt to understand the possible implications of high amounts of collection on the conservation features, in order to develop the evidence base.

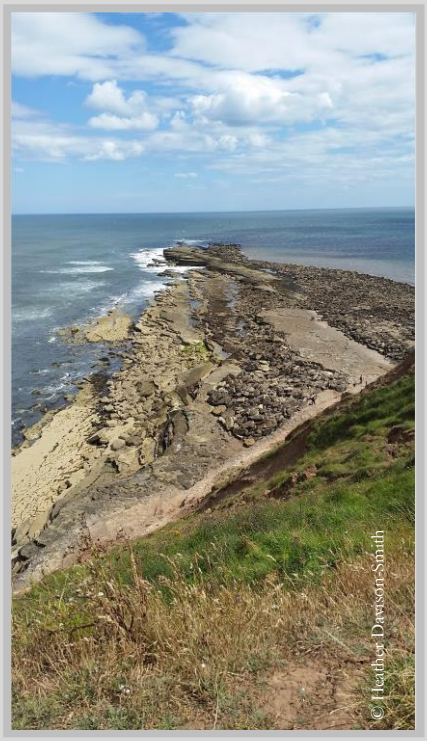
4.3.3 Coastal Access

In accordance with the Marine and Coastal Access Act (2009), Natural England has a duty to develop and implement coastal access rights around the English coastline, in the form of the England Coast Path. Throughout the EMS, Public Rights of Way are already in existence, therefore relatively little footpath creation will be undertaken along this section of coast. All

sections of the England Coast Path along the Yorkshire coast, as far as Easington, are expected to be fully open in the next few years.

Interaction with Conservation Features

As Public Rights of Way already exist around the Flamborough and Filey Coast, existence of the England Coast Path is unlikely to have a direct impact on the conservation features in itself. However, the increased access this new National Trail permits, and encourages, could result in additional pressures on sensitive species and habitats.



The rocky extension of Filey Brigg at low tide from Carr Naze.

Although the England Coast Path has been assessed as a plan or project under the Habitats Regulations (as amended, 2010) and considered to have no likely significant effect after mitigation measures have been applied, the promotion of the England Coast Path may result in higher numbers of visitors to the protected area. Whilst Flamborough Head and Filey Brigg are already popular with tourists during the summer months, a significant increase in visitor numbers could have a negative effect on the conservation features through disturbance caused by recreational activities.

Existing Management

Through the England Coast Path designation process, it was agreed that 'spreading room' for the Path, which would have allowed users access to the cliff-face, be suspended for four specific areas within the SPA – Briel Nook, High Holme, Gull Nook, and along the length of the RSPB Bempton Cliffs Nature Reserve. This provision will reduce the likelihood of users trying to access the cliff face as part of the National Trail, which could result in significant disturbance to the breeding seabirds. In addition, existing management measures around the site have also been acknowledged as key parts of the Path's successful development.

Natural England, the RSPB and the Management Group have agreed voluntary codes of conduct with the local angling clubs which regularly use Filey Brigg and Bempton Cliffs. In both locations an agreement has been made not to create any new access points down the cliff face. It should be noted, however, that these codes of conduct have been agreed by local user groups and may not be adhered to by other visitors. Additionally, these agreements only apply to specific areas and not the entire EMS. Similarly, the England Coast Path, although designated purely for walking, could allow easier access to land used for activities such as paragliding or the use of unmanned remote-control aircraft (drones).

Despite the designation of coastal access rights, the legal protection afforded to both the seabirds and the chalk habitat still applies. Therefore, any damage, disturbance, injury, or destruction of any conservation feature may be investigated by Natural England or the police. If the potential

for disturbance is significant, Natural England could implement a restriction on coastal access rights which would prevent individuals traversing the cliff face.

2022-2026 Management Measures

The Management Group will continue to work alongside Natural England as the England Coast Path comes to fruition. To aid this process, the Management Group and key partners will remain in close contact with local user groups and continue to review present agreements. Any significant incidents of damage or disturbance will be escalated to the appropriate authorities and communicated to key partners and stakeholders, where necessary. In an effort to ensure that all visitors are fully aware of the site's sensitive nature prior to arriving, appropriate information, voluntary codes of conduct, advice and guidance about walking around the Flamborough and Filey Coast will be provided on the YMNP's website.

4.3.4 Onshore Shale Gas and Oil Extraction

The extraction of shale gas and oil by hydraulic means – generally known as 'fracking' – has been common in the North Sea oil and gas fields for many years. Extracting energy from the earth in this way involves enlarging or creating fractures in the rock using hydraulic equipment and injecting water into the well at high pressure. In recent years, this method of energy extraction has been proposed for use onshore in a variety of locations around the UK.

Interaction with Conservation Features

The protected areas around Flamborough Head and Filey Brigg are of international importance, therefore any new development in the vicinity of the site could have a detrimental impact on the conservation features and must be assessed accordingly. The breeding seabirds may be affected by noise disturbances caused by any construction, and subsequent operation, of a facility. A development such as this within the Heritage Coast area may not be favourably received due to the effect on the overall landscape.

It is not clear whether this method of energy extraction would lead to any effect upon the chalk features directly; this would require suitable assessment during the development application stage. However, removal of shale oil and gas requires a significant water input. There may be a risk that contaminated water (having been used in the process and returned to the surface) could enter groundwater and/or other water courses, eventually to be returned to the sea. There is a possibility that any pollutants contained in this water could alter the chemical composition of intertidal areas and impact the chalk reef and the dependent faunal turf.

Existing Management

Although many terrestrial areas around the EMS have been licensed for exploration, the licences themselves do not give consent for operations to begin. Prior to any drilling or hydraulic fracturing the operator is required to seek the landowner's agreement, appropriate planning permission (which may require an environmental impact assessment depending on the location of the exploration), permission from the Environment Agency, and consent for drilling from the Department for Business, Energy and Industrial Strategy (DBEIS). Furthermore, any plans for drilling must be examined by the Health and Safety Executive to ensure the public's wellbeing.

Management is also in place to minimise the risk of water contamination. Standards state that extraction should take place below the level of drinking water aquifers and any fluid returning to the surface should be contained for treatment to remove any pollutants. Furthermore, in the UK, all operators must show the Environment Agency that any chemicals added to water used for oil and gas extraction are non-hazardous in their intended application.

It is recognised that this method of oil and gas extraction can cause occasional earth tremors. Since 2012, operators have been required to assess any relevant faults during the planning stages of development and, during operation stages, to stop and investigate if any tremors are detected above a normal range. Similarly, there are strict controls on the release of gases into the atmosphere and natural gas can only be released where it is necessary to do so for safety purposes.

2022 – 2026 Management Measures

Where evidence suggests that any development would have an adverse effect on the conservation features of the site, the Management Scheme will work with the appropriate Authorities and key partners to resolve the issue. In order to maintain a positive working relationship, the Relevant Authorities will be expected to exchange appropriate information regarding the extraction of shale oil and gas with other Authorities and key partners through Management Scheme meetings. Similarly, key partners will be encouraged to share any research with the Management Scheme which may help to inform decisions.

Supplementary Information in Appendix - Terrestrial

- Agriculture - Appendix B; page xxv
- Intertidal Hand-gathering - Appendix B; page xxvi
- Collection of Materials - Appendix B; page xxvii
- Coastal Access - Appendix B; page xxviii
- Onshore Shale Gas and Oil Extraction - Appendix B; page xxix

4.4 Activity-Specific Management Measures - Recreation

The tourist attractions of the Bempton Cliffs Seabird Centre (RSPB) and Living Seas Centre (Yorkshire Wildlife Trust), coupled with the iconic lighthouse and proximity of the seaside towns of Bridlington and Scarborough, bring thousands of tourists to Flamborough Head and Filey Brigg each year. Tourism on this scale is an important source of income for the local economy. However, irresponsible use of the area, by both the local community and visitors, can cause disturbance to the internationally important breeding seabirds and damage to the terrestrial features of the site.

4.4.1 Marine-based Activities

The marine area surrounding the EMS is important both in terms of commercial and recreational activities. The recreational marine activities outweigh the commercial fishing sector during the summer months, with pleasure boat trips, charter boats, sea kayaking and the use of personal watercraft (otherwise known as jet-skis) regularly observed throughout the area.

Interaction with Conservation Features

Where marine vessels travel at high speeds within the marine maintenance area of the SPA, or travel near to the cliff face, they can have a damaging disturbance effect on breeding seabirds. Vessels travelling at speed through groups (rafts) of birds gathered on the sea risk colliding with these protected species (possibly resulting in injury or death) or causing them to expend energy by taking flight. If the disturbance is great, these flights can be some distance and may prevent the birds from returning to their nests, foraging, or carrying out social activities within the flock. Additionally, guillemot, razorbill, puffin, and gannet fledglings are flightless, making them especially vulnerable to collisions with fast moving vessels. Male guillemots and razorbills escort their chicks on a swimming migration once the youngsters have left the cliff. At the same time, the adults undergo a moult which renders them also unable to fly for 45–50 days[11]. This leaves both adults and chicks vulnerable to fast moving vessels and, should the adults be separated from their young before they are independent, may reduce the likelihood of juvenile survival.

Guillemots do not make nests, but lay eggs directly onto the bare rock.

Marine craft which travel too close to the cliff may cause some birds to fly from the nest, leaving the contents vulnerable to predation and adverse weather. Birds leaving the nesting site at speed in order to avoid the disturbing activity could dislodge eggs or chicks. Similarly, chicks can be prompted to fledge prematurely before they have acquired the appropriate body mass to survive. Due to external pressures on the seabird colony (see Section 4.1.1) it is important that disturbance events are limited, thereby allowing the seabirds to have the best chance of a successful breeding season.

Existing Management

Since 2013, information has gathered been on the frequency and significance of disturbance incidents around the EMS. The dataset is analysed annually to identify any trends or activities which may need specific attention in order to reduce their impact.

The Management Group is working with a number of user groups to reduce their impact on the breeding seabird colony. This includes creating voluntary agreements with specific groups, distributing information at strategic locations, and speaking to individual users directly. In response to significant incidents of disturbance to the protected species, the Management Group will work with Natural England, the police, and other key partners to ensure that the appropriate enforcement procedures are undertaken. Enforcement action can include warning letters, civil

[11] Isaken, K. & Bakken, V. (1995). *Breeding Populations of Seabirds in Svalbard.* Norwegian Polar Institute. Oslo.

sanctions or a criminal prosecution depending on the evidence available and the severity of the incident.

It should be noted that the Management Group's preferred method of managing disturbance to the breeding seabirds is to discuss the problem with the user group and develop a mutual agreement in order to reduce the impact of a certain activity. Enforcement action will only be implemented where it is appropriate to do so and all other management possibilities have been exhausted.

2022-2026 Management Measures

Data continues to be gathered on the frequency and significance of such activities in order to inform management measures and create a baseline of information. Where opportunities arise, the Relevant Authorities will explore research activities which may help to ground-truth baseline data. Furthermore, the Management Group will continue to work with the appropriate authorities, key partners and stakeholders, facilitated by Operation Seabird (see Case Study Three), in order to engage with user groups and encourage responsible enjoyment of the coastline. To reduce any negative impacts marine-based recreation may be having on the breeding seabird colony, voluntary codes of conduct will be established and reviewed with stakeholders, as appropriate.

4.4.2 Land-based Activities

The unique geology and wildlife of the EMS attracts visits from schools, universities, walking groups and adventure tourism companies throughout the year. Additionally, the high cliffs at Bempton and the rocky outcrop of Filey Brigg are known as some of the best cliff angling locations in the UK.

Interaction with Conservation Features

Sea thrift can be seen in numerous places around Flamborough Head.

Although a relatively low-impact activity, walking can result in the trampling of vegetation and rocky shore communities which are protected by the SSSI and SAC designations. At the present level of activity, there is no evidence to suggest a significant negative effect; however, a few areas are subjected to seasonal trampling which has degraded the maritime grassland of the SSSI. Additionally, in some specific locations around Flamborough Head, members of the public have planted non-native flowers. Such actions can be detrimental to the biodiversity of the site and are not permitted within the designated area. Should other pressures on the vegetated sea cliffs arise, this could result in a negative cumulative impact.

Cliff and shore angling have the potential to result in bycatch and litter issues which may pose a danger to the breeding seabirds. Discarded fishing equipment can be a risk to the breeding colony and birds tangled in fishing line have been observed on the cliffs. Although it is not always clear where this line has originated from, such entanglement has been seen to result in serious injury or death to the seabirds.

Furthermore, the loss of one parent bird will often result in nest failure as a single bird cannot protect youngsters on the nest and successfully forage simultaneously. Similarly, birds may be disturbed by anglers traversing down the cliff to access the shoreline, which could result in unnecessary flight as discussed previously (see Section 4.4.1).

Existing Management

A voluntary code of conduct has been developed with two local angling clubs which effectively closes the cliffs from Hoddy Cows Lane to Dyke End (the length of the RSPB's Bempton Cliffs reserve) to anglers from 1st March to 30th September. Additionally, the local angling clubs have agreed to use equipment and methods which would least impact the breeding colony and dispose of any litter they see discarded on the cliffs. This has removed much of the conflict between anglers and birds within the EMS, and partners have seen a marked reduction in disturbance reports.

When opportunities arise, the Management Group engages with walking and school groups in order to ensure that the area's sensitivities are recognised.

2022-2026 Management Measures

Working with landowners and key partners, Relevant Authorities will assess the impact of trampling and invasive species on the SSSI and SAC vegetation features and will explore the most appropriate solution. This may be particularly relevant when the England Coast Path is officially opened in the region, alongside any related wildlife disturbances. The Management Group will continue to encourage reports of any disturbance or damage caused in relation to these types of activities and may investigate the possibility of updating relevant codes of conduct. The voluntary angling code of conduct will continue to be reviewed annually and communication with the user group will remain active. In order to inform any necessary management measures in the future, data will continue to be gathered on the frequency and possible impact of angling within the EMS.

4.4.3 Airborne Activities

Inappropriate use of low-flying aircraft, paragliders, paramotors, and unmanned aerial vehicles (drones) can cause disturbance to the breeding seabirds. Whilst the seabird colony is not currently marked on aeronautical maps, the high-profile nature of the area means that most pilots are aware of the large colony. The recent increase in the popularity of drones for recreational and commercial photography may create new pressures on the breeding seabirds.

Interaction with Conservation Features

Low-flying airborne vehicles of any description have the potential to create a predation response in the breeding seabirds. As described above in relation to marine activities (Section 4.4.1), this can result in unnecessary flight, eggs or chicks being exposed and, young chicks being caused to leave the nest prematurely.

Existing Management

In order to maintain a safe height, the Rules of the Air Regulations (2007) state that all aircraft, including gliders, must stay 500ft above any structure or building (unless during an emergency, take-off or landing). The Ministry of Defence voluntarily avoids low-flying exercises over

Bempton and Speeton Cliffs (up to 2000ft) in acknowledgement of the sensitive area. A similar agreement has been developed with the Humberside Search and Rescue helicopter crews to avoid disturbing nesting seabirds between North Landing and High Stacks, during training exercises. It should be noted that neither of these agreements affect emergency responses and, although any disturbance to the seabird colony is regrettable, the Management Group recognises this may be unavoidable in such circumstances. Full details of these agreements can be found in Appendix B.

The use of unmanned aircraft (drones) within the EMS or SSSIs is strictly controlled and subject to permissions being received from the Civil Aviation Authority (CAA), the landowner and Natural England, if for commercial purposes. Recreational flying of drones requires permission from the landowner, although, in turn, the landowner is required to have consent from Natural England to allow flights from their property before activities commence.

Working collaboratively with a local paragliding club which often launches within or adjacent to the EMS, new rules have been established to avoid disturbance impacts. Members of the club must not fly past the Speeton trig point, at any height, during the seabird breeding season. Club members must also avoid flying below the level of the cliff.

The Relevant Authorities and key partners would prefer to develop such mutual agreements with user groups in order to solve particular issues. However, Natural England and the police have a duty to investigate incidents of disturbance and may dispense their statutory powers in order to prevent incidents from reoccurring.

2022-2026 Management Measures

The Management Scheme will continue to work with stakeholders and key partners to develop voluntary codes of conduct for activities which cause disturbance to the breeding seabird colony. Management will also focus on raising awareness of the protected area to the aeronautical user group more generally, and highlight the permissions needed to fly unmanned craft in the area. Furthermore, data will continue to be gathered in order to create a baseline of information.

Supplementary Information in Appendix - Recreation

- Canoes & Kayaks - Appendix B; page xxx
- Personal Watercraft (PWC) - Appendix B; page xxxi
- Motorised Boats (inc. recreational sea angling) - Appendix B; page xxxii
- Scuba Diving/Snorkelling - Appendix B; page xxxiii
- Angling (from cliff or shore) - Appendix B; page xxxiv
- Group Visits (walking groups/school visits) - Appendix B; page xxxv
- Aircraft (low-flying, incl. paragliding) - Appendix B; page xxxvi
- Unmanned Aircraft (drones) - Appendix B; page xxxvii

4.5 Awareness Raising

Whilst no accurate figures exist for tourism within the Flamborough Head EMS, it is clear that many thousands choose to visit each year. The increase in 'staycations' as a result of the Covid-19 pandemic demonstrated the popularity of the coast and the desire of many to enjoy open spaces, fresh air and the traditional 'seaside' attractions. Increased opportunities for wildlife-watching excursions indicates that a significant number of visitors also come to the area to experience our unique wildlife and seascapes. The RSPB's Bempton Cliffs Visitor Centre welcomes over 100,000[12] people each year, with many more visiting the surrounding areas. These considerable numbers indicate that the unique and internationally important habitats and species of the EMS can be a significant educational resource, along with a popular recreational destination. Through public engagement opportunities, the importance of the EMS can be advertised to a wider audience and may encourage more responsible tourism. As an aim of site management (see Section 3.2), awareness raising is key to many activities in the Action Plan (Appendix A) and the Project Officer will work to improve the profile of the protected area where opportunities arise. The Management Group's work to raise awareness is also supported by initiatives such as Operation Seabird (see Case Study Three).

Likewise, the Management Group must raise awareness of the protected area within the Relevant Authorities and key partner organisations that manage the site, through regular meetings and contact with the Project Officer. This stream of awareness-raising is important to ensure that Authorities understand, and are able to appropriately act upon, their responsibilities towards the conservation features.

4.5.1 Educational Visits and Public Engagement

Education groups regularly visit Flamborough Head and Filey Brigg to explore the geology and wildlife of the area. It is because such visits educate young people about the natural environment and create a sense of ownership, that the Management Group actively encourages educational trips to the EMS.

In order to raise public awareness and encourage a better understanding of the protected area, the Management Group, through the Project Officer, will attend external events and engage with schools, where resources allow. Working with key partners, such as the RSPB and Yorkshire Wildlife Trust, the Management Group aims to inform the public of the importance of the local area and encourage active participation in its protection.

4.5.2 Raising Awareness through Citizen Science Projects

The Management Group carries out data-gathering exercises on the frequency and possible impact of recreational activities within the EMS. Information is collected throughout the year via the completion of recreational activity reporting forms by visitors and volunteers, which are held by a

[12] Royal Society for the Protection of Birds. (2021). Pers Comms.

variety of organisations around Flamborough Head and Filey Brigg, and a number of dedicated volunteers.

An Environmental Incident Wildlife Response Plan has also been developed by the Management Group, in close partnership with local organisations, to utilise volunteer resource during environmental incidents affecting the site's sensitive wildlife. Volunteers have been trained to assist in wildlife care, collect on-site details of any incidents and conduct wildlife surveys. This information will be shared with regulatory and response organisations to direct resources where they are most required (see Case Study One).

Gathering ad-hoc data from students, visitors and staff who are regularly on-site helps the Management Group to create an overall picture of the type of activities undertaken around the EMS. These 'citizen science' projects are low-cost and can yield a high number of results. Although the information collected during this research may be subjective and of a limited sample size, it provides the Relevant Authorities with a basis on which to begin management discussions.

4.5.3 Raising Awareness with Local Stakeholders

The Management Group utilises information captured through the recreational disturbance citizen science project to inform discussions with local stakeholders and user groups. In the past, stakeholders have been invited to attend regular meetings with site managers in a large group setting. More recently, stakeholder engagement has taken place in small, activity specific meetings with user groups in order to resolve a particular problem. This method has resulted in effective management outcomes, despite the Management Group's limited resource availability.

Regular contact with specific user groups has enabled the Management Group to develop voluntary codes of conduct and improve stakeholder's knowledge of the internationally important features. By working with the user groups in this way, the Management Group is able to address issues as they arise and encourage stakeholder's to be involved in site management.

2022-2026 Flamborough Head European Marine Site Management Plan

Appendix A:
2022–2026 Action Plan

A1. The Action Plan

The aim of this Action Plan is to provide a useful and comprehensive guide to the management of the Flamborough Head European Marine Site (EMS). The 2022-2026 Action Plan is focussed on projects and activities currently taking place within and adjacent to the EMS boundaries, including how these projects/activities interact with the conservation features of the site. This section can also be used as a standalone document, as it includes a copy of the aims and objectives for management and the roles and responsibilities of each Relevant Authority.

A1.1 Reading the Action Plan

Table A1 – Relevant Authority's responsibilities and how these are actioned on-site. Each responsibility relates to a key aim of management, indicated by the 'A code' in brackets. Full aims and objectives can be found in Section A1.4.

Table A2 – The 2022-2026 Action Plan, with four distinct sections:

- Statutory projects which are time-limited and are in response to a specific change in legislation or guidance;
- Relevant Authority projects which are non-statutory but interact with the conservation features of the site;
- Projects carried out by key partners which add value to the management of the features and;
- Projects being implemented by the Project Officer on behalf of the Management Scheme as a whole.

Each action is attributed to a Relevant Authority, key partner or the Management Group's Project Officer, with supporting organisations. Actions with Relevant Authority involvement display an 'R code' which relates to a specific responsibility (detailed in Table A1). Other projects are identified as added value ('AV') in the table. Individual projects have a unique identification code, which are used throughout Appendix B.

A1.2 Statutory Duties

Statutory duties which are regularly performed without the prompt of an Action Plan, such as assessing projects against Habitats Regulations or enforcing byelaws, do not feature in the Action Plan table. These assessments are described in Chapter Two. However, some statutory projects, which are time-limited, not regularly occurring and are in response to legislative changes, are referenced because of their potential impacts on, or the management of, conservation features.

A1.3 Progress Reporting

Table A2 is a live document and will be updated following the annual review process at the end of each calendar year. This process requests that all organisations referenced in the Action Plan report on the state of their listed projects or add any new actions they may be implementing. Furthermore, all projects carried out by the Project Officer, on behalf of the Management Group, will be reported on during quarterly meetings.

A1.4 Aims and Objectives for Management of Flamborough Head EMS

Relevant Authorities, key partners and stakeholders will work together to ensure the conservation features, for which the site has been designated, are protected from unnecessary development, poor management, pollution and environmental incidents, whilst promoting sustainable tourism and recreation, through the implementation of the Management Plan and the following aims:

A1: Ensure no management measures or unregulated activities adversely impact the conservation features, through regular condition assessments and implementation of Habitats Directive procedures.

Objective - Ensure that all development proposals within the EMS are referred to the appropriate Competent Authority for assessment against Habitat Regulations, and all activities are assessed and managed appropriately, in order to protect conservation features.

Objective - Working with key partners and other stakeholders, ensure that unregulated activities do not have a negative impact on the site. This may include implementing voluntary measures, the creation of new byelaws and designations, and the collation of appropriate activity information.

A2: Work to maintain and improve protection of the conservation features through the sharing of appropriate scientific research and site-specific information.

Objective – Working in partnership, create a comprehensive dataset of activities undertaken around the EMS, which will help to inform any management measures necessary to reduce negative impacts.

Objective – Foster a working environment which supports the sharing of appropriate information and scientific data on a regular basis between both stakeholders and authorities.

A3: In order to support the work of Relevant Authorities, raise public awareness about the site's importance and support sustainable recreation and tourism practices.

Objective - Through engagement events, targeted visitor communications, information displays, and partnerships with local NGOs, raise public awareness of the Flamborough Head EMS and wider marine conservation.

A4: Monitor both recreational and commercial fishing activities, ensure all relevant permits are observed and support sustainable practices, whilst engaging with the local fishing community to increase environmental awareness.

Objective - Support the use of sustainable fishing equipment and practices around the EMS, encouraging fishers to be more aware of the environmental impacts of their activities.

A5: Ensure that any non-fishing commercial activity within or adjacent to the EMS does not negatively affect the conservation features, and work to reduce the risk of marine pollution to the site.

Objective - Through the marine planning process, ensure that no offshore developments or other commercial activities negatively interact with the protected features of the site and work with partners to effectively prevent and respond to marine pollution incidents.

A6: Appropriately manage the marine environment through the monitoring of consented discharges, achieving water quality standards and ensuring all coastal environmental incidents are dealt with effectively, whilst creating a safe environment for recreational and commercial users.

Objective - Through regular water testing and assessment of discharges, including agricultural run-off, ensure that water quality is kept at a 'good' standard. Deal with any pollution incidents in an efficient and effective manner to reduce impacts on the EMS.

Objective - Ensure commercial operations are compatible with the conservation features of the EMS, including the provision of waste removal units and recording of dredge spoil disposal.

A7: Ensure that activities within the Management Plan promote the conservation of seascape and landscape character in a way which is compatible with safe maritime practices and the values of sustainable development.

Objective - To create a safe area for maritime users of the EMS, ensure that all navigation aids are maintained and functioning correctly through regular assessments and equipment checks.

Objective - Through the planning application process and the Heritage Coast Strategy (2002), support the conservation of historic seascape character, including terrestrial and maritime heritage assets, and the aesthetic qualities of the seascape.

Table A1: Statutory Roles and Responsibilities of Relevant Authorities within the Flamborough Head EMS

Relevant Authority	Role in Management Group	Statutory Responsibilities to the European Marine Site and Related Statutory Actions		
R 1 Natural England (NE)	The statutory advisor to the Government on nature conservation in England and promotes the conservation of England's wildlife and natural features.	R 1.1 -	Monitor the condition of protected features and produce conservation objectives for each feature. (A1)	→ Carry out regular, comprehensive condition assessments of protected features and advise others on the objectives for each feature.
		R 1.2 -	Provide advice to planning authorities and act as the statutory conservation advisor to the Government for England. (A1)	→ Assess any planned projects against the Habitat Regulations and advise on environmental impact assessments.
		R 1.3 -	Advise the Government on the designation of new Marine Protected Areas in order to meet the UK's statutory obligations. (A2)	→ Designate new protected areas, specify protected features and/or extend existing boundaries.
		R 1.4 -	Regulate activities affecting protected features, enforce national wildlife legislation and issue wildlife licences. (A2)	→ Take appropriate enforcement action in order to prevent protected features being damaged, disturbed or destroyed. Advise the police on offences relating to protected species.
R 2 Marine Management Organisation (MMO)	Contributes to sustainable development in the marine area and promotes the Government's vision for clean, healthy, safe, productive and biologically diverse seas. Established under the Marine and Coastal Access Act, 2009.	R 2.1 -	Manage fishing fleet sizes and quotas within the EMS and up to 12 nm. (A1, A3)	→ Monitor, prohibit or licence certain fishing activities to ensure protection of features.
		R 2.2 -	Approve activity licences and develop marine plans integrating the social requirements, economic potential and environmental priorities of the area. (A1, A5)	→ Ensure all offshore developments and activities do not negatively affect the features of the EMS and issue licences to protect features from specific actions, e.g. dredging.
		R 2.3 -	Enforce wildlife legislation, create new marine nature conservation byelaws and issue wildlife licences. (A2)	→ Implement existing and propose new byelaws in order to protect the designated features, including for unregulated activities within the MMO's jurisdiction.
		R 2.4 -	Reduce the impact of, and advise on the clean-up of, marine pollution incidents. (A1, A5)	→ Create and implement effective responses to marine pollution and approve the use of clean-up techniques.

Relevant Authority	Role in Management Group	Statutory Responsibilities to the European Marine Site and Related Statutory Actions		
R 3 Environment Agency (EA)	Protects and manages the environment by combining the regulation of land, air and water. Also provides high quality environmental protection and improvement of flood prevention.	R 3.1 -	Protect and enhance the quality of surface freshwater which flows into the EMS, including groundwater. (A6)	→ Regularly monitor coastal waters (to one mile from low-water) to ensure 'good' status defined by biological, chemical and physical standards.
		R 3.2 -	Review industrial activity consented discharges under the Habitat Regulations. (A1)	→ Regularly monitor consented discharges into and adjacent to the EMS, in order to mitigate against any negative impact on the designations.
		R 3.3 -	Manage migratory and freshwater fisheries. (A2, A4)	→ Manage the salmon and sea trout fisheries within and adjacent to the EMS, including enforcement of the Filey Bay Bycatch byelaw.
R 4 Local Authorities (LA) [East Riding of Yorkshire Council; Scarborough Borough Council; North Yorkshire County Council]	As landowners and local planning authorities, these organisations provide a range of local government services including countryside management, public protection, development control, environmental health and promotion of local tourism, within their respective boundaries.	R 4.1 -	Ensure all projects and activities initiated or consented by the local authority do not have an adverse effect on the integrity of the EMS. (A1, A7)	→ Assess all planning applications against the Habitats Regulations to ensure designated features are protected.
		R 4.2 -	Plan for and be able to carry out an emergency contingency plan in the event of a coastal pollution incident. (A6)	→ Work with other Relevant Authorities to contain any pollution event and inform the Management Scheme of any incidents.
		R 4.3 -	Implement existing and create new byelaws to regulate activities within the EMS, including recreational activities. (A1, A2)	→ Work with the Management Scheme to identify and manage any activities which may negatively impact the EMS, within their jurisdiction.
R 5 Bridlington Harbour Commissioners (BHC)	Serve the Port of Bridlington and promote best practice amongst harbour users.	R 5.1 -	Ensure that activities carried out within Bridlington harbour do not negatively impact the EMS. (A1)	→ Ensure users are aware of the protected area and inform the Management Scheme of any incidents.
		R 5.2 -	Plan for and carry out an emergency contingency plan in the event of a pollution incident within the harbour. (A6)	→ Work with other Relevant Authorities to contain any pollution event and inform the Management Scheme of any incidents.
		R 5.3 -	Comply with any marine licences relating to the management of the harbour. (A1, A5)	→ Record and share with the Management Scheme, data relating to site usage and volumes of dredge spoil disposed of within and adjacent to the EMS.
R 6 Flamborough North Landing	Serve the traditional fishing communities of Flamborough and North Landing through the	R 6.1 -	As a harbour authority, ensure that activities carried out within North Landing do not negatively impact the EMS. (A1)	→ Ensure users are aware of the protected area and inform the Management Scheme of any incidents.

Relevant Authority	Role in Management Group	Statutory Responsibilities to the European Marine Site and Related Statutory Actions		
Harbour Commissioners	promotion of the local fishing and tourism industries.	R 6.2 -	As far as jurisdiction allows, manage pollution and waste disposal from vessels to avoid negatively impacting the EMS. (A6)	→ Work with other Relevant Authorities to contain any pollution event and inform the Management Scheme of any incidents.
R 7 Trinity House	Activities include buoy maintenance, superintendence of and consent of local lights and the management of Flamborough lighthouse.	R 7.1 -	As the General Lighthouse Authority, supervise and maintain all lighthouse, buoys and beacons, within the Authority area. (A7)	→ Ensure the maintenance and proper functioning of maritime navigation aids including Flamborough Lighthouse and the marking, or removal of, wrecks in order to facilitate safe navigation.
R 8 North Eastern Inshore Fisheries and Conservation Authority (NEIFCA)	Previously the North Eastern Sea Fisheries Committee, it has responsibilities to both the commercial fishing industry and marine ecology management. NEIFCA aims to manage, regulate, develop and protect fisheries and ensure sustainability.	R 8.1 -	Provide a high level of protection to the marine environment and ensure the needs of the fishery are balanced with marine environmental protection. (A1, A4)	→ Carry out strategic environmental assessments to provide a high level of protection for the marine environment (0-6nm), to promote sustainable fisheries within the EMS and work within the ecosystem approach.
		R 8.2 -	Work with partners to revise, review and manage commercial fishing efforts in order to conserve designated features. (A1, A4)	→ Working with other Relevant Authorities, set minimum landing sizes, issue activity specific licences and restrict fishing areas, where necessary.
		R 8.3 -	Enforce existing fisheries and nature conservation legislation and create new byelaws to preserve designated features. (A1, A2, A4)	→ Patrol the waters within and adjacent to the EMS to ensure safe and legal fishing practices. → Work with the Management Scheme and other Relevant Authorities to identify and manage any activities which may negatively impact the EMS, within NEIFCA's jurisdiction.
R 9 Yorkshire Water (YW)	Provides household water services. Currently carrying out improvement activities in relation to the Water Framework Directive.	R 9.1 -	Working with partners, ensure the removal and safe disposal of waste water around the EMS, including groundwater where applicable. (A6)	→ Maintain outfall pipes and related equipment at a high standard to safeguard against undue pollution, within jurisdiction.

The A code, in brackets, shows how each responsibility relates to a specific aim of the Management Scheme. This list of Relevant Authorities is not prioritised or ordered in any way.

Table A2: 2022 - 2026 Action Plan - Projects and Actions Undertaken by Relevant Authorities, the Management Scheme and Key Partners Within and Adjacent to the Flamborough Head European Marine Site

Key

Indicator	Delivery Timescale
Completion Expected	Significant progress or completion expected during the next 12 months
Progressing	Moderate progress expected during the next 12 months
Ongoing	Ongoing or annual action which is dependent on available resources or subject to appropriate licences
Indicator	**Priority**
High	Action affects the conservation features, and/or influences the management of the site*
Medium	Action interacts with the conservation features but does not necessarily affect the conservation status or influence site management
Low	Action adds value to the work of the Management Scheme but does not interact with conservation features or influence site management

* A small number of high priority actions have a direct influence on the EMS but are unable to be progressed directly by the Management Scheme. Nevertheless, it has been agreed by the Relevant Authorities that these actions will remain as high priorities, in order to reflect the impact they could have on the site.

STATUTORY PROJECTS (STP)	Irregular and time-limited projects carried out by Relevant Authorities in response to changes in legislation or new legislative guidance, undertaken as part of their statutory duties towards the EMS.				
Feature Interaction	**Action**	**Outputs and Progress Indicators**	**Lead Authority and FHMS Responsibilities**	**Delivery Timescale**	**Priority**
All SAC and SPA features	**STP 1: SSSI Designation** – Designation of SSSI underpinning areas of terrestrial SPA and including new components	**Outputs** - SSSI protection afforded to new components of site - Newly extended SPA and SAC underpinned by revised SSSI designation **Progress Indicators** - Consultation of new SSSI extension and components - Final designation of underpinning SSSI	NE R 1.1/R 1.3	Expected autumn 2023	High*
All SAC and SPA features	**STP 2: Implementation of England Coast Path Infrastructure** – Establishment of coastal pathways around the entire English coastline	**Outputs** - Sections of Public Rights of Way and permitted access land open to the general public as a continuous coastal path - Ancillary features to support this project, such as waymarkers, benches and information boards **Progress Indicators** - Location and content of any engagement infrastructure agreed with local access authority - Pathway officially opened	NE R 1.1 LAs R 4.1	Expected autumn 2023	Medium

RELEVANT AUTHORITY PROJECTS (RAP)	Long-term projects being carried out within or adjacent to the EMS by individual Relevant Authorities which are not statutory obligations but may have an impact on the site's features.				
RAP 1. CONSTRUCTION/MAINTENANCE PROJECTS					
Feature Interaction	**Action**	**Outputs and Progress Indicators**	**Lead Authority and FHMS Responsibilities**	**Delivery Timescale**	**Priority**
SAC - Chalk reef **SPA** - No specific feature interaction identified	**RAP 1a**: **Bridlington Harbour Dredging** - Continual dredging of the harbour to ensure sufficient access for vessels	**Outputs** - Navigational access into the harbour for commercial and recreational fishing boats **Progress Indicators** - No significant change in amount of dredged material deposited within SAC - No significant change in permit conditions applied to this activity - No adverse effect on condition of SAC features as a result of dredge disposals within the site boundaries.	BHC R 5.1/R 5.3 **Supporting** MMO R 2.2 ERYC R 4.1 NE R 1.1/R 1.2	Annual navigational dredging, dependent on licence conditions	High
RAP 2. NON-STATUTORY POLICY/GUIDANCE IMPLEMENTATION AND DEVELOPMENT PROJECTS					
Feature Interaction	**Action**	**Outputs and Progress Indicators**	**Lead Authority and FHMS Responsibilities**	**Delivery Timescale**	**Priority**
SAC - Reef and Sea Cave features **SPA** - No specific feature interaction identified	**RAP 2a: Bathing Water Partnership Focus Groups** – The facilitation of focus groups along the Yorkshire Coast with the aim of improving water quality.	**Outputs** - Identification of problem areas and best practice resolutions - Agreements with partners and sea users to reduce pollution incidents **Progress Indicators** - Implementation of activities necessary to improve water quality within focus group areas - All bathing water beaches achieving 'Blue Flag' status	Yorkshire Water R 9.1 **Supporting** EA R 3.1 LAs AV	Annual meeting	Medium
SAC - Vegetated Sea Cliffs **SPA** - No specific feature interaction identified	**RAP 2b: Cell 1 and Cell 2a Regional Coastal Monitoring Programme** (Scottish Border - Flamborough Head & Flamborough Head - Humber Estuary).	**Outputs** - Monitor changes to the cliff line around Flamborough Head and Filey Brigg - Research report into transport sediment study along coast - Site specific information gathered from habitat monitoring programmes	LAs R 4.1 **Supporting** EA AV (A1) NE R 1.1 <u>Other Orgs.</u> NECAG AV (A1) NT AV (A1	Annual monitoring (dependent on funding)	Medium

		Progress Indicators - Maintenance or improvement of SAC feature condition			
SAC - No specific feature interaction identified **SPA** - All features	**RAP 2c: English Seabird Conservation Strategy** – Development of a national strategy to address pressures on seabirds	**Outputs** - A national seabird strategy for England, highlighting pressures and possible management measures **Progress Indicators** - Full consideration of pressures understood to be impacting SPA features, including climate change - Recommendations for improved management of the SPA, including additional resources	NE R 1.1 <u>Other Orgs.</u> RSPB AV (A2)	Expected summer 2023	High
SAC - No specific feature interaction identified **SPA** - All features	**RAP 2d: Flamborough & Filey Coast Seabird Monitoring Group** - Collaborative working with partners to undertake a wide programme of seabird monitoring research	**Outputs** - Consistent and accurate data on the health of the seabird colony, including ecosystem requirements and potential impacts of offshore developments **Progress Indicators** - Agreed research and monitoring plan with all partners - Coordinated action and information-sharing - Improved knowledge of requirements of seabird colony and possible impacts of offshore developments	NE R 1.1 <u>Other Orgs.</u> RSPB AV (A2) Offshore developers AV (A2)	Current monitoring strategy agreed until 2027	High

<u>KEY PARTNER PROJECTS (KPP)</u> Projects not initiated by the Management Group and not led by Relevant Authorities, but which relate directly to the protected features of the EMS and may be used to inform site management.

Feature Interaction	Action	Outputs and Progress Indicators	Lead Organisation(s) and FHMS Responsibilities	Delivery Timescale	Priority
SAC - No specific feature interaction identified **SPA** - All features	**KPP 1**: **Seabird Monitoring Programme (SMP)** - Annual monitoring of breeding bird assemblage productivity and population numbers	**Outputs** - Accurate annual datasets depicting fluctuations in seabird productivity and population **Progress Indicators** - Continual development of population datasets to inform management of site - Utilisation of new technology to create more accurate datasets in a more efficient manner	RSPB AV (A2) **Supporting** JNCC AV (A2) NE R 1.1	Annual monitoring, dependent on funding	High

MANAGEMENT SCHEME PROJECTS (MSP)	Projects or activities initiated by the Management Scheme and led by the Project Officer, with support from Relevant Authorities and key partners. These projects are not statutory and do not directly affect the features of the site.

MSP 1. MONITORING PROJECTS AND DATA ANALYSIS

Feature Interaction	Action	Outputs & Progress Indicators	Supporting Authorities and FHMS Responsibilities	Delivery Timescale	Priority
All SAC and SPA features	**MSP 1a: Recreational Disturbance Monitoring** - Record, measure and manage recreational activities in order to reduce any disturbance/damage to the protected features	**Outputs** - Comprehensive record of recreational activities taking place around the site - Data to support the development of new focused voluntary codes of conducts with user groups **Progress Indicators** - Reduced recreational disturbance around EMS - Recruitment of volunteers to survey the site during the summer months and analyse data collected - Maintenance or improvement of SAC/SPA conservation features	NE R 1.1 MMO R 2.3 LAs R 4.1/R 4.3 NEIFCA R 8.3 <u>Other Orgs.</u> RSPB AV (A2) YWT AV (A2)	Continual year-round monitoring	High
SAC - No specific feature interaction identified **SPA** – Gannets and Kittiwakes	**MSP 1b: Monitoring of Litter in Seabird Nests** – Record and monitor the level and type of litter found in seabird nests within the SPA	**Outputs** - A record of the levels and type of litter found in gannet and kittiwake nests, using productivity monitoring plots at RSPB Bempton Cliffs as a proxy for the whole site - Data to support future management measures and impacts of marine pollution on sensitive species **Progress Indicators** - Appropriate methodology agreed and established in partnership with Scarborough University Technical College - Data collected on an annual basis by students from Scarborough University Technical College and shared with the Management Scheme	NE R 1.1 MMO R 2.4 <u>Other Orgs.</u> RSPB AV (A2/A3) UTC AV (A2/A3)	Annual monitoring pre and post breeding season	Medium

MSP 2. COMMUNICATION AND STAKEHOLDER ENGAGEMENT					
Feature Interaction	**Action**	**Outputs and Progress Indicators**	**Supporting Authorities and FHMS Responsibilities**	**Delivery Timescale**	**Priority**
All SAC and SPA features	**MSP 2a: Progress the Environmental Incident Wildlife Response Plan** - Plan for and be able to effectively respond to an environmental incident	**Outputs** - Effective procedure for responding to an environmental incident including pollution and/or species wash-ups - Accurate data collection in the event of an incident **Progress Indicators** - Review of procedural guidelines - Continued support of authorities with an interest in marine environmental incidents - Improved local response to environmental incidents	NE R 1.1 EA R 3.1 LAs R 4.2 <u>Other Orgs.</u> RSPB AV (A4) YWT AV (A4) RSPCA AV (A4)	Ongoing (resource dependent)	Medium
SAC - No specific feature interaction identified **SPA** - All features	**MSP 2b: Continuously Review and Update Existing Voluntary Codes of Conduct and Agreements** - In order to ensure that the voluntary agreements remain effective and relevant, regularly meet with user group representatives to review the documents	**Outputs** - Voluntary codes of conduct and agreements which are up-to-date, effective and adhered to by user groups **Progress Indicators** - Continual reduction in recreational disturbance around the site - Existing voluntary codes of conduct regularly updated and promoted: Bempton Cliffs Angling Code of Conduct, Flamborough Head EMS Personal Watercraft Code of Conduct and the agreement with the Search and Rescue (Humberside) helicopter crews	NE R 1.1 LAs R 4.1 <u>Other Orgs.</u> RSPB AV (A2) YWT AV (A2)	Ongoing	Medium
All SAC and SPA features	**MSP 2c: Explore Possibilities for New Voluntary Agreements** - Assess the available evidence to determine where new voluntary agreements may be necessary	**Outputs** - Timely and effective agreements created with user groups which can remove the risk of incidents of disturbance **Progress Indicators** - Effective and positive communication with user groups - Development of agreements where necessary - Reduction in the risk of disturbance incidents	NE R 1.1 LAs R 4.1 <u>Other Orgs.</u> RSPB AV (A2) YWT AV (A2)	Ongoing	Medium

All SAC and SPA features	**MSP 2d: Continue to build on and engage with Operation Seabird** – Work in partnership to share information about responsible enjoyment of the EMS	**Outputs** - Improved awareness about site sensitivities through public engagement in Operation Seabird action days - Collaborative action on recreational disturbance incidents and future management options - Reduced disturbance pressure on sensitive species **Progress Indicators** - Continued positive engagement with all Operation Seabird partners - Improved reporting and monitoring of recreational disturbance issues	NE R 1.1 MMO R 2.3 LAs R 4.1 <u>Other Orgs.</u> RSPB AV (A2) YWT AV (A2) RSPCA AV (A2) Police AV (A2)	Ongoing	High

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Appendix B: Activity-Specific Pressures and Associated Management Measures

NETTING - T&J
(Salmon and Sea Trout Fishery in Filey Bay)

Lead Organisation/s and Responsibilities
Environment Agency (R 3.3)
Supported By
Natural England (R 1.1), NEIFCA (R8.1, R8.2, R8.3) & RSPB (AV)

SAC Interaction	SPA Interaction
- Possible abrasion impacts to reef feature	- Potential risk of seabird bycatch

Local Activity Specific Management Measures

Statutory	Voluntary
- Filey Bay Bycatch Byelaw	- Seasonal voluntary code of conduct (2010) - Change in fishing equipment to highly visible corline material throughout the year

Other Statutory Management Applicable to the Activity

Net Limitation Orders; Net Attendance Byelaw; Minimum Conservation Reference Sizes. If also landing sea fish – Submitted Automatic Identification System; Submitted Catch Returns Byelaw

Links to Action Plan Projects

KPP1

Knowledge Gaps/Remaining Issues

- It is unknown whether seabird bycatch occurs in significant numbers around Flamborough headland, though the proposed (2016) catch returns byelaw may provide additional data.

- Although bycatch numbers have been decreasing in Filey Bay, seasonal weather conditions and prey availability may drive more birds into the Bay, possibly increasing bycatch. There is currently no information available which could be used to predict these changes and highlight the possibility of increased bycatch to fishers.

- There is a lack of information about the possible impacts of anchoring on the reef feature.

Figure B1: Pressures and Associated Management Measures - Netting (T&J)

NETTING – Static/Passive/Intertidal/Subtidal
(Excluding Salmon and Sea Trout Fishery)

Lead Organisation/s and Responsibilities
North Eastern Inshore Fisheries and Conservation Authority – R 8.1/R 8.2/R 8.3
Supported By
Natural England (R 1.1) & MMO (R 2.1/R 2.3)

SAC Interaction	SPA Interaction
- Possible abrasion impacts to reef feature	- Potential risk of seabird bycatch

Local Activity Specific Management Measures	
Statutory	**Voluntary**
- No Take Zone Byelaw - Method and Area of Fishing (Fixed Netting) Byelaw	- None identified

Other Statutory Management Applicable to the Activity
Fixed Engine Byelaw; Net Attendance Byelaw; Minimum Conservation Reference Sizes; Submitted Automatic Identification System; Submitted Catch Returns Byelaw; Prohibition on Catching and Landing Egg-Bearing Lobsters

Links to Action Plan Projects
KPP 1

Knowledge Gaps/Remaining Issues
- Bycatch of designated bird species is currently unquantified, however a proposed catch returns byelaw (2016) requires submission of bycatch information which may provide more data. Additionally, the proposed Method and Area of Fishing (Fixed Netting) Byelaw (2016) prohibits netting activities targeting sea fish within the Flamborough and Filey Coast SPA between 1 March and 30 September to prevent seabird bycatch. - There is a lack of information about the possible impacts of abrasion on the chalk reef feature.

Figure B2: Pressures and Associated Management Measures - Netting (Static/Passive/Intertidal/Subtidal)

SHELLFISH POTTING

Lead Organisation/s and Responsibilities

North Eastern Inshore Fisheries and Conservation Authority – R 8.1/R 8.2/R 8.3

Supported By

Natural England (R 1.1) & MMO (R 2.1/R 2.3)

SAC Interaction	SPA Interaction
- Possible abrasion impacts to reef feature	- No feature interaction identified

Local Activity Specific Management Measures	
Statutory	**Voluntary**
- No Take Zone	- None identified

Other Statutory Management Applicable to the Activity
Shellfish Entitlement Holder Permit; Limited Shellfish Permit (Recreational); Protection of 'V' Notched Lobsters; Minimum Conservation Reference Sizes; Mandatory Escape Gaps; Prohibition on Catching and Landing Egg-Bearing Lobsters; Catch Returns Byelaw

Links to Action Plan Projects
No active projects

Knowledge Gaps/Remaining Issues
- Where opportunities arise, monitoring of the No Take Zone habitats and species should continue in order to investigate the impacts of the designation, either within the Zone itself or in the wider marine environment.

Figure B3: Pressures and Associated Management Measures - Shellfish Potting

TRAWLING

Lead Organisation/s and Responsibilities

North Eastern Inshore Fisheries and Conservation Authority – R 8.1/R 8.2/R 8.3

Supported By

Natural England (R 1.1) & MMO (R 2.1/R 2.3)

SAC Interaction	SPA Interaction
- Possible abrasion impacts to reef feature through use of trawling gears	- No feature interaction identified

Local Activity Specific Management Measures

Statutory	Voluntary
- Flamborough Head Prohibited Trawl Area - Trawling Permit within open trawl zone	- None identified

Other Statutory Management Applicable to the Activity

NEIFCA trawl permit system; Minimum Conservation Reference Sizes; Species landing quotas; Fishing effort (days at sea); Offshore closed areas; Submitted Automatic Identification System; Submitted Catch Returns Byelaw.

Links to Action Plan Projects

STP 1

Knowledge Gaps/Remaining Issues

- Due to the nature of the mobile sediment around Flamborough, the chalk reef may be exposed or covered during different tides/seasons, therefore identifying the full extent of the exposed feature can be challenging.

Figure B4: Pressures and Associated Management Measures - Trawling

DISCHARGES AT SEA
(Ballast Water Discharges)

Lead Organisation/s and Responsibilities
Maritime and Coastguard Agency - AV
Supported By
Natural England (R 1.1) & MMO (R 2.1/R 2.3)

SAC Interaction	SPA Interaction
- Negative indirect effects of poor water quality on composition of chalk feature and subtidal faunal turf communities - Introduction of non-native invasive species may damage reef features	- Negative changes in water quality, or the introduction of non-native invasive species, may alter availability of seabird prey species - Contaminants released through ballast water exchange may be detrimental to the health of the SPA colony

Local Activity Specific Management Measures

Statutory	Voluntary
- None identified	- None identified

Other Statutory Management Applicable to the Activity

Various international legislation applies, including the International Maritime Organisation's Ballast Water Convention which specifies the volume of water to be replaced and acceptable levels of viable organisms left in the water after appropriate treatments. Other non-statutory guidelines include the development of a ballast water management plan, recording all ballast water exchanges and minimising the uptake of organisms and sediment.

Links to Action Plan Projects

No active projects

Knowledge Gaps/Remaining Issues

- As ships are required to undertake ballast exchanges at least 50 nautical miles from land and in waters of at least 200m depth, the effects of these practices on the marine environment within the EMS are unquantified. However, small amounts of contaminants have been known to result in seabird 'wash-ups', therefore the Management Scheme should remain vigilant to this pressure.

Figure B5: Pressures and Associated Management Measures - Discharges at Sea

HARBOUR WASTE

Lead Organisation/s and Responsibilities

Bridlington Harbour Commissioners – R 5.1/R 5.2

Flamborough North Landing Harbour Commissioners – R 6.1/R6.2

Supported By

Natural England (R 1.1), NEIFCA (R 8.1), MCA (AV)

SAC Interaction	SPA Interaction
- Water quality may be negatively affected if pollutants are not managed appropriately, this may lead to changes in faunal turf composition	- Prolonged negative changes in water quality may alter populations of seabird prey species - Discarded plastic waste can be a danger to birds, through ingestion or entanglement

Local Activity Specific Management Measures

Statutory	Voluntary
- None identified	- Harbour Waste Contingency Plan (BHC) - Port Marine Safety Code (BHC) - Local voluntary initiatives – e.g. YWT's Fishing for Litter campaign - Development of volunteer response group in case of any oil-related incident

Other Statutory Management Applicable to the Activity

Harbour Waste Contingency Plan (Bridlington Harbour); Oil Spill Contingency Plan (Bridlington Harbour)

Links to Action Plan Projects

MPS 1b; MSP 2a

Knowledge Gaps/Remaining Issues

- The effects of harbour waste, and other sources of marine litter, on the environment are not wholly understood on an national/international scale.

- Although it is known that seabirds can become tangled in fishing wire/rope/netting when used as nesting material, the numbers of birds which suffer fatal injuries as a result is unknown.

Figure B6: Pressures and Associated Management Measures - Harbour Waste

NAVIGATIONAL DREDGING

Lead Organisation/s and Responsibilities
Bridlington Harbour Commissioners – R 5.1/R 5.3
Supported By
Natural England (R 1.1) & MMO (R 2.2)

SAC Interaction	SPA Interaction
- Possible smothering of reef feature by disposal of dredged material	- No feature interaction identified

Local Activity Specific Management Measures	
Statutory	**Voluntary**
- Dredging and Disposal permit (conditions apply)	- Dredged material only deposited in the section of the approved site which is outside the SAC boundaries - South Landing to Bridlington beaches are annually monitored by the Harbour Commissioners

Other Statutory Management Applicable to the Activity
None

Links to Action Plan Projects
RAP 1a

Knowledge Gaps/Remaining Issues
- Navigational dredging may have to be increased as a result of any planned redevelopment of Bridlington Harbour. There is a risk that sediment, and/or contaminants within the sediment, could negatively impact the chalk feature and surrounding waters.

Figure B7: Pressures and Associated Management Measures - Navigational Dredging

OFFSHORE RENEWABLE ENERGY DEVELOPMENT

Lead Organisation/s and Responsibilities
Marine Management Organisation – R 2.2
Supported By
Natural England (R 1.1)

SAC Interaction	SPA Interaction
- No feature interaction identified	- Risk of seabird displacement from foraging grounds - Risk of seabird collision with rotating blades

Local Activity Specific Management Measures

Statutory	Voluntary
- None identifed	- Flamborough and Filey Coast Seabird Monitoring Group

Other Statutory Management Applicable to the Activity

Inshore and Eastern Marine Plans; Appropriate Assessments / Habitat Regulations Assessments

Links to Action Plan Projects

RAP 2d; KPP 1

Knowledge Gaps/Remaining Issues

- Although data gathering continues, the full effects of offshore developments on the breeding seabird colony are not known – it is unclear whether the seabirds will avoid the area (thereby losing important foraging grounds) or if collision rates will increase. This risk may become greater as more development areas are approved.

Figure B8: Pressures and Associated Management Measures - Offshore Renewable Energy Development

DIFFUSE POLLUTION

Lead Organisation/s and Responsibilities
Environment Agency – R 2.2
Supported By
Natural England (R 1.1) & Yorkshire Water (R 9.1)

SAC Interaction	SPA Interaction
- Negative indirect effects of poor water quality on composition of chalk feature, subtidal faunal turf communities and vegetated sea cliffs.	- Negative changes in water quality may alter populations of seabird prey species and have an indirect effect on seabird breeding success

Local Activity Specific Management Measures

Statutory	Voluntary
- Humber District River Basin Management Plan	- Catchment Based Approach Partnerships - Bathing Water Partnership Focus Groups

Other Statutory Management Applicable to the Activity

Catchment Sensitive Farming programme under the Water Framework Directive; Pollution and Waste Water Treatment Works compliance reported to EA by Yorkshire Water annually.

Links to Action Plan Projects

No Active Projects

Knowledge Gaps/Remaining Issues

- Where opportunities arise, Authorities should utilise the Water Framework Directive, and link with any relevant partnerships, in the coastal zone to reduce any impact on the EMS and wider marine environment, caused by diffuse pollution.

Figure B9: Pressures and Associated Management Measures - Diffuse Pollution

CONSENTED/UNCONSENTED DISCHARGES FROM LAND

Lead Organisation/s and Responsibilities
Environment Agency – R 2.2
Supported By
Natural England (R 1.1), Yorkshire Water (R 9.1), MMO (2.4)

SAC Interaction	SPA Interaction
- Negative indirect effects of poor water quality on composition of chalk feature and subtidal faunal turf communities	- Negative changes in water quality may alter populations of seabird prey species and have an indirect effect on seabird breeding success

Local Activity Specific Management Measures

Statutory	Voluntary
- Disposal licence for each consented discharge point	- None identified

Other Statutory Management Applicable to the Activity

Effluent released from discharge pipes must be regularly checked and the quantity discharged must be monitored to ensure no negative effect on the surrounding bathing waters and environment. Pollution and Waste Water Treatment Works compliance reported to EA by Yorkshire Water annually.

Links to Action Plan Projects

No Active Projects

Knowledge Gaps/Remaining Issues

- The potential effect of pollution from outfall pipes is not fully understood, either on an individual basis or through cumulative effects

- Where opportunities arise, Authorities should utilise the Water Framework Directive, and link with any relevant partnerships, in the coastal zone to reduce any impact on the EMS and wider marine environment, caused by consented or unconsented discharges.

Figure B10: Pressures and Associated Management Measures - Consented/Unconsented Discharges from Land

AGRICULTURE

Lead Organisation/s and Responsibilities
Natural England – R 1.1/R 1.4

SAC Interaction	SPA Interaction
- Possible changes to species composition within the vegetated sea cliffs as a result of agricultural run-off and/or inappropriate drainage	- No feature interaction identified

Local Activity Specific Management Measures

Statutory	Voluntary
- SSSI designation prohibits the modification of water courses	- Countryside Stewardship Schemes

Other Statutory Management Applicable to the Activity

None identified

Links to Action Plan Projects

No active projects

Knowledge Gaps/Remaining Issues

None identified

Figure B11: Pressures and Associated Management Measures - Agriculture

INTERTIDAL HAND-GATHERING
(Including recreational/commercial bait digging)

Lead Organisation/s and Responsibilities
North Eastern Inshore Fisheries and Conservation Authority – R 8.1/R 8.2/R 8.3
Supported By
Natural England (R 1.1/R 1.4) & Local Authorities (R 4.1)

SAC Interaction	SPA Interaction
- Possible degradation of chalk reef feature in the intertidal zone and removal of faunal turf community if conducted on large scale	- No feature interaction identified

Local Activity Specific Management Measures

Statutory	Voluntary
- No Take Zone	- Code of Conduct (2008)

Other Statutory Management Applicable to the Activity

Limited Shellfish Permit; Molluscs gathered commercially for human consumption must be harvested from a classified production area, recognised by the Food Standards Agency; Submitted Catch Returns Byelaw

Links to Action Plan Projects

MSP1a

Knowledge Gaps/Remaining Issues

- The extent to which this activity occurs around the EMS is currently unquantified;

- There have been incidents of large quantities of molluscs being removed from beaches, presumably for commercial purposes, although there are no records of this activity having a negative impact on the integrity of the site.

Figure B12: Pressures and Associated Management Measures - Intertidal Hand-Gathering

COLLECTION OF MATERIALS

Lead Organisation/s and Responsibilities
Natural England - R 1.1 / R 1.4
Supported By
Local Authorities (R 4.1)

SAC Interaction	SPA Interaction
- Degradation and removal of chalk reef feature	- Possibility of reduction in habitat availability if significant quantities are removed

Local Activity Specific Management Measures	
Statutory	**Voluntary**
- SSSI designation prohibits the alteration or clearance of natural features	- Code of Conduct (2008)

Other Statutory Management Applicable to the Activity
None identifed

Links to Action Plan Projects
MSP1a

Knowledge Gaps/Remaining Issues
- The extent to which this activity occurs around the EMS is currently unquantified; - There have been incidents of quantities of chalk being removed from beaches, for commercial and non-commercial purposes, however a lack of evidence has prevented investigation in most cases. Further awareness raising may be needed to prevent further incidents.

Figure B13: Pressures and Associated Management Measures - Collection of Materials

COASTAL ACCESS

Lead Organisation/s and Responsibilities
Natural England - R 1.1 / R 1.4
Supported By
Local Authorities (R 4.1) & Land Owners (AV)

SAC Interaction	SPA Interaction
- Excessive trampling may degrade the vegetated sea cliffs	- Legal access to cliff face, and/or easier access to land on which activities can be undertaken, may disturb the breeding seabirds

Local Activity Specific Management Measures

Statutory	Voluntary
- Access rights exemption order (England Coast Path) – Specific areas of Bempton Cliffs and Flamborough Head	- Code of Conduct with local angling clubs to prevent new access creation at Filey Brigg and Bempton Cliffs (2015)

Other Statutory Management Applicable to the Activity

None identified

Links to Action Plan Projects

MSP1a; MSP 1b

Knowledge Gaps/Remaining Issues

- The extent to which the new coastal access rights could affect the EMS is currently unknown, however there is potential for increased recreational disturbance.

- The England Coast Path allows users to traverse the cliff face down to mean high water, although much of Flamborough headland is inaccessible due to the height of the cliffs, some areas may be accessed. During the breeding season, this could bring visitors in direct conflict with the protected seabirds. Monitoring of recreational impacts on the site should continue.

Figure B14: Pressures and Associated Management Measures - Coastal Access

ONSHORE OIL AND GAS EXTRACTION

Lead Organisation/s and Responsibilities

Natural England - R 1.1 / R 1.4; Environment Agency R 3.1 / R 3.2

Department for Business, Energy and Industrial Strategy (AV)

Supported By

Local Authorities (R 4.1)

SAC Interaction	SPA Interaction
- Any direct effects on the chalk feature are currently unknown - Changes in water quality due to inadvertent pollution may chalk reef habitat	- Seabirds may be disturbed by noise and/ or vibrations from nearby construction and operation of a facility

Local Activity Specific Management Measures

Statutory	Voluntary
- None identified	- None identified

Other Statutory Management Applicable to the Activity

Industry guidance and various pieces of water quality and environmental health legislation, including the Habitats Regulations.

Links to Action Plan Projects

No active projects

Knowledge Gaps/Remaining Issues

- Although there are strict regulations in place, the effect of shale oil and gas extraction in close proximity to the chalk cliffs are unknown. Whereas bird disturbance will most likely relate to noise and vibrations (as with all developments), it is unclear whether existing fractures in the chalk will be exacerbated by any additional pressure.

- Although areas close to the EMS have been licensed, no developments have yet been approved for construction. The effects of such a development on the protected area will vary depending on the proximity to the site.

Figure B15: Pressures and Associated Management Measures - Onshore Shale Oil and Gas Extraction

CANOES & KAYAKS

Lead Organisation/s and Responsibilities
All Relevant Authorities (unregulated activity)

SAC Interaction	SPA Interaction
- No interaction identified	- Paddlers travelling too close to the cliff face or between archways during the breeding season may disturb the SPA features

Local Activity Specific Management Measures

Statutory	Voluntary
- None identified	- You, Your Canoe and the Marine Environment guidance (British Canoeing) - Operation Seabird collaborative actions

Other Statutory Management Applicable to the Activity

None identified

Links to Action Plan Projects

MSP1a; MSP 2c

Knowledge Gaps/Remaining Issues

- The extent to which this activity affects the site is currently unquantified;

- It is recognised that the majority of paddlers are responsible and are aware of the site's sensitive nature, however there are records of canoes/kayaks disturbing the seabirds, therefore more could be done to highlight this issue.

Figure B16: Pressures and Associated Management Measures - Canoes & Kayaks

PERSONAL WATERCRAFT

Lead Organisation/s and Responsibilities
All Relevant Authorities (unregulated activity)

SAC Interaction	SPA Interaction
- No interaction identified	- PWC riders travelling too close to the cliff face or between archways during the breeding season may disturb the SPA features - PWC riders travelling too fast within the EMS may collide with rafting birds or separate vulnerable youngsters from adults

Local Activity Specific Management Measures

Statutory	Voluntary
- None identified	- Code of Conduct (2016) - Operation Seabird collaborative actions

Other Statutory Management Applicable to the Activity

None identified

Links to Action Plan Projects

MSP 1a; MSP 2b

Knowledge Gaps/Remaining Issues

- The extent to which this activity affects the site is currently unquantified;

- It is recognised that the majority of PWC (or Jet Ski) riders are responsible and are aware of the site's sensitive nature, however there are numerous records of riders disturbing the seabirds. Therefore, monitoring of this issue will continue and the effectiveness of a new voluntary agreement will be monitored.

Figure B17: Pressures and Associated Management Measures - Personal Watercraft

MOTORISED BOATS (Recreational and commercial)

Lead Organisation/s and Responsibilities

Natural England (R 1.1 / R 1.4), Local Authorities (R 4.1), Harbour Commissioners (R 5.1 & R 6.1), NEIFCA (R 8.1)

Supported By

All Relevant Authorities (unregulated activity)

SAC Interaction	SPA Interaction
- Possible abrasion to reef feature through anchoring	- Boats travelling too close to the cliff face during the breeding season may disturb the SPA features - Boats travelling too fast within the EMS may collide with rafting birds or separate vulnerable youngsters from adults

Local Activity Specific Management Measures

Statutory	Voluntary
- None identified	- None identified

Other Statutory Management Applicable to the Activity

None identified

Links to Action Plan Projects

MSP 1a; MSP 2c

Knowledge Gaps/Remaining Issues

- The extent to which commercial/recreational use of motorised vessels affect the site is currently unquantified;

- There is a lack of information about the possible impacts of anchoring on the reef feature.

Figure B18: Pressures and Associated Management Measures - Motorised Boats

SCUBA DIVING/SNORKELLING

Lead Organisation/s and Responsibilities
All Relevant Authorities (unregulated activity)

SAC Interaction	SPA Interaction
- Possible damage or removal of reef/ subtidal faunal turf communities	- No feature interaction indentified

Local Activity Specific Management Measures

Statutory	Voluntary
- No Take Zone	- None identified

Other Statutory Management Applicable to the Activity

Limited Shellfish Permit

Links to Action Plan Projects

MSP 1a; MSP 2c

Knowledge Gaps/Remaining Issues

- The extent to which this activity affects the site is currently unquantified; there have been no recent records of damage to the site caused by scuba diving/snorkelling. However, there is potential for damage/disturbance, therefore should be continually monitored.

Figure B19: Pressures and Associated Management Measures - Scuba Diving/Snorkelling

ANGLING (Cliff or Shore)

Lead Organisation/s and Responsibilities
All Relevant Authorities (unregulated activity)

SAC Interaction	SPA Interaction
- Possible degradation of feature due to trampling	- Risk of seabird entanglement in fishing line and discarded equipment

Local Activity Specific Management Measures

Statutory	Voluntary
- No Take Zone	- Code of Conduct (annually reviewed) states no fishing from the cliff top between Speeton Cliffs and North Dyke from 1st March to 30th September. - Code of Conduct for Filey Brigg states no new access points should be created and climbing should not take place within 50m of an active nest

Other Statutory Management Applicable to the Activity

None

Links to Action Plan Projects

MSP 1a; MSP 1b; MSP 2b

Knowledge Gaps/Remaining Issues

- Although a code of conduct exists for the Bempton Cliffs reserve, the agreement does not apply to the rest of the headland, where issues with litter and access have been reported.

Figure B20: Pressures and Associated Management Measures - Cliff or Shore Angling

GROUP VISITS (Education, walking groups etc.)

Lead Organisation/s and Responsibilities
All Relevant Authorities (unregulated activity)

SAC Interaction	SPA Interaction
- Possible degradation of feature due to trampling - Removal or disturbance of chalk reef	- No interaction identified

Local Activity Specific Management Measures	
Statutory	**Voluntary**
- No Take Zone	- None identified

Other Statutory Management Applicable to the Activity
None

Links to Action Plan Projects
MSP 1a; MSP 2b

Knowledge Gaps/Remaining Issues
- The number of annual group visits within the EMS is currently unknown, similarly any negative cumulative effects of group visits are unquantified.

Figure B21: Pressures and Associated Management Measures - Group Visits

LOW-FLYING AIRCRAFT (Including non-powered craft)

Lead Organisation/s and Responsibilities
Civil Aviation Authority (AV)
Supported By
All Relevant Authorities (unregulated activity)

SAC Interaction	SPA Interaction
- No interaction identified	- Possible audio and visual disturbance to all SPA features

Local Activity Specific Management Measures

Statutory	Voluntary
- None	- Ministry of Defence 'Environmental Avoidance Area' centred around Bempton Cliffs (TA200738) for 1.5 nautical miles maintains aircraft 2000ft above ground level, throughout the year - Search and Rescue (Humberside) avoid conducting training exercises between North Landing Car Park (TA238719) and High Stacks (TA258704) between 15th March and 15th August inclusive. Does not apply during an emergency response - Search and Rescue also voluntarily adhere to military avoid with allowances for training exercises to be conducted outside of the breeding season - Voluntary agreement with local paragliding club to avoid flights below cliff height and/or beyond Speeton trig point

Other Statutory Management Applicable to the Activity

All powered and non-powered aircraft, unless in an emergency or during landing, must stay at least 500 feet from any structure or building.

Links to Action Plan Projects

MSP 1a; MSP 2b; MSP 2c

Knowledge Gaps/Remaining Issues

- The impact of this activity on the breeding seabirds is currently unquantified, although recording of incidents does continue.

Figure B22: Pressures and Associated Management Measures - Low-Flying Aircraft

UNMANNED AIRCRAFT
(Drones)

Lead Organisation/s and Responsibilities
All Relevant Authorities (unregulated activity)

SAC Interaction	SPA Interaction
- No interaction identified	- Possible audio and visual disturbance to all SPA features

Local Activity Specific Management Measures

Statutory	Voluntary
- Permission must be granted by Natural England prior to the use of unmanned aircraft within the protected area	- None identified

Other Statutory Management Applicable to the Activity

Permission must be granted from the land owner prior to use; If for commercial purposes, permission must be granted from the Civil Aviation Authority; Weight and operational limits for unmanned aircraft.

Links to Action Plan Projects

MSP 1a; MSP 2c

Knowledge Gaps/Remaining Issues

- The use of unmanned aircraft within the EMS, for both commercial and recreational purposes is becoming a more frequent occurrence. Despite the national regulations around this activity, many drones are used without the correct permissions in place.

Figure B23: Pressures and Associated Management Measures - Unmanned Aircraft

2022-2026 Flamborough Head European Marine Site Management Plan

Appendix C: Case Studies of Best Practice and Successful Projects (2016-2021)

Case Study One: Environmental Incident Wildlife Response Plan

What is the EIWR Plan?

The Environmental Incident Wildlife Response Plan establishes a strategic plan for responding to environmental incidents affecting wildlife along the Scarborough to Bridlington shoreline. The plan includes vital information for organisations working 'on the ground' during an incident such as beach access points, mobile phone signal strength and car parking availability, alongside sensitive habitat and species information. To complement this local knowledge, a bank of volunteers have been trained in surveying for deceased or distressed wildlife during an environmental incident. This will greatly help to prioritise resources, respond quickly and effectively, and collect data about an event.

Why is a plan needed?

Previous to this initiative, a number of small-scale pollution and natural events had occurred which impacted the breeding seabird colony and other marine wildlife. Whilst statutory agencies have effective plans in place to deal with the human elements of an environmental incident, it was recognised that no such plan existed for wildlife. Although all incidents which occurred were responded to by the appropriate authorities, it was agreed that a more coordinated and collaborative strategy would be beneficial. The EMS Management Scheme led the development of the plan, in partnership with the RSPCA, RSPB, Yorkshire Wildlife Trust, British Divers Marine Life Rescue (BDLMR), Scarborough Sea Life Centre and local authorities, in 2017.

Environmental Incident
Wildlife Response Plan

What happens if there is an incident?

In the event of an environmental incident impacting wildlife, particularly seabirds, around the Flamborough and Filey coast, EMS site managers will be made aware. As the Chair of the Wildlife Response Management Group, the Project Officer will convene a meeting with partners to determine the severity of the event. At this point, volunteers may be asked to carry out a sweep of a local beach to provide up to date information to the Management Group. If it is necessary and safe to do so, more volunteers may be asked to attend their allocation 'Beach Head Collection Point' to receive further instructions. From here, they will be grouped and requested to complete a full wildlife survey of a local beach. Should any deceased or live-stranded wildlife be found, the volunteers will report this back to their volunteer base. Fully-trained staff from the RSPCA, BDMLR and other organisations will then respond as appropriate.

The full plan can be found on the YMNP website.

Volunteers preparing to carry out a wildlife survey during a training session in 2018.

Case Study Two: Flamborough and Filey Coast Seabird Monitoring Group

What is the Seabird Monitoring Group?

The Flamborough and Filey Coast Seabird Monitoring Group is a voluntary partnership between Natural England, RSPB, YMNP, local bird observatories and offshore wind developers. The aim of the Group is to provide a forum to discuss and progress collaborative monitoring of the Flamborough and Filey Coast Special Protection Area (SPA) seabird colony. All of the Group's members have a direct interest in the health and productivity of the seabirds. By working together, members can share resources and expertise, coordinate monitoring projects, and progress innovative research techniques.

What does the Group do?

The Group brings cross-sector organisations together to progress our understanding of the internationally-important seabird colony. A Steering Group, chaired by Natural England, has established a long-term Monitoring Plan (2017 - 2027) which is progressed through a number of working groups. These sub-groups utilise member's skills, expertise and local knowledge to progress the Monitoring Plan. Each working group explores a specific topic such as seabird tracking and data-sharing, alongside filling gaps in our knowledge about seabird diet and behaviours outside of the breeding season.

What pressures are the seabirds facing?

The North Sea is an important area for small shoaling fish, such as sandeels and herring. These fish are a vital part of a seabird's diet, especially during the breeding season. Unfortunately, climate change is having a negative impact on the availability of these fish, which tend to prefer cooler waters. This means that some species are not able to find enough food to satisfy their growing chicks, which leads to fewer juveniles successfully fledging from the nests. Kittiwakes, in particular, have experienced population declines in recent years at many North Sea colonies. As specialist feeders they cannot easily switch to alternative prey species, which makes them more vulnerable to changes in the food chain.

Direct human activities are adding to this pressure, both at the colony and offshore. In recent years, the number of renewable energy developments in the North Sea has significantly increased. These developments are often located in the same areas we know to be important seabird foraging grounds (see Figure C1). Wind turbines, although vital for a carbon neutral future, can displace the birds from their feeding grounds and cause fatal collisions. Experts within the Seabird Monitoring Group are working together to understand, manage and reduce these risks.

Why is it important to work together?

As the UK's largest mainland breeding seabird colony, we all recognise how important the seabirds are, not just as an integral part of the marine ecosystem, but also to Yorkshire's communities, visitors and identity. Members of the Seabird Monitoring Group all bring specialist knowledge, skills and resources to the partnership, in an effort to understand the pressures faced by the seabird colony. By working together, we identify where we can coordinate actions, where resources can be prioritised, and where further information or experience might be needed. This means that we can all be confident in the data we collect and effectively apply this knowledge to support the long-term health of the colony.

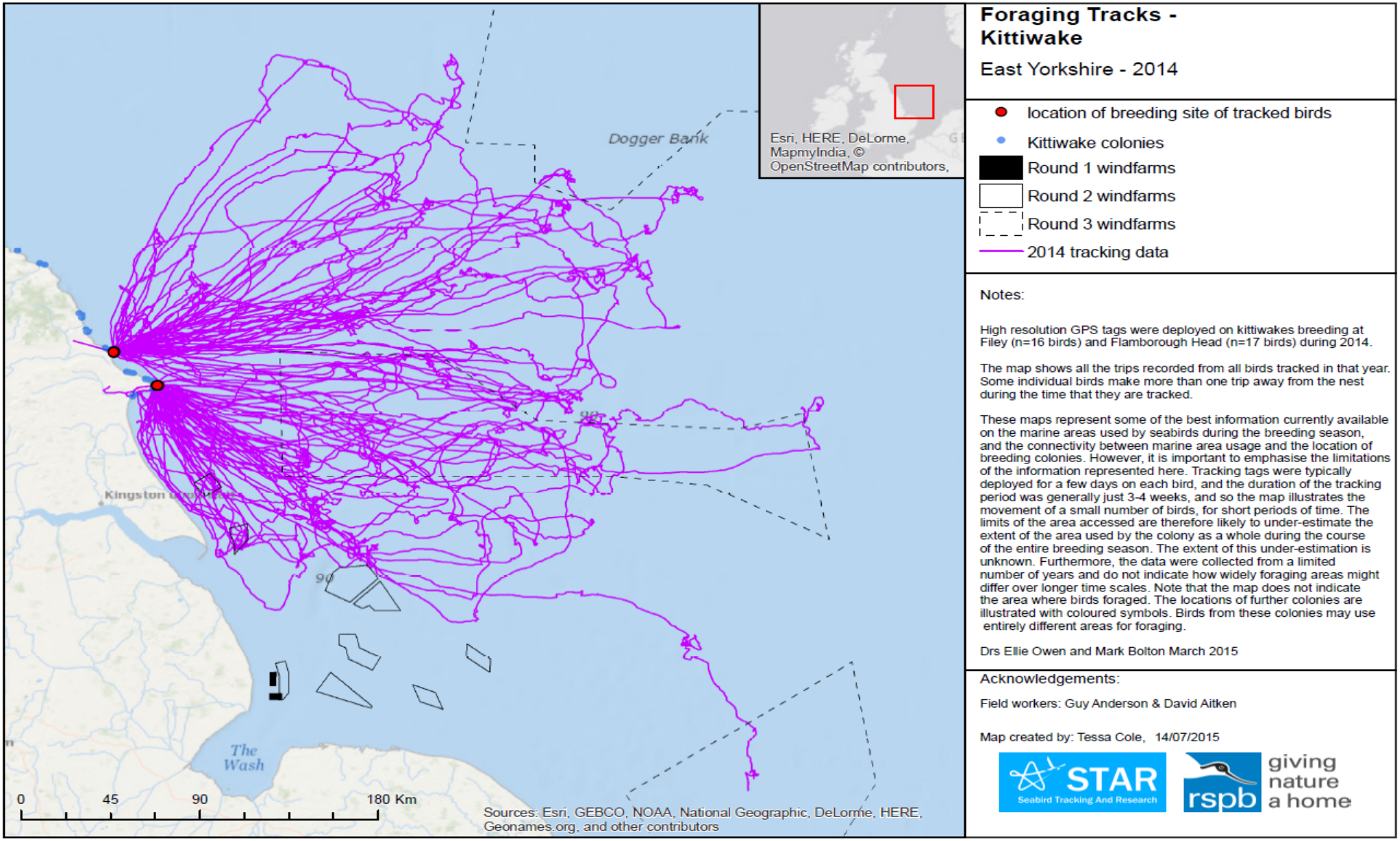

Figure C1: Tracking Locations of 33 Kittiwakes Tagged During 2014

Case Study Three: Operation Seabird

What is Operation Seabird?

Operation Seabird is a joint initiative established with the YMNP, RSPCA, local Police forces, the MMO, RSPB, Yorkshire Wildlife Trust, and other supporters. Developed in response to disturbance incidents recorded around Flamborough, Filey, and the wider Yorkshire coast, Operation Seabird aims to raise awareness of sensitive wildlife and the importance of responsibly enjoying the coastline.

Why is Operation Seabird needed?

EMS managers have been monitoring the impacts of recreational activities on the protected area, for a number of years. This data is used to inform new management measures, engage with the public and, seek resolutions to significant disturbance events. The Police, RSPCA and other organisations are also engaged in managing the impacts of recreational activities, through the enforcement of national wildlife legislation. By combining our resources, we're able to share a consistent message with user groups and encourage everyone to enjoy Yorkshire's coastline responsibly.

How is Operation Seabird being delivered around the EMS?

Operation Seabird partners carry out high-profile annual launch events for the initiative, which have been well received by local and regional media. The events are supplemented by regular 'Action Days' carried out by enforcement officers from the Police, RSPCA and MMO. This active public engagement allows partners to highlight wildlife sensitivities in the area, explain legal requirements to conserve wildlife, and demonstrate the excellent partnership-working that forms the foundation of Operation Seabird.

The initiative has helped to raise awareness of wildlife sensitivities around the site and promotes the recreational disturbance reporting forms (available online). Anyone who observes a significant disturbance event is encouraged to report the incident to the Police via 101, in addition to using the online reporting system. This allows EMS Managers to maintain a continuums log of activities, whilst providing an opportunity for Police to follow-up any major disturbances.

Operation Seabird partners gathered at South Landing, Flamborough for an annual Launch Event in summer 2020.

What are the key messages?

As, Operation Seabird primarily reaches out to those enjoying time on the water, a set of guiding principles has been developed for such activities. These have been built upon existing agreements around the EMS and national regulator guidance:

- **Keep your distance**: Keep a safe distance from the cliffs, rafting seabirds and marine mammals, allowing space for animals to move away;
- **No-wake speed**: Motorised vessels and personal watercraft should travel at a no-wake speed within 300m of the cliffs or shore;
- **Avoid enclosed spaces**: All motorised and non-motorised vessels should avoid entering caves and travelling through archways where breeding seabirds or resting seals are present;
- changes in response to your presence, move away quickly and quietly.

The initiative encourages everyone to remember that any activity, whether at sea, on land, or in the air, could disturb sensitive wildlife, and that specific restrictions or guidance might be in place for particularly sensitive areas.

What impact has it had so far?

Operation Seabird has enabled positive partnership working between marine management and enforcement agencies, conservation organisations and user groups. This initiative has provided important resources to tackle recreational disturbance issues, which were not previously available to EMS managers. Combined with proactive user group engagement, regular monitoring and ongoing voluntary management measures at a site level, Operation Seabird has raised the profile of wildlife disturbances on the Yorkshire coast.

On a national scale, Operation Seabird has now been rolled out to other coastal Police forces, across England, Scotland, and Wales. The initiative is also supported by the National Wildlife Crime Unit, with Operation Seabird winning two national policing awards in 2020.

What's next?

Operation Seabird will continue to support EMS Managers in protecting sensitive wildlife and raising awareness of disturbance issues. Where further engagement is needed, the MPA Management Group will continue to explore opportunities for developing activity-specific guidance with user groups. This could also be extended to providing training sessions on responsible wildlife watching practices.

The networks and awareness created as a result of Operation Seabird may also allow the Management Group, via the Project Officer, to engage in wider discussions about disturbance issues and management options.

Case Study Four: Yorkshire Marine Nature Partnership Development Project

What is the YMNP Development Project?

In 2019, the Flamborough Head European Marine Site Management Scheme, in partnership with East Riding of Yorkshire Council, successfully applied for a National Lottery Heritage Fund grant to support the development of a new coastal partnership for Yorkshire. Working together with public bodies, conservation organisations and wider stakeholders, the Project developed plans for how a new partnership might be financed, governed and resourced. Led by a Steering Group (chaired by the North York Moors National Park Authority) and supported by project mentors, partners were able to discuss ecosystem-scale opportunities, challenges and risks within Yorkshire's coastal environment for the first time.

Why was a new partnership needed?

The marine environment is a complex ecosystem, both in terms of the environment itself and the organisations that look after it. There are many national and international organisations, charities and other bodies with an interest in maintaining, enhancing and restoring the health of our marine ecosystems. In other regions, coastal partnerships have been established to lead, facilitate and support these organisations in coming together for the benefit of the environment, and to advocate for their coastline on the national stage. Working collaboratively is often the most effective and efficient way of using resources and driving forward progress. Prior to the Development Project, however, only the Marine Protected Area around the Flamborough and Filey coastline was afforded the benefits of collaborative management. This meant that Yorkshire was missing out on opportunities to improve our marine environment as a whole, tackle regional issues and, share how important the coastline is to the economy, society and a sustainable future for the region.

Was the Development Project successful?

The impacts of the Covid-19 pandemic meant that much of the Project had to be completed remotely, using digital tools to communicate, meet with stakeholders, workshop ideas and, secure funding. Project partners adapted quickly, however, and were able to lay down strong foundations for the new partnership. This included engaging with a wide variety of organisations to explore priority topics through a range of working groups, providing opportunities for partners to develop their skills and knowledge, and connecting with regional and national strategic goals for the marine environment. Alongside a robust governance structure, financial plans and a research strategy, a long-term vision for the YMNP was established together with five strategic ambitions to guide projects and activities.

Over the course of two years, and with the generous support of the National Lottery and other funders, the Development Project successfully built the knowledge, resources, momentum and capacity needed to establish the Yorkshire Marine Nature Partnership.

What will happen next?

YMNP partners have formed an Executive Board to lead the Partnership through a period of transition, whilst the full governance structure is established. An Action Plan will be created, building on the work of the Development Project and capitalising on the Partnership's momentum. Core financial support has been secured for the short-term, however work is continuing to secure sustainable funding which will allow the Partnership to achieve it's ambitions and aspirations for Yorkshire's marine environment.

Partners discussing their vision for the Yorkshire coast during the first Development Project Steering Group meeting in 2019

What does the new structure mean for MPA management?

During the course of the Development Project, an MPA Management Discussion Group was established to bring all of Yorkshire's MPA managers and key partners together, for the first time. The Flamborough Head EMS Management Scheme Relevant Authorities' Group formed the core membership of this discussion panel, alongside a small number of other authorities responsible for Marine Conservation Zones (MCZ). These meetings enabled managers to understand more about their legal requirements, expand their knowledge of management processes like marine planning and, identify where coordinated management of MPAs might be beneficial.

To allow these conversations to continue, and to secure future management of Yorkshire's inshore MPAs, it was agreed that the discussion group should be formally established as a new, autonomous MPA Management Sub-Group under the umbrella of the YMNP. This structure would see the expansion of the Relevant Authorities' Group to include those engaged in MCZ management and invite key partners to engage with the group. Site-specific management issues could still be addressed, but there would be an increased focus on ecosystem-scale progress.

All management actions, reporting and research within the Flamborough Head EMS will continue as normal, under the new MPA Management Sub-Group from March 2022. A new five-year Management Plan for the site is in development and may be used by partners to explore where actions could be adapted for other MPAs. Authorities will also be asked to consider projects which address ecosystem-scale issues across Yorkshire's MPA network, such as coastal water quality or the impacts of climate change, which has not been possible in the past

2022-2026 Flamborough Head European Marine Site Management Plan

Appendix D:
Maps and References

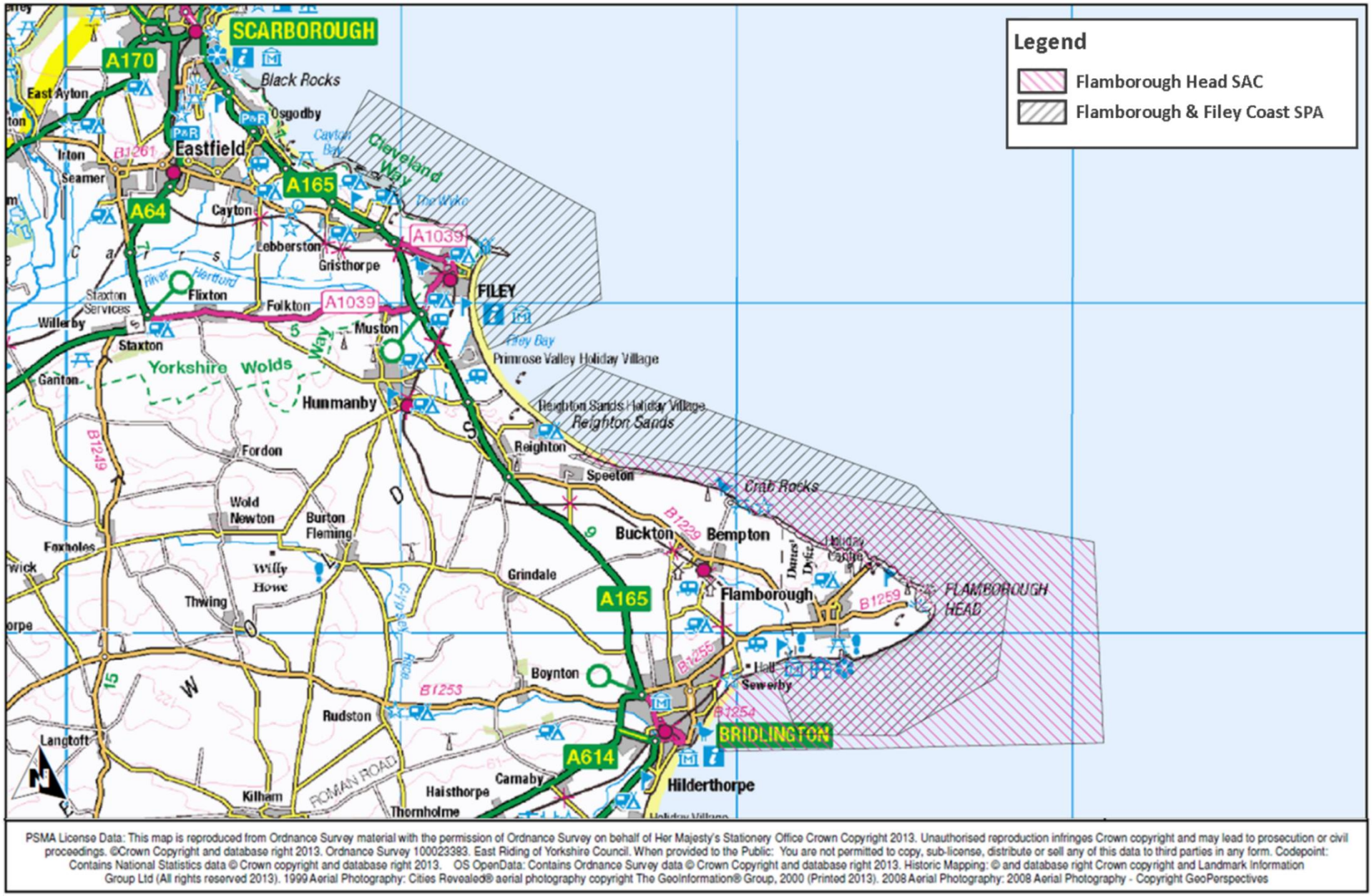

Figure D1: Boundaries of the European Marine Site

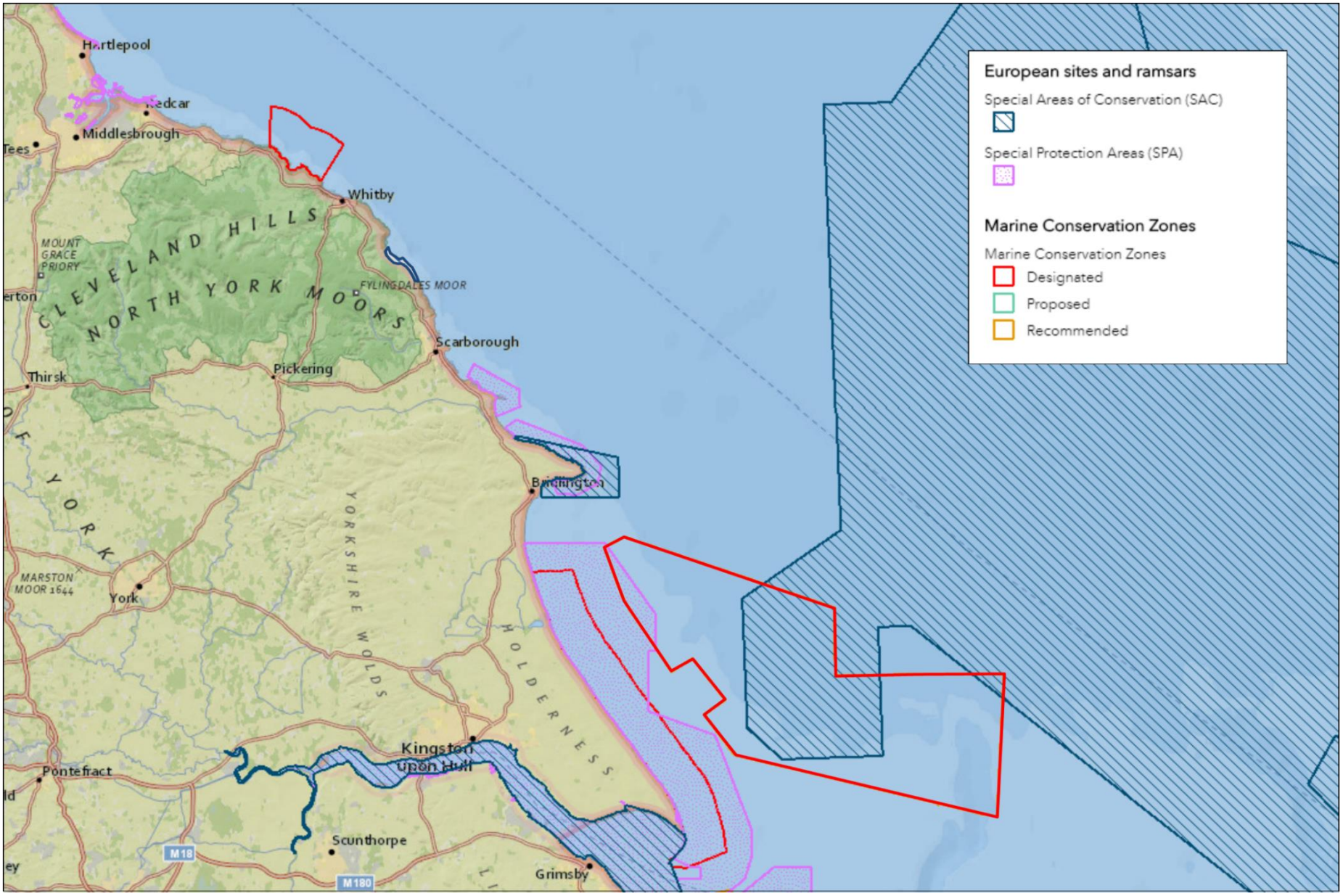

Figure D2: Marine Protected Areas on the Yorkshire Coast

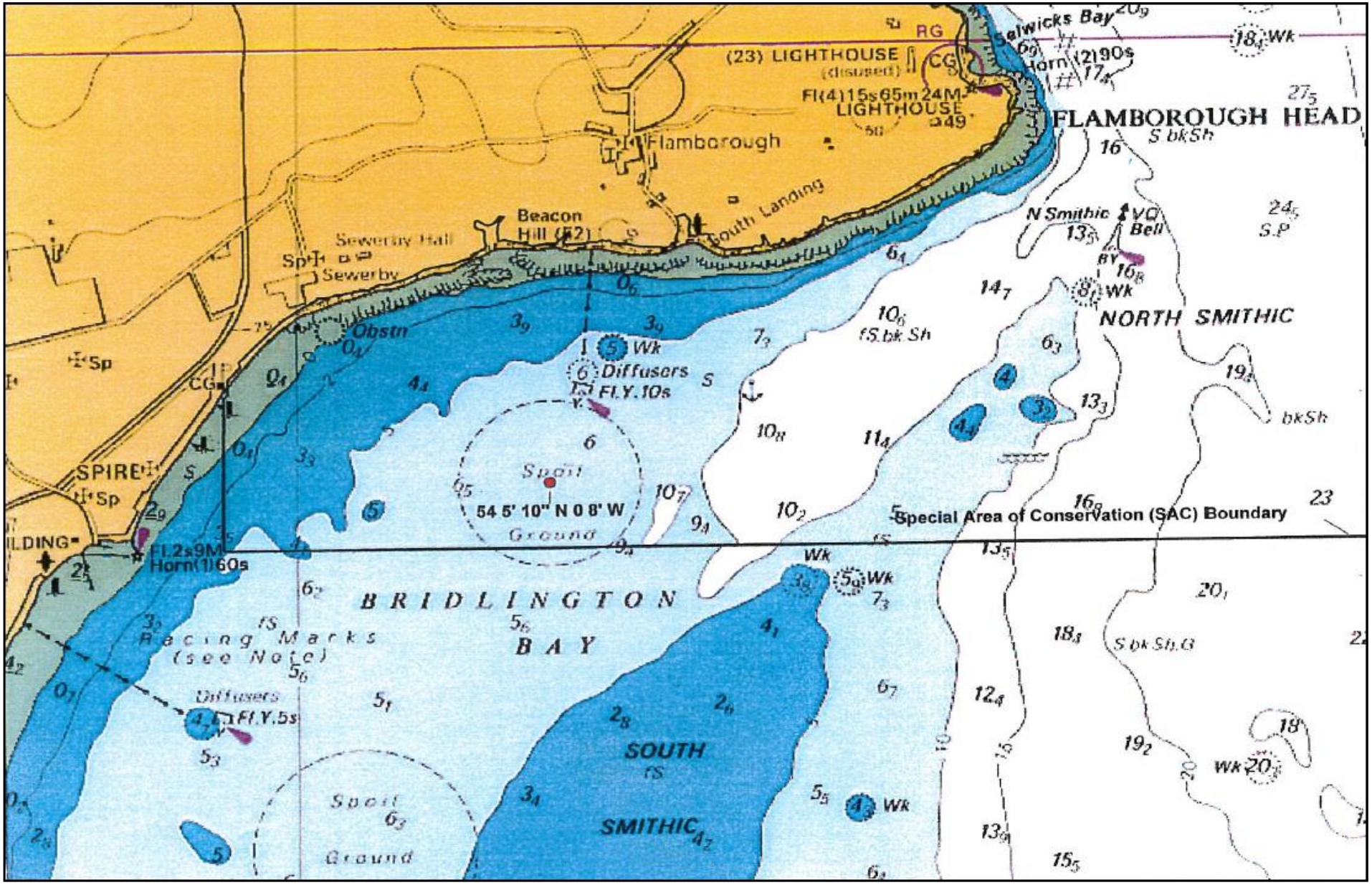

Figure D3: Location of Dredge Spoil Disposal Site in Relation to SAC

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