



Department
for Environment
Food & Rural Affairs

Fisheries management plan for Southern North Sea and Channel skates and rays FMP

Strategic environmental assessment
environmental report

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Non-technical summary

The Southern North Sea and Channel skates and rays fisheries management plan (FMP) has been prepared to meet the requirements of the Fisheries Act 2020. It sets out the policies and proposed measures Defra will use to manage skate and ray species fishing activity in the Southern North Sea and English Channel, so stocks are harvested within sustainable levels. Alongside these measures, the Southern North Sea and Channel skates and rays FMP also sets out management to help support wider social, economic and environmental aspects of the fishery.

This environmental report has been produced in accordance with [The Environmental Assessment of Plans and Programmes Regulations 2004](#) (SEA Regulations 2004). The following issues (from schedule 2, paragraph 6 of the SEA Regulations 2004) were scoped into the assessment:

- biodiversity
- fauna
- flora
- geology and sediments (soil)
- water
- climatic factors
- cultural heritage
- landscape and seascape

This assessment focuses on how the policies and actions in the Southern North Sea and Channel skates and rays FMP are likely to give rise to both significant positive and negative environmental effects. The findings of this assessment have been used to inform the development of the FMP.

The assessment was conducted against a baseline that primarily used existing evidence on the state of the marine environment. This evidence is set out in [The updated UK Marine Strategy Part One](#), published in 2019. Additional sources of evidence were used to establish the status of environment in relation to issues, such as climatic factors, not covered by the UK Marine Strategy (UK MS).

The historical impact of fishing activity on the marine environment has been considered part of the baseline. Our assessment used the best available evidence to reach a suitable judgement on the environmental effects of the Southern North Sea and Channel skates and rays FMP.

This report sets out those plans, programmes and environmental protection objectives, both international and domestic that Defra consider relevant to the Southern North Sea and Channel skates and rays FMP.

This report considers and acknowledges the existing environmental effects of fishing for skate and ray species using towed gear and nets in the Southern North Sea and English Channel on those issues scoped into this assessment, in relation to:

- marine protected areas (MPAs)
- the UK MS descriptors of good environmental status (GES) for the wider marine environment
- climatic factors

The potential positive and negative environmental effects of the Southern North Sea and Channel skates and rays FMP's policies and proposed measures, alone and in combination, have also been assessed.

The strategic environmental assessment (SEA) has concluded that, beyond the direct impact on targeted stocks, the fishery has an impact on the wider marine environment. This is primarily through seabed disturbance (from mobile demersal gears) and bycatch of unwanted or protected species (mainly from drift and fixed nets). Actions have been proposed to investigate these impacts and use this evidence to develop robust mitigation strategies.

The impact of skates and rays fishing in MPAs is managed in the 0 to 12 nautical miles (nm) zone in English waters. Management in MPAs beyond the 12nm limit is being considered and implemented where necessary. Further work is required to reduce the impact of skate and ray fishing on habitats beyond MPAs, to ensure GES targets for seabed integrity (D6) can be achieved.

The contribution of skate and ray fishing to climate change related issues and cultural heritage, through structural damage for example, was also identified as a potential impact.

The Southern North Sea and Channel skates and rays FMP has considered these impacts and sets out proposals to monitor, and where required, introduce mitigation to address these impacts.

The assessment of likely negative effects identified a low risk of significant adverse effects on the environment from implementing individual policies, measures and actions. The policies, measures and actions, will, where appropriate, be developed to avoid any potential negative effects identified by the assessment progress.

The environmental effects of implementing the Southern North Sea and Channel skates and rays FMP policies and measures will also be monitored to identify unforeseen adverse effects at an early stage so appropriate remedial action can be undertaken.

This assessment recommends that future iterations of the Southern North Sea and Channel skates and rays FMP should consider:

- how they can develop the cultural heritage of each fishery and how fisheries management can contribute to reducing potential negative interactions with marine heritage assets
- how fisheries management can contribute to reducing potential negative interactions with submerged prehistoric landscapes or seascapes

1. Introduction

Fisheries management plans – context and background

Marine fish stocks are a public resource, a valuable natural asset, and important components of marine ecosystems. Managing fishing activity so that we harvest our stocks within sustainable limits will ensure our fishing communities, the seafood supply chain and wider society continue to benefit from our natural assets, now and into the future.

The Fisheries Act 2020 requires the fisheries policy authorities¹ in the UK to publish Fisheries Management Plans (FMPs) as set out in the [Joint Fisheries Statement \(JFS\)](#) to manage fishing activity so the harvesting of fish stocks remains within sustainable levels.

Sustainable fisheries protect stocks and the wider environment whilst delivering social and economic benefits for present and future generations. Delivering sustainable fisheries will involve balancing the environmental and social and economic aspects of fisheries. Both the short-term and the long-term impacts of decisions to manage fishing activity to protect stocks, the marine environment and on the fishing industry will be considered. Any short-term decisions to favour social or economic benefit should not significantly compromise the long-term health of the stocks and marine environment that underpin these societal and cultural benefits of fishing. These decisions should recognise the cultural importance of fishing through maintaining and, where possible, strengthening coastal communities and livelihoods alongside the requirement for fish stocks to reach and maintain sustainable levels.

UK fisheries policy authorities identified 43 FMPs in the JFS. A timetable for the preparation and publication of the FMPs can be found in Annex A of the JFS and summarised on GOV.UK: see [the List of FMPs](#).

All FMPs must contain the information set out in Section 6 of the Fisheries Act 2020. In summary, an FMP must specify the relevant authority, stock or stocks, type of fishing and geographical area to which the plan relates, the status of the stocks, policies and actions to harvest within sustainable limits, and the indicators to be used to monitor the effectiveness of the plan.

¹ Fisheries policy authorities: As defined by section 52 of the Fisheries Act 2020, “fisheries policy authorities” means (a) the Secretary of State, (b) the Scottish Ministers, (c) the Welsh Ministers, and (d) the Northern Ireland department.

FMPs must specify whether there is sufficient evidence to assess a stock's Maximum Sustainable Yield (MSY). Where there is insufficient evidence, the FMP must specify policies for maintaining or increasing levels of the stock, and the steps (if any) that the relevant authority or authorities propose to take to obtain the scientific evidence necessary to enable an assessment of a stock's MSY. If no steps are proposed the FMP will explain the reasons for that, and how the precautionary approach to fisheries management will be applied so fish are harvested within sustainable limits.

Through managing fishing activity within sustainable limits, FMPs will contribute to the fisheries objectives set out in section 1 of the Fisheries Act 2020. The scope of an FMP may be extended to consider wider fisheries management issues related to environmental, social or economic matters. How FMPs consider wider fisheries management issues will be determined at the individual FMP level, appropriate to the stock(s), fishery and geographic area within the remit of the FMP.

The Fisheries Act 2020 requires FMPs to report their effectiveness every three years and be reviewed at least every six years. FMPs will evolve as our understanding and evidence base develops through their implementation. Some FMPs will progressively address a wider range of fisheries management issues as they evolve through an iterative approach over time.

FMPs will contain a range of policies and fisheries management measures/interventions whose detail will vary depending on the evidence available to support their implementation. Some policies and measures may only indicate future action and will develop over time as the plan's evidence progresses through each iteration.

FMPs will adopt an ecosystem-based approach to fisheries management to help deliver environmental, social and economic benefits beyond those accrued from just achieving the sustainable harvesting of stocks.

The policies and actions proposed by an FMP will apply to all vessels (UK and non-UK vessels) fishing in the area covered by the plan.

Delivering sustainable management of fisheries and FMPs

Fisheries rely on the ecosystems in which they operate to support healthy stocks. These ecosystems can be compromised by human-induced pressures, including pollution, marine litter and unsustainable exploitation of marine resources. This pressure includes the impact of fish population levels on the processes and functioning of the wider ecosystem, for example the removal of prey species impacts the status of top predators.

Long-term, sustainable, and profitable fisheries require active management to avoid, reduce or mitigate any adverse impacts of fishing activity on ecosystem functioning, ecosystem resilience, or environmental threats such as climate change.

Available fishery data and advice will help determine the targets and catch limits applied to each stock. Where possible, these limits would include the MSY for data-rich stocks where biomass fluctuations can be tracked. Alternative proxies for harvest limits, the precautionary approach, or a combination of both are required for more data-limited stocks, where it is only possible to detect biomass fluctuations.

Not all stocks currently have sufficient evidence to establish MSY, or proxy, reference points and limits. It is not scientifically feasible or economically viable to collect such evidence for some species. In these cases, FMPs must include the steps, or reasons for not taking steps, national fisheries authorities will take to ensure stocks are harvested within sustainable limits.

FMPs will recognise the importance of the sustainable use and conservation of our marine natural assets and the ecosystem services they provide when setting out policies to manage fishing activity. FMPs will make use of the best available scientific advice, be subject to scientific evaluation, and consider the environmental risks associated with the fishing activity. The plans will use a risk-based approach to identifying appropriate and proportionate mitigation for its environmental impact.

FMPs will contribute to achieving Good Environmental Status (GES) under the UK Marine Strategy (UK MS). In addition to improving or maintaining the status of commercial stocks, plans can include actions focused on reducing the risks and/or pressures from fishing activity to other ecosystem components that may prevent achieving GES.

Managing fishing activity within sustainable limits through FMPs will directly contribute to securing the continued availability of seafood products as an important food source within the UK food supply chain.

Scope of the FMP

This FMP applies to skate and ray species fisheries in the Southern North Sea and English Channel. The following species of ray are included in the scope of the first iteration of the Southern North Sea and Channel skates and rays FMP:

- thornback ray (*Raja clavata*)
- blonde ray (*R. brachyura*)
- undulate ray (*R. undulata*)
- small-eyed ray (*R. microocellata*)
- spotted ray (*R. montagui*)

- cuckoo ray (*Leucoraja naevus*)
- starry ray (*Amblyraja radiata*)

The fisheries covered by this FMP occur in ICES areas 4b, 4c, 7d and 7e (Southern North Sea and English Channel). The Southern North Sea and Channel skates and rays FMP applies to English waters², covering inshore and offshore areas where fishing activity for skate and ray species takes place.

Southern North Sea and Channel skates and rays FMP goals and actions

The FMP vision is that skate and ray fisheries in the Southern North Sea and English Channel will be managed to achieve environmental, social, and economic sustainability, for the benefit of coastal communities and wider society.

Sustainable fisheries goals

Policy goal 1: harvest stocks of blonde ray (in 4b, 4c and 7d), cuckoo ray, spotted ray, thornback ray (in subarea 4, 3a and 7d) and undulate ray sustainably, with biomasses maintained above the level capable of producing MSY

This policy goal applies to the stocks where there is sufficient available scientific evidence to enable an assessment of the stock's maximum sustainable yield and where their biomass levels are currently considered to be sustainable (fishing pressure on the stock is below FMSY/FMSY proxy, and biomass/stock size is above MSY Btrigger/Itrigger). This includes blonde ray (in 4b, 4c and 7d), cuckoo ray, spotted ray, thornback ray (in Subarea 4 and divisions 3a and 7d) and undulate ray.

As required by section 6(3)(a) of the Act, this policy goal and actions are designed to contribute to maintaining the stocks at sustainable levels. It will positively contribute to achieving good environmental status (GES) for UK Marine Strategy descriptor D3 (commercially exploited fish and shellfish) in English waters.

Actions to deliver policy goal:

- continue to seek to set TACs and determine fishing opportunities based on the best available scientific advice

² English waters refer to the English inshore and English offshore regions as set out in Section 322 of the [Marine and Coastal Access Act 2009](#).

- continue to work with the EU in accordance with the policies in the JFS including the Principles of International Fisheries Negotiations with the aim of agreeing TACs to maintain the sustainable harvesting of the stocks through international negotiations
- continue to work with the EU on existing joint commitments, in particular the existing Written Record commitment on exploring alternatives to the current group TAC management that is ongoing through the SCF, this covers all jointly managed group TACs, which include the FMP stocks

Timeframe: ongoing

Policy goal 2: implement effective management that contributes to the restoration of starry ray stocks to levels capable of producing MSY and to maintain or increase the level of blonde ray (in 7e), small eyed ray and thornback ray (in 7e).

For starry ray, the available scientific evidence is sufficient to enable an assessment of the stocks' MSY, however the stock's biomass levels are currently not considered to be sustainable (fishing pressure on the stock is above FMSY proxy, and stock size indicator is below $I_{trigger}$). This policy goal and associated actions aim to contribute to the stocks restoration to sustainable levels as required by section 6(3)(a) of the Act.

For blonde ray (in 7e), small eyed ray (in 7de) and thornback ray (in 7e), the available scientific evidence is not sufficient to make an assessment of the stocks' MSY, therefore this policy goal and actions aim to maintain or increase the level of the stocks as required by section 6(3)(b) and 6(4) of the Act. Although the stocks are data-limited, and there is not the available evidence to assess MSY, the ICES advice indicates the current level of exploitation is appropriate for the stocks. Should this change further, action will be considered. The actions below will be taken forward and, where supported by evidence, management measures will be put in place. These measures are dependent on further research to determine the most suitable approach and to understand demographic impacts, efficacy and unintended consequences.

If determined to be appropriate, these measures would aim to provide protection primarily for the three data-limited stocks. Where there are benefits to doing so, certain management measures will be considered more widely across all FMP stocks. There is an existing UK-EU commitment on alternative approaches to the current group TAC management, whilst this commitment covers all stocks that are currently managed by a group TAC, this could provide particular benefit to the data-limited stocks.

Action 1

Continue current management for these stocks and species level prohibition of starry ray.

Rationale

Although the main area of starry ray distribution is outside the FMP area, the ICES stock assessment for starry ray advises for zero catches up to 2027. Existing management currently prohibits catches of starry ray in UK and EU waters of divisions 2a, 3a, 7d and Subarea 4 to contribute to restoring the stock by not allowing the stock to be landed. This FMP action is to continue this.

For blonde ray (in 7e), small eyed ray (in 7de) and thornback ray (in 7e), the ICES advice indicates the current level of exploitation is appropriate for the stocks; therefore, this action is to continue the current management in line with the actions set out in policy goal 1.

Timeframe: ongoing

Action 2

Consider alternative approaches to the current group total allowable catches

Rationale

Although ICES provide single-species advice for each of the FMP species, most skate and ray species within this FMP are currently managed under a combined (multi-species) TAC. Blonde ray 7e, small-eyed ray in 7e and thornback ray in 7e are covered by the Western skates and rays group TAC, with small-eyed ray 7d covered by the Eastern channel skates and rays group TAC.

There are concerns that the current group TAC management provides limited protection for vulnerable stocks and under-exploitation of healthy stocks. Importantly, these are jointly managed stocks with the EU as set out in the Trade and Cooperation Agreement (TCA), and TACs for skates and rays are agreed annually in bilateral negotiations between the UK and the EU. As such, any alternative to the current group TAC management will require bilateral work with the EU. There is an existing joint UK-EU Written Record commitment, and an [indicative roadmap](#) was developed for this work in the SCF, setting out next steps and considerations in addressing these concerns. This work is jointly progressing through the SCF. This UK-EU commitment covers all skates and rays in the group TAC's, including the data-limited, any alternative approach to the group TAC management needs to be considered holistically.

This FMP has identified some priority areas that could be considered as part of that work. This includes exploring the possible introduction of single-species or single-stock TACs as recommended in the ICES advice, noting the species' differing conservation statuses and biological traits. More evidence is required to better understand the impact of this, including the possible choke risks.

Timeframe: short/medium term

Approach:

- gather evidence required to support the ongoing joint work with the UK and EU to identify improvements to the current group TAC management

Action 3

Consider the implementation of minimum conservation reference sizes (MCRS)

Rationale

Skates and rays are slow-growing species with varying sizes at maturity. The current lack of an MCRS in most areas leaves juveniles at an increased risk of being removed before being able to spawn at least once. As discard survival rates within skates and rays are perceived to be high, and the species are exempt from the Landing Obligation, MCRS measures may be a favourable tool to protect juvenile populations, although this is dependent on the survival rates of smaller individuals.

Currently 2 IFCAs (Kent and Essex IFCA and Southern IFCA) within the FMP's spatial jurisdiction have active, non-species-specific MCRS regulations for skates and rays. The MCRS for Kent and Essex IFCA is 40cm for whole rays, 19cm for a wing; and for Southern IFCA this is 40cm for whole rays and 20cm for a wing. However, there is no national MCRS beyond the 6nm boundary (except for undulate ray). Outside of the FMP area, there are different MCRS for skates and rays around the UK, including the waters of Guernsey (36cm), North-Western IFCA (45cm) and parts of Wales (45cm). There is also a voluntary code agreed by the North Devon Fishermen's Association (45cm).

This aim of this measure, if implemented, would be to provide protection to juvenile skates and rays allowing more to reach maturity and reproduce, positively promoting population growth and therefore increasing stock levels. However the introduction of a MCRS across the FMP area may shift fishing pressure on to larger individuals in the stock, which may in turn have a detrimental effect on reproductive potential.

Given each of the FMP species exhibit different life-history parameters, including the size-at-maturity and fecundity at size, a universal MCRS may be less effective than grouped or species-specific approaches.

Additional life-history data are required to understand the potential benefits of size restrictions, and further analyses are needed to consider social and economic impacts of any proposed approaches. Such information can inform whether size restrictions are appropriate and enforceable measures. This should include evidence to develop robust options for minimum sizes if the measures are deemed to be useful.

Timeframe: medium/long term

Approach:

- gather further evidence to understand the potential effectiveness of MCRS as a method for protecting stock health and promoting population growth, through affording protection to juvenile skates and rays in English waters of ICES divisions 4b, 4c, 7d and 7e. This will focus on gathering the additional data required to inform demographic modelling
- undertake a demographic modelling exercise to better understand the potential benefits of minimum and maximum sizes. The focus should be on exploring the efficacy of a MCRS (and/or MaxCRS) on skates and rays considering uncertainties on selection patterns, quota availability, life-history, and discard survivability. This will assess the potential effectiveness of each measure and gather additional evidence to determine how size-based restrictions would interact with reproductive potential of skates and rays at different sizes. Egg laying potential and fecundity of larger rays is a recognised evidence gap for the FMP and should be addressed in order to determine which approach would be more favourable
- undertake an economic impact assessment to assess and better understand the economic impact of different potential approaches to implementing a MCRS to help determine the most suitable approach
- if the evidence gathered supports this measure, stakeholders will be consulted to determine a favourable approach for implementation in the medium- to longer-term

Action 4

Consider the implementation of a maximum conservation reference size

Rationale

Maximum sizes and the use of harvest slot-limits have a theoretical basis in simultaneously affording a degree of protection to both immature fish and the most fecund part of the stock. They have also been shown to be effective for managing multiple use fisheries (e.g. for commercial and recreational activities), and so may promote greater general landings of fish, as well as greater catches of larger

specimen (trophy) fish. Skates and rays exhibit slow growth, late maturity, and low fecundity. Therefore, as a species group, skates and rays would particularly benefit from the protection of larger, more fecund individuals. Further evidence on fecundity-at-length is needed before this measure can be implemented.

Future evidence gathering should also explore the MaxCRS in relation to potential health risks posed by the accumulation of certain contaminants in older and/or more piscivorous skates and rays, which may bioaccumulate and bio-magnify contaminants. Comparable work on two offshore skate species, including a review of other relevant studies³ would suggest there is a likelihood of the largest skates exceeding safe levels of mercury, and indicate that work on this topic is required. Data to come to an evidence-based selection of maximum size on the basis of mercury concentrations are lacking.

Timeframe: medium/long term

Approach:

- gather evidence to understand the effectiveness of a MaxCRS as a method for managing landings of key FMP skate and ray species in English waters of ICES divisions 4b, 4c, 7d and 7e. As with Action 3 for an MCRS, additional data on maturity-at-length, and fecundity-at-length are required to inform a demographic modelling exercise, alongside an economic impact assessment of the impact of maximum sizes on key skate and ray species. As part of the evidence gathering, the trade-offs between increasing the MCRS versus introducing a MaxCRS should also be explored
- if the evidence gathered supports this measure, stakeholders will be consulted to determine a favourable approach for implementation in the medium- to longer-term

Action 5

Introduce voluntary guidelines

Rationale

There are known identification issues amongst some of the stocks in this FMP which impacts the reliability of the species-specific reporting, and so our understanding of the stock, as well as the potential effectiveness of any future species-specific management measure.

³ Nicolaus et al., 2017

Discard survival rates within skates and rays are perceived to be high, and so the species are exempt from the Landing Obligation; therefore it is important that the stocks are handled and released in the appropriate way to maximise the chance of survivability.

Voluntary guidelines would aim to improve handling and identification of the FMP stocks in order to improve survivability, species-specific reporting and evidence gathering and support compliance with management and regulation. In turn, this aims to contribute to improving or maintaining stock levels for all FMP managed stocks but providing particular benefit to the data-limited stocks.

Timeframe: short/medium term

Approach:

- build on the existing work of stakeholders, [the Shark Trust's ID and handling guidelines](#), to update and distribute skate and ray handling, regulatory and identification guidelines to commercial and recreational fishers
- consider arranging training workshops to support the distribution and implementation of the guidelines

Action 6

Explore and, where appropriate, implement spatial and temporal closures

Rationale

Numerous scientific studies have reported that FMP species exhibit site fidelity during mating or as juveniles. Spatial-temporal measures have been shown to be effective in managing skate and ray species.

The aim of this measure is to explore and, where appropriate, implement spatial and temporal closures to protect essential habitats for skate and ray species; protecting breeding and juvenile aggregations of skates and rays, allowing more to reach maturity and reproduce, increase the level of the stocks. This will be contingent on developing a robust evidence base to identify habitats important for skate and ray recruitment and putting in place appropriate protections to encourage stock health. It will build evidence on the effectiveness of spatial-temporal management. It will also seek opportunities to align protections with Marine Protected Area (MPA) closures to maximise sustainability impact for skates and rays, while minimising impact on fishers.

Timeframe: medium/long term

Approach:

- consider research to identify areas and habitats that are considered essential for skates and rays, where appropriate implement spatial and temporal closures to protect breeding and juvenile aggregations of skate and ray species
- build evidence on the effectiveness of spatial and temporal management such as closed seasons and 'ray boxes' for protecting breeding and juvenile assemblages
- seek opportunities to align protections with MPA closures to maximise sustainability impact for skates and rays, while minimising impact on fishers

Policy goal 3: deliver effective management through, where possible, identifying, minimising and mitigating pressures on skate and ray stocks

This goal has been developed to improve biological and environmental sustainability within the FMP remit by identifying, minimising and mitigating fishing pressures exerted on skates and rays and also as a result of skates and rays fishing. It will positively contribute to achieving GES for UK Marine Strategy descriptor D1 (biological diversity), D3 (commercially exploited fish and shellfish), D4 (food webs), D6 (sea-floor integrity) and D10 (marine litter) in English waters.

Action 1

Look to define key interactions of fisheries landing skates and rays in targeted or bycatch fisheries and better understand the pressures exerted on these stocks, including consideration of the targeting behaviour of the fleet and recreational fishery.

Timeframe: medium/long term

Approach:

- consider research into fisheries catching skates and rays, to model interactions and pressures exerted on skate and ray stocks from fishers catching and targeting skates and rays
- consider research to identify and capture fisher targeting patterns for skates and rays

Action 2

Following the outcome of Action 1, seek to manage key interactions to minimise adverse impacts and consider the integration of mixed and multi-species management approaches for the relevant skate and ray fisheries, where appropriate.

Timeframe: medium/long term

Approach:

- seek to effectively manage the interactions identified in Action 1 to minimise adverse impacts on skates and ray stocks
- approaches to mixed fishery and mixed species management will be considered and assessed for implementation into management of skate and ray fisheries

Action 3

Better understand the impact of non-fishing pressures on skate and ray stocks. This is to include, but is not limited to, the impact of anthropogenic non-fishing pressures and the impact and species sensitivities to climate change. Identify where climate change mitigation and adaptation measures can be implemented.

Timeframe: medium/long term

Approach:

- consider research into broader anthropogenic impacts on skate and ray stocks
- consider research to evaluate the potential impact of climate change on skate and ray species and identify opportunities to implement climate change mitigation and adaptation measures
- adapt the fishery management where appropriate to align with species sensitivities

Action 4

Better understand the impact of fishing gear interactions with the marine environment in the skate and ray fishery.

This includes investigating the key issues in current unwanted and protected species bycatch within the fishery where skates and rays are being targeted.

Timeframe: medium term

Approach:

- consider research to map and define the demersal gear and benthos interactions
- consider research to identify and reduce bycatch of unwanted and protected species
- where appropriate, align with existing and developing UK bycatch strategies

- consider data collection requirements to monitor and track key skate and ray fishing impacts on bycatch of unwanted and protected species

Evidence goals

Policy goal 4: seek to improve datasets to support a MSY assessment of thornback ray in 7e, blonde ray in 7e and small-eyed ray in 7d and 7e.

Rationale

The stocks are data-limited, with insufficient evidence to support a MSY assessment, and so receive precautionary advice from ICES. The aim of this goal is to explore the data limitations and how these can be improved, and where possible set out to improve them. Important to note that improving the assessments of these stocks is heavily dependent on ICES resourcing as well as there being sufficient scientific evidence to support a MSY assessment. A prioritisation exercise will be carried out to focus research efforts across all FMP stocks and plans, to increase data collection, which will be reviewed over time. By improving the availability of data and in turn the assessment of the stock, this would help inform the sustainable management of these fisheries.

This policy goal and associated actions will contribute towards obtaining the scientific evidence necessary to enable an assessment of the stock's maximum sustainable yield as required by section 6(3)(b)(ii) of the Act.

Timeframe: short -medium/long term

Additional actions:

- explore and prioritise management and evidence gathering to contribute to improving the assessment of thornback ray in 7e, blonde ray in 7e and small-eyed ray in 7d and 7e, this includes the continuation of the small-eyed ray 7e sentinel fishery ahead of potential future precautionary reopening of the fishery, as per the UK-EU joint commitment. This will require resource from ICES and so improvement in any future assessment will be contingent on that
- consider the catch per unit effort for the under 10m fleet using iVMS data to support implementation of effort data into fishing records
- update and distribute skate and ray handling, regulatory and identification guidelines to commercial and recreational fishers to help improve data collection of these species as well as survivability

Medium/long-term approach:

- seek to ensure gathered data supports the implementation of MSY or a suitable proxy for all skate and ray stocks
- seek to manage catches so fishing effort remains below MSY or MSY proxy

Policy goal 5: better understand the wider skate and ray species evidence gaps and develop the evidence base

This policy goal has been developed to improve on the evidence base for skates and rays. Fulfilling this goal will not directly contribute to achieving GES but may indirectly feed into the achievement of GES in English waters through contributing to effective management and sustainability of the fishery.

Action 1

Building on the supporting evidence statement that will be published alongside the final FMP, this document will be regularly developed and updated to establish what evidence is required to meet the wider goals of the FMP, as well as any further policy or legislative objectives. Identify how current data channels can be adapted or improved to meet evidence gaps and prioritise evidence gaps based on current evidence baselines and evidence needs.

Timeframe: ongoing

Approach:

- identify what evidence is currently available through a robust and systematic process – understand the data channels that currently source this evidence
- identify and evaluate data channels for integration into the development of the FMP evidence base
- develop an evidence strategy to focus on evidence gaps, which will cover all fisheries, environmental, ecological, and social and economic data requirements

Action 2

Where necessary, establish new data collection channels to close evidence gaps. Investigate opportunities to gather non-traditional or novel sources of data to complement this, including using new technologies. Explore methods to consolidate new data with existing data in a single platform.

Timeframe: ongoing

Approach:

- address evidence gaps that cannot be filled by existing data with new evidence and data, where available – where possible, collect this using new technologies or through novel, non-traditional methods (species prioritisation may mean expedited delivery)
- the approach to managing data will be consistent with data protection regulation – it will aim to be transparent and accessible for use by agreed partners and stakeholders

Social and economic

Policy goal 6: better understand and optimise social and economic benefits

This goal has been developed to improve the evidence base for social, cultural and economic values of skates and rays. Fulfilling this goal will indirectly feed into the achievement of GES in English waters by improving the socioeconomic evidence base, and it looks to optimise fishery management where possible for the long-term sustainability of the fishery.

Action 1

Building on the existing evidence base, undertake research on the reliance on skate and ray fisheries, and identify social and economic data on the current direct and indirect benefits derived from skate and ray fisheries on coastal communities. Using this evidence, develop indicators to monitor social and economic impacts.

Timeframe: short/medium-term

Approach:

- consider evidence gathering to identify groups (commercial and recreational fishers, coastal communities, local supply chains) that are reliant on skate and ray fisheries
- carry out research to understand who is benefitting from these species and how these are integrated into social, economic, and cultural values
- understand the direct social and economic benefits of the skate and ray fishery for the groups identified
- target management appropriately so that these benefits are maintained and where appropriate, optimised
- using the evidence gathered, identify and establish monitoring indicators that can be used to assess the effectiveness of the FMP's social and economic goals

Action 2

Where data is not currently available, seek to identify new ways to collect social and economic data against the monitoring indicators identified in action 1. Additionally, seek to understand if there are opportunities to optimise direct and indirect benefits from skate and ray fisheries.

Timeframe: medium/long term

Approach:

- identify evidence gaps and start work to close them.
- map and understand benefits from skate and ray fisheries and put in place mechanisms to optimise these benefits

Action 3: sector support measures

Reports suggest that there is a low market interest in ray landings compared to other species. Alongside the suite of other management recommendations (which work to enhance sustainability in the fishery), this measure sets out to understand what else can be done to improve the market. While this approach is a non-statutory requirement, and the associated actions and measures go beyond the legal obligations for FMPs in section 6 of the Act, Defra welcomes these industry commitments to complement and support the delivery of the FMPs and objectives in the Act.

Timeframe: long-term

Approach:

- explore options for supporting initiatives that are developing the domestic market for skate and ray products – this will rely on evidence gathering and collaboration with stakeholders to determine appropriate ways of supporting skate and ray markets without compromising stock sustainability
- explore ways to balance recreational and commercial fishers' needs in the skate and ray fisheries
- implement strategies identified in the evidence gathered to increase the social and economic benefits of the skate and ray fisheries

Policy goal 7: develop partnership working to build capacity for industry to be able to input into matters affecting skate and ray fisheries management

This goal has been developed to ensure that stakeholders in the FMP area have an appropriate forum to contribute to the management of skates and rays. Through

effective engagement and management, it will positively contribute to achieving GES for UK Marine Strategy descriptor D1 (biological diversity) D3 (commercially exploited fish and shellfish), D4 (food webs), D6 (sea-floor integrity) and D10 (litter) in English waters.

Action 1

Consider the establishment of a skates and rays management group or another similar forum, which may develop over time to allow for continued engagement in ongoing management of skate and ray fisheries.

Timeframe: short term

Approach

the relevant authority will consider establishing a skates and rays management group, which will be recognised as the key group for matters related to the review and revision of the FMP. The FMP proposes that the group will comprise industry, recreational fishers, wider supply-chain businesses, the regulatory authority, fisheries scientists, policy makers, and other interested stakeholders. The remit of this group in its proposed state will be to act as a forum for engagement and give the group the initiative to set the direction of FMP development. Where appropriate, this group could be combined with similar groups proposed in other FMPs to alleviate stakeholder fatigue.

2. Approach to strategic environmental assessment

Screening

[SEA Regulations 2004](#) requires that qualifying public plans, programmes, and strategies undergo screening for SEA during their preparation and prior to adoption. Fisheries Management Plans are plans that fall within the definition in Regulation 2.

Defra consider that Regulation 3(2)(a) of the SEA Regulations 2004 applies to the Southern North Sea and Channel skates and rays FMP as the plan relates to England only.

In accordance with the SEA Regulations 2004 Defra carried out a screening exercise which determined that the proposed policies in the Southern North Sea and Channel skates and rays FMP may have a likely significant effect (either positive or negative)

on a European site or a European offshore marine site and they are not directly connected with or necessary to the management of such sites.

The screening exercise used [Defra's Magic Map Application](#) to identify whether the geographical scope of the FMP overlaps with any European sites or European offshore marine sites. Table 3, page 35 of [the updated UK Marine Strategy Part One](#) sets out the pressures on the marine environment resulting from anthropogenic activity, which includes fishing. This information was used to identify whether fishing activity for skate and ray species in the Southern North Sea and English Channel has the potential to impact these sites and interest features. For example, use of bottom towed gear has the potential to result in the extraction of, or mortality/injury to, wild species and cause physical disturbance of benthic habitats.

The screening also judged that the proposed policies in the Southern North Sea and Channel skates and rays FMP have the potential to affect multiple European marine sites and the wider marine environment.

Based on the outcome of the screening, Defra concluded the FMP, falls within the description of a plan in regulation 5(3) of the SEA Regulations 2004, and so as a result of regulation 5(1) must be subject to SEA in accordance with Part 3 of the SEA Regulations 2004 during its preparation and prior to its adoption (publication).

Completing this SEA does not remove any other statutory obligation on competent authorities to assess the possible environment impact of a policy or measure ahead of its implementation.

Scoping process

Defra carried out a scoping exercise to identify the scope and level of detail of the assessment that will be documented in the Environmental Report. Regulation 12(5) requires that when deciding on the scope and level of detail of the information in the Environmental Report, the responsible authority must seek the views of the Consultation Bodies.

A Scoping Report identifying the scope and level of detail of the assessment of the Southern North Sea and Channel skates and rays FMP was provided to the following Consultation Bodies:

- Historic England
- Natural England
- Environment Agency
- Joint Nature Conservation Committee (JNCC)

See Appendix F for Consultation Body responses on the Scoping Report and how consideration was given to the points raised in each response.

Regulation 12(3) of the SEA Regulations 2004 requires that the Environmental Report shall include the information referred to in [Schedule 2](#), in so far as it is reasonably required.

Sections of this report and the corresponding paragraph of Schedule 2 of the SEA Regulations 2004

Sections: 1 and 4

- paragraph 1: An outline of the contents and main goals of the plan or programme, and of its relationship with other relevant plans and programmes

Section: 4 and 7

- paragraph 2: The relevant aspects of the current state of the environment and the likely evolution thereof without implementation of the plan or programme

Section: 3

- paragraph 3: The environmental characteristics of areas likely to be significantly affected

Section: 3

- paragraph 4: Any existing environmental problems which are relevant to the plan or programme including those relating to any areas of a particular environmental importance, [such as a European site (within the meaning of regulation 8 of the Conservation of Habitats and Species Regulations 2017)]

Section: 4

- paragraph 5: The environmental protection objectives, established at international, [European Union] or national level, which are relevant to the plan or programme and the way those objectives and any environmental considerations have been taken into account during its preparation

Section: 5

- paragraph 6: The likely significant effects on the environment, including short, medium and long-term effects, permanent and temporary effects, positive and negative effects and secondary, cumulative and synergistic effects, on issues such as (a) biodiversity; (b) population; (c) human health; (d) fauna; (e) flora; (f) soil; (g) water; (h) air; (i) climatic factors; (j) material assets; (k) cultural heritage, including architectural and archaeological heritage; (l) landscape; and (m) the inter-relationship between the issues referred to in sub-paragraphs (a) to (l)

Section: 6

- paragraph 7: The measures envisaged to prevent, reduce and as fully as possible offset any significant adverse effects on the environment of implementing the plan or programme

Section: 7

- paragraph 8: An outline of the reasons for selecting the alternatives dealt with, and a description of how the assessment was undertaken including any difficulties (such as technical deficiencies or lack of know-how) encountered in compiling the required information

Sections: 8

- paragraph 9: A description of the measures envisaged concerning monitoring in accordance with regulation 17

Non-technical summary

- paragraph 10: A non-technical summary of the information provided under paragraphs 1 to 9

Scope of the assessment

Schedule 2 paragraph 6 to the SEA Regulations 2004 lists the issues that must be considered for an assessment of likely significant effect in relation to the proposed FMP. Based on its initial evaluation of likely significant effects and taking into account the results of the scoping consultation carried out (see Scoping above and Appendix F), the following conclusions were reached regarding the content of the Environmental Report.

Defra propose that the Environmental Report will address the effects on the following issues:

- biodiversity, fauna and flora including the following sub-sections: cetaceans, seals, birds, fish, benthic habitats, commercially exploited fish and shellfish, food webs
- geology and sediments (soil) including the following sub-section: benthic habitats
- water including the following sub-sections: marine litter and underwater noise
- climatic factors including the following sub-sections: vessel emissions, blue carbon
- cultural Heritage including the following sub-section: interactions between fishing gear and marine heritage assets
- landscape/seascape including the following sub-section: interactions between fishing gear and seabed formations, benthic habitats

Defra scoped the following issues out of the assessment, and therefore they will not be covered in the Environmental Report:

- population (Human)
- human health
- air
- material assets

Fishing activity being managed through the FMP has the potential to have some level of interaction with all the issues from Schedule 2 paragraph 6, however the scoping exercise considered and scoped in those environmental issues that would be significantly affected by the Southern North Sea and Channel skates and rays FMP. Issues such as Population, Human Health, Air and Material Assets were scoped out of this assessment as it was considered that they would not be significantly affected by the FMP. We provide the justification behind this decision and additional rationale behind why sub-sections were considered below.

To link the issues (from Schedule 2 paragraph 6) that will be addressed by this Environmental Report with the environmental baseline (read section 3), we have attributed a UK Marine Strategy (UK MS) descriptor of GES to the appropriate corresponding issue(s); read Appendix A for the list of the 11 UK MS descriptors. Achieving GES is about protecting the natural marine environment, preventing its deterioration and restoring it where practical, while allowing sustainable use of marine resources.

- assessing the status of these descriptors identifies where improvements are required to achieve GES. Knowing the current status will help direct efforts to reduce the impacts of certain human activities. The [UK Marine Strategy assessment tool](#) provides further information
- under the UK MS, Descriptor 1 – Biodiversity has been split into the following sub-sections; cetaceans, seals, birds, fish, benthic habitats. These sub-sections are all relevant to the biodiversity issue from Schedule 2 paragraph 6 and therefore have been included in this assessment
- marine litter and Underwater Noise have been included as the most relevant sub-sections assessed by the UK MS under the Water issue heading. Fishing activity was considered not to contribute on Eutrophication, Changes in Hydrographical Conditions and Contaminants; therefore, these sub-sections have not been included
- climatic factors are not considered under the UK MS assessment process; therefore, no predetermined sub-sections are available. Vessel emissions and blue carbon were identified as the two most relevant issues related to fishing activity that are associated with climate change

- cultural heritage is also not considered under the UK MS assessment process; therefore, no predetermined sub-sections are available. The interaction between fishing gear and marine heritage assets was identified as the most relevant impact related to fishing activity that is associated this issue heading
- landscapes / seascapes are not considered under the UK MS; therefore, no predetermined sub-sections are available. The interaction between fishing gear and seabed formations was identified as the most relevant impact related to fishing activity that is associated this issue heading. The assessment of benthic habitats will also be relevant when considering the impact of mobile demersal gear fishing on seabed formations. Where specific impacts are known they will also be considered

Results of the scoping exercise to determine those environmental issues likely to be significantly affected by the Southern North Sea and Channel skates and rays FMP and thus scoped into the SEA⁴

Environmental issues likely to be significantly affected by the FMP:

- **biodiversity, fauna and flora (UK MS descriptors D1, D3, D4, D6)** - Fishing activity for skate and ray species has the potential to result in physical disturbance to the seabed and the extraction of, or mortality of/injury to/disturbance to, both target and non-target wild species. These issues are within the scope of this SEA
- **geology and sediments (soil) (UK MS descriptor D6)** - Fishing activity for skate and ray species has the potential to result in physical disturbance to the seabed and substrates. This issue is within the scope of this SEA
- **water (UK MS descriptors D10, D11)** - The proposed FMP aims to make fishing practices more environmentally sustainable so there is scope to reduce the impact of fisheries on water quality. This issue is within the scope of this SEA
- **climatic factors** - The proposed FMP will make an appropriate contribution to the climate change objective of the Fisheries Act 2020, seeking to ensure it develops relevant policies to both mitigate impact on and adapt to climate change. This issue is within the scope of this SEA
- **cultural heritage** - Fishing activity for skate and ray species has the potential to interact with marine heritage assets. While the proposed FMP is not intended to focus on mitigating the impacts of fishing on the marine historic environment, there is potential for fisheries management to have a positive

⁴ Where relevant, the relationship between the issue and the UK MS descriptor of GES is shown as 'D#' where # represents the number of the descriptor, as shown in Appendix A.

effect on safeguarding cultural heritage features. This issue is within the scope of this SEA

- **landscape and Seascape** - Skate and ray species fishing, through physical disturbance of the seabed, has the potential to affect seascape features. This issue is within the scope of this SEA

Environmental issues not likely to be significantly affected by the FMP:

- **population (human)** - The proposed FMP is not likely to result in significant increases or decreases in human population numbers, or changes to in-migration or out-migration. This issue is beyond the scope of this SEA
- **human health** - The proposed FMP would not result in any significant human health issues. Whilst fishing remains a dangerous vocation and the proposed FMP will promote safe operations, the regulation of the safety of fishing operations falls elsewhere. This issue is beyond the scope of this SEA
- **air** - The proposed FMP is unlikely to result in significant additional vessel emissions and associated air pollution. Reducing vessel emissions from a carbon footprint perspective will be considered by the Climatic factors issue. This issue is beyond the scope of this SEA
- **material assets** - The proposed FMP will not impact material assets related to; ports and shipping; fisheries and aquaculture; leisure or recreation; tourism; marine manufacturing; defence; aggregate extraction; energy generation and infrastructure development; seabed assets. This issue is beyond the scope of this SEA

Assessment methodology

This SEA reflects the geographical scope (section 1) and fishing activity covered by the proposed FMP. It considers the goals of the Southern North Sea and Channel skates and rays FMP and the measures (section 1) it sets out to achieve these goals.

The assessment reviewed existing evidence on the current state of the marine environment, which included the impact of fishing within the baseline state (section 3).

It assessed the nature and extent of likely effects of the Southern North Sea and Channel skates and rays FMP (including its policies and measures) on those environmental issues scoped into the assessment and where applicable their associated UK MS descriptors identified in the above section.

As the FMP is a strategic programme of work, the SEA will consider the potential positive and negative environmental effects of management options in the context of

the UK MS descriptors. This SEA will also consider the in-combination effects and interactions of this FMP with other plans and projects, including Marine Plans and other FMPs.

More detailed fisheries assessments which consider current activity are already in progress or have been completed. These assessments may be used to inform the FMP actions as they are delivered, and include:

- Defra's Revised Approach to fisheries management programme (IFCA 0-6 nautical miles, MMO 6-12 nautical miles)
- the Marine Management Organisation's (MMO) ongoing Fishery Assessment programme (outside 12 nautical miles) in England

Future delivery of the goals and objectives specified in the FMP programme may give rise to management changes such as new legislation to regulate skates and rays fishing. Such changes may have the potential to impact MPAs and their features and will be subject to more detailed assessment before being implemented.

Nevertheless, this environmental report acknowledges the likely significant effects associated with fishing activity being managed through the Southern North Sea and Channel skates and rays FMP and sets out in broad terms how the proposed FMP will seek to avoid, reduce, or mitigate significant negative effects.

During the development of the Southern North Sea and Channel skates and rays FMP, advice from Statutory Nature Conservation Bodies (SNCBs) (Natural England and JNCC) on the impacts of fishing activity in relation to MPAs and UK MS descriptors was considered. This ER reviews how this advice has been reflected in the proposed FMP, and how the proposed policies and actions could change the baseline.

It is important to note the Southern North Sea and Channel skates and rays FMP contains a range of policies and fisheries management measures that vary in their stage of development, depending upon the evidence available to support their implementation. The level of detail possible for our environmental assessment depends upon the stage of development of the policies and measures of the FMP at the present time.

This assessment acknowledges the Southern North Sea and Channel skates and rays FMP sets out goals to develop the evidence base around the Southern North Sea and Channel skates and rays fisheries. Our assessment used the best available evidence at the present time to reach a judgement on the environmental effects of the Southern North Sea and Channel skates and rays FMP.

The detail of the environmental assessment is covered in section 5.

3. Environmental baseline

Summary of the current state of the UK marine environment

Section 3 provides a summary of the current state of the UK marine environment for each of the environmental issues screened into this SEA, and where applicable their associated UK MS descriptors. The SEA has been conducted against the environmental baseline set out in these sources of existing information. We acknowledge that there are some uncertainties and evidence gaps in the environmental baseline. However, we consider that this environmental baseline provides a comprehensive level of information to undertake an effective assessment and provide informed evidence-based recommendations. Where required, further detailed assessments using additional evidence will be completed ahead of the implementation of FMP measures.

It is likely that without the proposed FMP, those issues which are contributing to the current state of the marine environment will likely continue to have an influence. The proposed FMP seeks to promote the management of the fisheries in a more coherent and coordinated manner that considers wider environmental issues. The FMP therefore has the potential to improve the current state of the environment set out below, both where no improvement has been observed, and where positive trends have been identified. Section 6 and 7 considers how the implementation of the FMP's proposed policies and actions could change the baseline.

Biodiversity, flora, fauna and geodiversity⁵ (geology and sediments)⁶

The primary source of information on the current state of the UK marine environment came from the UK MS descriptor status assessments: [The updated UK Marine Strategy Part 1](#), published in 2019. The impact of fishing has been considered as part of the assessment on the UK MS descriptors, therefore information on the impact of fishing activity on the marine environment has been included in the sections below as part of the baseline. For further information on the baseline related to UK MS descriptors see Appendix B.

5 Geodiversity is defined as the natural range of rocks, minerals, fossils, landforms, topography, sediments and soils together with the natural processes which form and alter them.

6 Geodiversity (Geology and sediments) issue has been combined with the Biodiversity, Flora, and Fauna section as benthic habitats is relevant to these issues.

D1 and D4 – cetaceans

Cetaceans (whales and dolphins) are an important marine ecosystem component that contributes to overall levels of biodiversity (D1). In addition, as top predators, the abundance of cetaceans can also provide some understanding on how the food web is functioning (D4).

The current status of cetaceans for both the North Sea and Celtic Sea is mixed. While there are some aspects that are in line with the achievement of GES, much of the picture is unclear. The impact of various net fisheries is leading to bycatch that, in places, might be impacting long term population viability of harbour porpoise.

Other than for a limited number of coastal bottlenose dolphin populations, it is unclear whether the abundance and range of most cetacean species can be considered in line with GES. Fisheries and the removal of prey species is one of several activities/ pressures that have the potential to result in changes in cetacean abundance and distribution. For more information, read [UK MS Cetaceans assessment](#).

D1 and D4 – seals

Seals are an important marine ecosystem component that contributes to overall levels of biodiversity (D1). In addition, as top predators, seal productivity can also provide some understanding and insight as to how the food web is functioning (D4).

Grey seal populations and productivity continue to increase, and targets are being met. Bycatch (largely in tangle/ trammel nets) is occurring but not at levels that threaten population viability. For harbour seals, the status is not in line with GES where population declines have occurred in some areas. The cause is unknown. It is not thought to be linked to bycatch as occurrences are rare and there is no indication that it is linked to other pressures associated with fishing. For more information, read [UK MS seal biodiversity assessment](#).

D1 and D4 – Birds

Birds are well monitored species that are an important marine ecosystem component that contributes to overall biodiversity (D1). In addition, as top predators, the abundance of birds can also provide some understanding and insight as to how the wider food web is functioning (D4).

Seabird populations are currently below the level that is considered to meet GES, and the situation is deteriorating. Some declines in breeding success have been linked to prey availability caused by climate change and/ or past and present fisheries. Invasive predatory mammals are also known to impact breeding success on island colonies. The impact of bycatch will be included in future assessments and

current evidence suggests that some longline and static net fisheries could be having possible population level impacts on certain species. For more information, read [UK MS marine bird biodiversity assessment](#).

D1 and D4 – Fish and D3 – commercially exploited fish and shellfish

Fish are an important ecosystem component that contributes to overall levels of biodiversity (D1). In addition, fish of different species have a significant role in marine food webs (D4), acting as both predators and prey. Some fish species are commercially exploited, and only a proportion of these have managed quotas. Over exploitation can lead to a decline in stocks (D3) which can reduce both future commercial opportunities and have wider ecological impacts.

The current status of [fish communities](#) in the UK is primarily shaped by historical over-exploitation by fisheries, while ongoing over-exploitation continues to be a notable contributing factor. Improved fisheries management since the 1990s has resulted in more stocks being fished at or below MSY levels so, although the target is not yet met, there is a positive trend. Improved fisheries management has also resulted in some positive trends in fish communities beyond the targeted stocks. For more information, read, [UK MS fish biodiversity assessment](#) and [UK MS commercial fish and shellfish assessment](#).

D1 & D6 – benthic habitats

Benthic habitats are an important ecosystem component that contributes to overall levels of biodiversity (D1). It is also important to ensure the structure and function of the benthic ecosystems is adequately safeguarded by considering seafloor integrity (D6).

There is widespread disturbance of seabed habitats by demersal towed gear and other marine activities, and this is preventing the achievement of GES. Other impacts from non-fisheries activities may also be having an influence, but to a much lesser degree. For more information, read [UK MS benthic biodiversity and seafloor habitats assessment](#).

D4 – food webs

Food webs (D4) are the network of predator-prey relationships that occur in the marine environment, from phytoplankton to top predators such as birds or seals. Fish communities are a key component of food webs. Knowledge of food webs allow understanding of how changes at one trophic level can impact those above and below it.

Historic fishing activity which has contributed to the current environmental baseline, has had a large impact on fish community structure which is a key component of

marine food webs. With improved fisheries management focusing on stocks, some recovery is occurring. However, the management of fish stocks solely to safeguard future fisheries will not necessarily lead to all food web targets being met. Changes in plankton are likely driven by prevailing environmental conditions, but other impacts cannot be ruled out. For more information, read [UK MS food webs assessment](#).

Water quality

D10 – marine litter

Marine litter, including from fishing activities, is a significant pressure on marine ecosystems and water quality. The UK has not yet achieved its aim of GES for litter. Beach litter levels in the Celtic Seas have remained largely stable since the assessment in 2012, whilst beach litter levels in the Greater North Sea have slightly increased. Waste fishing material is a component of beach litter. Both floating litter and seafloor litter remain an issue, with plastic the predominant material. Achieving GES for marine litter requires improved waste management practices, the reduction of lost or discarded fishing gear, and increased awareness and monitoring of the issue. For more information, read [UK MS litter assessment](#).

D11 – underwater noise

Underwater noise from fisheries, while not the primary source, can still contribute to the overall noise pollution in the marine environment. Fishing vessels will contribute to underwater noise through sonar, engine noise, gear interacting with seabed and deploying and retrieving gear.

The achievement of GES for underwater noise in the UK is uncertain. Research and monitoring programmes established since 2012 have provided an improved understanding of the impacts of sound on marine ecosystems. However, achieving GES for underwater noise will require better understanding and monitoring of the issue, as well as the development and implementation of strategies to manage noise pollution from various sources. For more information, read [UK MS underwater noise assessment](#).

Climatic factors

Climate change impacts are not part of the UK MS, therefore evidence from other sources was used to provide baseline information in relation to this issue. Statistics from the Department for Business, Energy & Industrial Strategy (BEIS), Department for Transport (DFT) and Engelhard et al (2022) report on Carbon emissions in UK fisheries, were used to identify the contribution UK fishing fleets have to the total carbon emissions at sea each year.

Vessel emissions

For 2019, estimated emissions by the UK fishing fleet (802 kt CO₂e) would have represented 0.18% of the UK's total territorial emissions (455 Mt CO₂e)⁷, or 0.66% of the UK's domestic transport emissions (122 Mt CO₂e)⁸. To put this into context, estimated emissions by the UK fishing fleet would have been equivalent to 1.7% of total agricultural emissions in 2019 (46.3 Mt CO₂e).

Recent analysis has shown that the total UK fishing fleet segment using demersal trawls and seines, which comprises of 402 vessels, produced approximately 30% (249kt CO₂e) of the total carbon emissions at sea each year across the UK's fishing fleets. Drift and fixed net fisheries (237 vessels) produced approximately <2% (13kt CO₂e), and beam trawls (73 vessels) produced approximately 13% (107kt CO₂e). Whilst passive gears are generally less emission-intensive than mobile gears, quantification of carbon emissions across the fishing fleet supply chain (for example, preharvest through to postharvest) is required to truly understand the fisheries carbon footprint.

Blue carbon

Certain marine habitats including seagrass, kelp and muddy sediments, are able to capture and store carbon and are known as blue carbon habitats. Currently there is no comprehensive assessment of the impact of fishing using mobile demersal gear on organic carbon stocks. A new cross-Administration [UK Blue Carbon Evidence Partnership](#) has been formed to improve the evidence base on blue carbon habitats in UK waters, advancing our commitment to protecting and restoring blue carbon habitats as a nature-based solution. Through the partnership, announced at Conference of the Parties 26 (COP26), UK Administrations will work together to address key research questions related to blue carbon.

Climate change impacts on skate and ray stocks and fisheries

The future of climate impacts in the Southern North Sea and English Channel are not very well understood. Further research on the impact of climate change on the fisheries covered under this FMP will be carried out.

7 BEIS ([Department for Business, Energy & Industrial Strategy](#)) (2021b) [2019 UK Greenhouse Gas Emissions: Final Figures – Statistical Summary](#).

8 DfT ([Department for Transport](#)) (2021) [Statistical Release: Transport and Environment Statistics 2021 Annual Report, 11 May 2021](#).

Cultural heritage

The definition of the 'marine and aquatic environment' in the Fisheries Act 2020 (section 52) includes features of 'archaeological or historic interest in marine or coastal areas. These features should be regarded as part of the wider marine environment.

Cultural heritage impacts are not part of the UK MS, therefore evidence from other sources were used to provide baseline information in relation to this issue.

The [Fishing and the Historic Environment](#) report produced by Historic England was used as the primary source of information on the interactions between commercial fishing and the marine historic environment in English waters.

The report identifies that positive and negative interactions can arise when archaeological material present on the foreshore and seabed is encountered during commercial fishing.

The following interactions between fishing gear and marine heritage assets can occur⁹:

- interactions with drift nets and pelagic long lines have a low significance resulting from entanglement and snagging on marine heritage assets
- demersal trawl and dredge gears are widely used and are most likely to interact with marine heritage assets. Direct interactions with heavy bottom gears, are likely to be significant. However, some archaeological resources may not be discovered without interactions with fishing gear, and therefore significance of the interaction with findspots¹⁰ is moderate because of both positive and negative impacts
- interactions with demersal seine netting may have a low to moderate significance resulting from limited interaction with the seabed by the ropes used to haul the seine net
- interactions with static/passive demersal nets and long lines may have a low to moderate significance resulting from a higher likelihood of entanglement and snagging, and anchoring impacts

The report identifies several potential and evidenced interactions between commercial fishing and marine heritage assets. However, given the anecdotal nature

9 Information derived from [Fishing and the Historic Environment, page 44](#).

10 Findspots: The place where one or more artefacts have been found. May prove to be associated with a site, other finds, natural features etc., or isolated (no apparent relationship).

of many of these interactions, a comprehensive assessment of the extent of interactions and their impacts is currently not available for English waters.

Landscape and seascape

There is no legal definition for seascape in the UK, but the [European Landscape Convention \(ELC\)](#) defines landscape as “an area, as perceived by people, whose character is the result of the action and interaction of natural and/or human factors” and includes land, inland water and marine areas. In the context of the [Marine Policy Statement \(MPS\)](#) a seascape has been set out to mean landscapes with views of the coast or seas, and coasts and the adjacent marine environment, (including the underwater environment), with cultural, historical and archaeological links with each other.

The ‘value’ of many of the UK’s seascapes is reflected in the range of designations which relate in whole or in part to the scenic character of a particular area, (e.g. Area of Outstanding Beauty (AONB), Heritage Coast, National Scenic Area), however the ELC and MPS (and most recently seascape assessments covering the English Marine Plan regions) define landscape and how they are to be considered in more general terms, acknowledging the value of all landscapes whether or not they are subject to designation¹¹.

The seascape constitutes of a suite of different characteristics that include natural factors, cultural and social factors and cultural associations. Under these character headings exists a number of subheadings that include Geology, Seabed, Tides and Coastal processes (natural factors), Surface water features, Sunken and Buried Features and Use of Coast and Sea (cultural and social factors) Media, People and Writers (cultural associations)¹².

Fishing and commercial fishing vessels are considered as seascape features and activities. Fishing ports and related fishing infrastructure are considered as landscape features¹³. Fishing therefore is an important component of the overall landscape and seascape character.

11 [UK Offshore Energy Strategic Environmental Assessment - scoping \(publishing.service.gov.uk\)](#)

12 Figure 1, Page 9. On webpage - [An Approach to Seascape Character Assessment](#)

13 Figure 2, Page 10. [On webpage An Approach to Seascape Character Assessment](#)

Fishing activity using demersal towed gear has been identified as causing damage to submerged peaty deposits known as moorlog¹⁴. However, a comprehensive assessment of the extent of interactions and their impacts is currently not available for English waters. Conserving moorlog as potential blue carbon habitats might contribute to climate change mitigation and adaptation.

Existing environmental effects of Southern North Sea and Channel skates and rays fishing

UK and EU vessel landings data for 2012-2021 show that skate and ray species in the Southern North Sea and English Channel are caught using a range of gears. Approximately 75% of the landings come from the use of mobile demersal gear, (for example beam trawls, and otter trawls), around 20% of the landings of skates and rays comes from drift and fixed nets, approximately 3% comes from demersal seines and 1.5% from longlines.

Fishing using mobile demersal fishing gear is considered to be the main driver of physical disturbance of the seabed. It has been identified as having a significant influence on the current baseline and is a contributing factor in the failure for the UK to reach GES for descriptor D6 Seabed Integrity (section 3).

Drift and fixed nets that make up a sizable proportion of the skate and ray fishery in the Southern North Sea and English Channel, have been identified as presenting a high bycatch risk to cetaceans and birds. They are potentially impacting mobile MPA species (birds, marine mammals and fish) and contributing to failure for the UK to reach GES for descriptor D1 biodiversity (section 3).

The Southern North Sea and Channel skates and rays FMP focuses on achieving the sustainable harvesting of stocks. This focus seeks to reduce the environmental risks linked to over-fishing these stocks, thereby giving positive benefit to environmental status.

As described in Section 2, this Environmental Report focuses on assessing how the policies, measures and actions in the Southern North Sea and Channel skates and rays FMP are likely to give rise to both significant positive and negative environmental effects. More detailed fisheries assessments which consider current activity are already in progress or have been completed. These assessments may be used to inform the FMP actions as they are delivered, and include:

¹⁴ Ward, Ingrid, and Piers Larcombe. "Determining the preservation rating of submerged archaeology in the post-glacial southern North Sea: a first-order geomorphological approach." *Environmental Archaeology* 13.1 (2008): 59-83.

- Defra's Revised Approach to fisheries management programme (IFCA 0-6 nautical miles, MMO 6-12 nautical miles)
- the Marine Management Organisation's (MMO) ongoing Fishery Assessment programme (outside 12 nautical miles) in England

Nevertheless, fishing within sustainable limits for the target stocks (MSY or appropriate proxies) may reduce but will not eliminate all the negative impacts of that fishing activity on the wider marine environment. These impacts are identified in the sections below.

Biodiversity, flora, fauna and geodiversity, water quality: environmental effects associated with MPAs

Advice provided to Defra by our SNCBs gives more detail on the risks associated with fishing for skate and ray species in the Southern North Sea and English Channel in relation to the designated features of MPAs in English waters.

There are three primary ecological risks to MPA features arising from the gear types associated with skates and rays' fisheries; removal of target species, removal of non-target species, and impacts on habitats. These impacts can affect the designated features of MPAs both inside and outside the boundaries of MPAs.

In England the assessments of the impact of fishing activities inside MPAs are undertaken by the IFCA's within 6nm and the MMO outside 6nm. Figure 1 shows the distribution of English MPAs. Stakeholders have worked/will work closely with regulators to help develop measures to mitigate impacts within inshore and offshore MPAs. Appropriate management is or will be in place to ensure any fishing within MPAs is compatible with the MPA's conservation objectives. Current management measures already in place are detailed on the [MMO](#) and [Association of IFCA's](#) websites.

Figure 1. England's MPA network

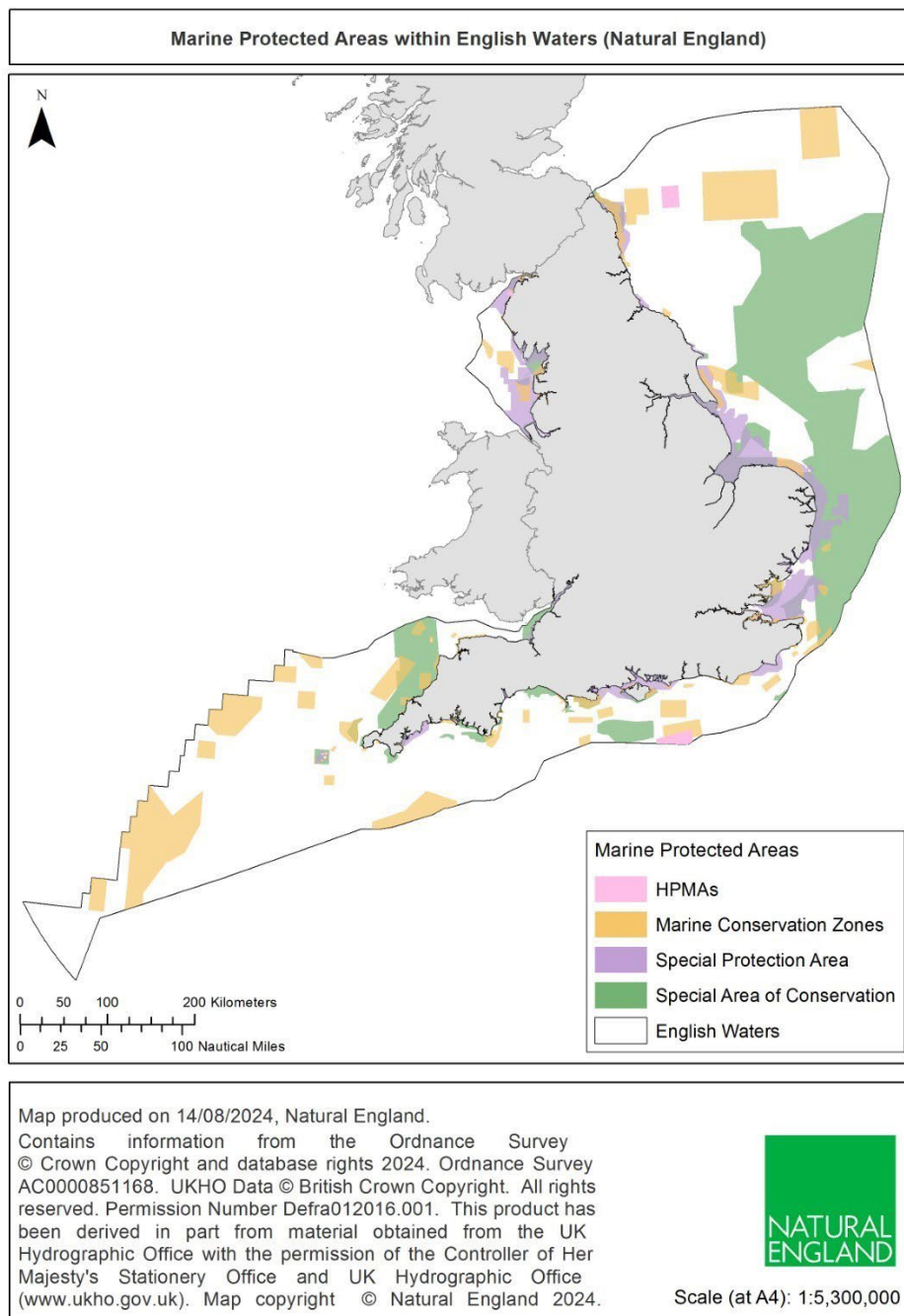


Figure 1 description: a map showing the location of marine protected areas within English waters. The map includes marine conservation zones, special areas of conservation and special protection areas.

- MPAs hug much of the English coastline, especially around ecologically rich areas such as estuaries, salt marshes, and rocky shores. Clusters exist near places like Cornwall, Devon, Dorset, and the Northumberland coast

- large offshore MPAs spread across the North Sea, English Channel, and parts of the Celtic Sea
- the southwest contains a number of MPAs up against the boundary of the UK exclusive economic zone

Whilst existing MPA site management considers fishing activity that occurs within the site's boundaries, there remains the potential for fishing activity outside MPAs to have impacts on the features protected within the MPA. These impacts can occur when either the pressure exerted by the fishery impacts protected features beyond the spatial footprint of a particular fishing activity, (such as prey depletion), or when the feature of an MPA is mobile and travels outside the site.

Advice provided to Defra by the Statutory Nature conservation Bodies (SNCBs) on the impact of fishing activity outside the boundary of MPAs on MPA features identified the following key risks¹⁵.

There is a moderate risk of bycatch of mobile species that are designated features of MPAs in demersal trawls

Whilst these gears are associated with occasional bycatch of designated seabirds and marine mammals, results from the Bycatch Monitoring Programme suggest that risks are much lower for pelagic gears than for static nets. However, due to the episodic nature of bycatch incidences and the relatively low sampling efforts, risk will vary greatly over space and time. Strategic actions to improve the evidence base and implement appropriate mitigation is required.

In the short-term improvements to achieve greater certainty in bycatch estimates would result from a more systematic approach to data collection, particularly large offshore pelagic fisheries. This approach would also generate better understanding

15 Risk ratings were assigned as follows:

Low Risk MPAs: Although there might be a theoretical impact pathway, evidence of an actual occurrence is either absent or suggests minimal impacts at the relevant scales for the considered FMP.

Moderate Risk MPAs: Interactions deemed as moderate risk typically have an evidenced impact or expert judgment indicates a genuine risk. However, the overall impact level might be ambiguous, possibly due to limited spatial overlap between gears and protected features, significant impact fluctuations over space and time, or differences between fisheries in the FMP and those from which the evidence base was derived.

High Risk MPAs: Interactions identified as high risk are those where available evidence or expert opinion suggests a scale that is concerning relative to MPA conservation objectives. The fishing activities managed by the FMP may significantly contribute to these risks.

of the temporal and spatial patterns of bycatch estimates, and demographic information about which individuals are bycaught. This information could then be used to highlight species and areas most at risk and enable possible pilot area(s) for more focussed development of mitigation trials and monitoring to be identified with stakeholders.

Ongoing work focusing on understanding and mitigating the impact of bycatch on the wider population is being progressed through Defra's Marine wildlife bycatch mitigation initiative (BMI) and also the Clean Catch UK programme. This work is crucial to helping mitigate bycatch risks and evidence gaps identified in this advice, however an action plan to deliver the BMI has not yet been published. Building the evidence base through self-reporting of bycatch events may help support future iterations of this assessment. However, the implementation of Remote Electronic Monitoring (REM), prioritised by risk¹⁶ would vastly improve our knowledge of, and ability to mitigate, designated species bycatch.

There remains a high risk of bycatch of marine mammals and seabirds in static nets

Static nets pose a high bycatch risk to all three marine mammal species that are features of MPAs in English waters and are considered the gear type responsible for the highest level of marine mammal bycatch in UK waters. To address this issue, it is recommended that further mitigation measures be developed and implemented to reduce the bycatch risk in gillnet fisheries. This is likely to be set out by modifications to gear design, changes in fishing practices, and the establishment of spatial or temporal closures in areas of high bycatch risk. Expansion of the mandatory fitting of active acoustic deterrent devices (ADD) to the small-scale fishery for cetacean bycatch mitigation and trialling new seabird bycatch mitigation options such as illuminating fishing nets with green light emitting diodes (LEDs), should be considered. Currently, mitigation is considered weak for cetaceans and seabirds of the gillnet fishery of which the Channel and SNS skates and rays' fishery is a component¹⁶.

There remains a high risk of seabird bycatch in longlines

The incidental capture of non-target species, particularly seabirds, constitutes a prominently reported threat to biodiversity within longline fisheries. Seabird bycatch mitigation options for longlines should be considered, such as the addition of

¹⁶ French, N., Pearce, J., Howarth, P., Whitley, C., Mackey, K., Nugent, P., 2022. Risk based approach to Remote Electronic Monitoring for English inshore fisheries. Natural England Commissioned Reports, Number 437

weights to longlines and the use of streamer lines which have been demonstrated to reduce bycatch by as much as 76%¹⁷ and 99%¹⁸ respectively. Data limitations regarding the inshore region, where bycatch rates may be elevated due to closer proximity to seabird breeding colonies, need to be addressed.

Overall, short-term improvements to achieve greater certainty in bycatch estimates would result from a more systematic approach to data collection, particularly in inshore fisheries. This approach would also generate better understanding of the temporal and spatial patterns of bycatch estimates, and demographic information about which individuals are bycaught. This information could then be used to highlight species and areas most at risk and enable possible pilot area(s) for more focussed development of mitigation trials and monitoring to be identified with stakeholders. Additionally, a risk-based prioritisation of Remote Electronic Monitoring (REM)¹⁶ could prioritise seabirds for a set number of years to improve data collection.

Biodiversity, flora, fauna and geodiversity, water quality: environmental effects associated with UK MS Descriptors

Advice provided to Defra by the SNCBs gives more detail on the key risks to UK MS descriptors arising from fishing of skate and ray species in the Southern North Sea and English Channel and their likely impact on achieving GES (Appendix A).

The following potential issues and their associated risk level¹⁹ have been identified for the fishing of skate and ray species in the Southern North Sea and English Channel on UK MS descriptors:

17 Melvin, E.F., 2001. Solutions to seabird bycatch in Alaska's demersal longline fisheries. Washington Sea Grant Program, University of Washington report.

18 Løkkeborg, S., 2008. Review and assessment of mitigation measures to reduce incidental catch of seabirds in longline, trawl and gillnet fisheries. FAO Fisheries and Aquaculture Circular. No. 1040. Rome: FAO.

19 **GES rapid risk assessment categories:** Low risk means some risk does exist, but the impact may not be of a scale to impact upon GES descriptors. Moderate risk means there is clear link between the fishing activity and the GES indicator, but other activities also significantly contribute to the current indicator status, where high-risk activity only makes up a small proportion of the fishery. High risk means the link between fishing activity within the FMP and the failure to meet the GES indicator is recognised. 'Risk unclear' is used where the situation is complex, and more work is required to understand the true nature of risk.

Benthic disturbance related pressures associated with towed demersal gear:

There is a concern around benthic disturbance and the contribution to the current failure to meet targets for D6 seafloor integrity. This will also have associated impacts on D1 biodiversity and D4 food webs. This is considered a high-risk issue as there is a clear link between activity and failure to meet GES indicator targets²⁰

The impact of bycatch of species on D1 biodiversity and its relation to D4 food webs:

SNCB assessment of key risks identified gillnets pose a high risk to the biological diversity of cetaceans. Trammel nets and demersal trawls pose a moderate risk to cetaceans owing to the small spatial footprint of the fishery. Longlines pose a high risk to the biological diversity of seabirds. Static nets and demersal trawls pose a moderate risk to seabirds owing to the small spatial footprint of the fishery. The SNCB advice follows a precautionary stance given the significant data gap. As further evidence is collected and analysed, the perceived risk may adjust to a level lower than presently ascertained.

Note that as well as being relevant to GES, the Fisheries Act ecosystem objective requires that 'incidental catches of sensitive species are minimised and, where possible, eliminated'. The risk to commercial fish species is also relevant to the bycatch objective of the Fisheries Act, and management brought in to meet this objective should contribute to achieving GES targets for D3 commercial fish and D4 food webs

The contribution to fishing related litter (D10):

Loss of gear such as trawls and nets will add to overall levels of fishing related litter within the sea and can have unintended consequences, such as ghost fishing. Consideration of how best to avoid or minimise loss and achieve sustainable end of life disposal is important. This risk is considered moderate

Developing and implementing measures to achieve sustainable harvesting of skate and ray species stocks in the Southern North Sea and English Channel reduces the risks associated with achieving targets for D3 Commercial fish.

²⁰ Read Extent of physical damage to predominant seafloor habitats. Note these figures will be revised soon as a fresh assessment by JNCC has been undertaken.

Climatic factors

Vessels fishing for skate and ray species in the Southern North Sea and English Channel contribute to the total carbon emissions at sea each year by the UK's fishing fleets. While the estimated emissions by the UK fishing fleet represents a small proportion of overall emissions in the UK, decarbonising the fleet and moving towards net zero will help reduce the contribution of fisheries activities to climate change.

No conclusive evidence is currently available on the impact of fishing activity for skate and ray species in the Southern North Sea and English Channel on organic carbon stocks. However, the impact of towed demersal gear on blue carbon is of concern. Improved recording of the intensity of fishing using this gear on the seabed more broadly will help any future assessment of any effects on organic carbon stocks when the evidence base on blue carbon habitats in UK waters improves.

Cultural heritage

Fishing activity can have both positive and negative effects on marine heritage assets. The positive effects relate to the discovery of marine heritage assets during fishing activity, with both past and future discoveries OR findspots often reliant on fishing gear interactions. Negative effects can be caused by physical disturbance to cultural heritage on and within the seabed. Specific effects include: impeded access and interpretation of assets by fishing gear (e.g. nets, lines and ropes) collecting around physical structures; direct damage of assets by gear, usually towed gear, causing irreparable alteration to physical structures; burial of archaeological material by sediment during fishing practices; removal of the archaeological material from the seabed during fishing practices; and transferal of archaeological material from its original place on the seabed during fishing practices. Avoiding negative interactions with marine heritage assets will help to conserve them for their enjoyment by future generations.

Benthic towed gear has been identified to cause damage to marine heritage assets. Historic England have evidence of two recent examples of damage from fishing activity to designated heritage assets, the Klein Hollandia (aka Eastbourne Wreck, LEN [1464317](#)) and the Rooswijk (LEN [1000085](#)).

The marine historic environment also plays an important role in providing ecosystem services in relation to nature conservation, sea angling, recreational diving and commercial fishing. Marine heritage assets, particularly ship and plane wrecks, can provide habitats for marine life, with fish often aggregating around them for refuge or to feed. Avoiding negative interactions with marine heritage assets that act as

habitats can positively contribute to the conservation of the wider marine environment.

Landscape and seascape

Fishing activity above the surface is considered a feature of the marine seascape, therefore the presence of trawling vessels is not considered to have a negative effect on this aspect of the seascape character.

Fishing activity using demersal towed gear has the potential to cause physical disturbance of the seabed and therefore could impact deposits associated with prehistoric landscapes that are now submerged by sea-level rise. These former landscapes, referred to as moorlog, are often represented by peaty and other fine-grained deposits. Examples of these prehistoric landscapes and deposits can be found in the Dogger Bank region²¹.

The impact of demersal towed gear on the seabed is also considered as part of the GES Descriptor D6 – Seabed Integrity.

4. Relevant plans, programmes and environmental protection objectives

The Southern North Sea and Channel skates and rays FMP has broad application since it covers an activity that occurs across English waters. Consequently, the plan will interact with a range of established national legislation, plans and programmes, and international agreements and declarations signed by the UK.

The Southern North Sea and Channel skates and rays FMP applies to English waters, therefore when preparing FMPs, the relevant fisheries policy authorities are required to have regard to this existing regulatory structure.

The sections below set out those plans, programmes and environmental protection objectives that Defra consider relevant to the implementation of the Southern North Sea and Channel skates and rays FMP. The Southern North Sea and Channel skates and rays FMP could interact with other relevant plans and projects. Any cumulative impacts will also be considered in any future assessments ahead of implementing measures.

21 Coles, Bryony J. "Doggerland: a speculative survey." Proceedings of the Prehistoric Society. Vol. 64. Cambridge University Press, 1998.

International

The Southern North Sea and Channel skates and rays FMP has had regard to the commitments the UK has made under the following international agreements and declarations during its preparation:

- [Trade and Cooperation Agreement \(TCA\) between the EU and the UK](#)
- [UN Fish Stocks Agreement 1995](#)
- [UN Convention on the Law of the Sea \(UNCLOS\)](#)
- [UN Sustainable Development Goals](#)
- [UN Convention on Biological Diversity \(CBD\)](#)
- [Convention on the Conservation of Migratory Species of Wild Animals \(CMS\)](#)
- [RAMSAR Convention](#)
- [Convention on International Trade in Endangered Species of Wild Fauna and Flora \(CITES\)](#)
- [Convention for the Protection of the Marine Environment of the Northeast Atlantic \(OSPAR\)](#)
 - The OSPAR Quality Status Report is a key resource when looking at the environmental impact of fisheries in the Northeast Atlantic.
- Regional Fisheries Management Organisations (RFMOs): The UK is an independent Contracting Party to [NEAFC – Northeast Atlantic Fisheries Commission](#) relevant to stocks being managed through the FMP:
- [Convention for the Protection of the Archaeological Heritage of Europe](#)
- [Council of Europe Landscape Convention](#)

Domestic

The Southern North Sea and Channel skates and rays FMP has had regard to the following national legislation, plans and programmes during its preparation:

Marine protected areas

FMPs are required by law to consider the implications of the fishing activity they manage for designated sites, primarily Marine Protected Areas (MPAs). Special Areas of Conservation (SACs) and Special Protection Areas (SPAs) are protected under the Conservation of Habitats and Species Regulations 2017, known as the Habitats Regulations. Marine Conservation Zones (MCZs) are protected by the Marine and Coastal Access Act 2009. The MPA network [covers 38% of UK waters](#). Relevant or public authorities, (including fisheries regulators), assess human activities that could interact with the designated features of MPAs, seek the advice of the Statutory Nature Conservation Bodies (SNCBs) and introduce management where required. The Southern North Sea and Channel skates and rays FMP will

support the management of fishing activity in MPAs. When implementing any actions arising from the FMP that overlap with European Marine Sites (SACs and SPAs and MCZs) or their designated features, an assessment will be undertaken prior to implementation, to assess the likely effects of the action on the conservation objectives of the site.

Marine regulators also have responsibilities relating to Sites of Special Scientific Interest (SSSIs) under the Wildlife & Countryside Act 1981 and Natural Environment & Rural Communities Act 2006. Ramsar sites, (wetlands of international importance), designated under the Ramsar Convention, are often underpinned by SSSIs but are afforded the same protection at a policy level as SACs and SPAs. Appendix C lists the different types of MPA and relevant designations in the UK.

Highly protected marine areas

Highly Protected Marine Areas (HPMAs) are areas of the sea (including the shoreline) that allow the protection and full recovery of marine ecosystems. By setting aside some areas of sea with high levels of protection, HPMAs will allow nature to fully recover to a more natural state, allowing the ecosystem to thrive.

HPMAs will protect all species and habitats and associated ecosystem processes within the site boundary, including the seabed and water column. For large HPMAs, resultant displacement may lead to the intensification of fisheries pressure that will require assessing and potentially addressing if unduly exacerbating existing pressures.

The first three Highly Protected Marine Areas (HPMAs) designations in English waters came into force on 5 July 2023.

The three sites are:

- Allonby Bay
- North East of Farnes Deep
- Dolphin Head

Any actions arising from the FMP that overlap with HPMAs will comply with the conservation objectives for designated features.

Conservation of Habitats and Species Regulations 2017 and Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019

The [Conservation of Habitats and Species Regulations 2017](#) include provisions for: protecting sites that are internationally important for threatened habitats and species

(European marine sites) and provide a legal framework for species requiring protection (European protected species). [The Conservation of Habitats and Species \(Amendment\) \(EU Exit\) Regulations 2019](#) sets out changes to made to the 2017 Regulations to ensure the regulations operate effectively in English and Welsh waters. The Southern North Sea and Channel skates and rays FMP will support the protection of protected sites and species.

The Conservation of Offshore Marine Habitats and Species Regulations 2017

[The Conservation of Offshore Marine Habitats and Species Regulations 2017](#) include provisions for the designation and protection of areas that host important habitats and species in the offshore marine area. The Southern North Sea and Channel skates and rays FMP will seek to support the protection of offshore marine habitats and species.

Marine Strategy Regulations 2010 – UK wide

The [Marine Strategy Regulations 2010](#) requires Administrations in the UK to take action to achieve or maintain GES in UK waters. The UK Marine Strategy (UK MS) is a key pillar of marine policy in the UK. There is a clear link between the UK MS and the 'ecosystem objective' of the Fisheries Act 2020, sections 1(4) and 1(10).

The [Marine strategy part one: UK initial assessment and good environmental status](#) outlines an initial assessment of our seas and characteristics, targets and indicators of GES in UK seas.

The [Marine strategy part two: UK marine monitoring programmes](#) outlines the monitoring programmes for measuring progress towards GES in UK seas.

The [UK Marine Strategy Part Three: Programme of Measures](#) identifies FMPs as a tool to support the delivery of GES for commercial fisheries (Descriptor 3). It also recognises FMPs could, where appropriate include 'measures to mitigate the impact of fishing activity on the wider environment, including the seabed' to support the delivery of GES for other descriptors.

Marine plans – UK wide

The [Marine and Coastal Access Act 2009 \(MCAA\)](#) makes provision for the [UK Marine Policy Statement \(MPS\)](#), published 2011, and requires, (together with the [Marine Act \(Northern Ireland\) 2013](#), [The Marine \(Scotland\) Act 2010](#)), the production of marine plans where the MPS is in place. The MPS provides the framework for marine plans around the UK and sets the high-level policy context for marine

planning, including setting high-level marine objectives. Under MCAA s.58, decisions relating to the marine area should be taken in line with the Marine Plan. The Southern North Sea and Channel skates and rays FMP considers the relationship between marine spatial planning and fishing activity being managed through FMPs, and how these policies can work in a joined-up way to ensure more effective use of the marine space and resources. Further information on the marine plans in England is provided in Appendix D.

The Environment Act 2021 – UK wide

The [Environment Act 2021](#) sets out England’s commitment to protect and enhance our environment for future generations. The act seeks to improve air and water quality, protect wildlife, increase recycling and reduce plastic waste. A central pillar is an obligation for policy makers to have due regard to five environmental principles, (integration principle, prevention principle, rectification at source principle, polluter pays principle, precautionary principle), during the development of policy. Policies developed through the Southern North Sea and Channel skates and rays FMP will have due regard to these principles. Further details of the environmental principles can be found at [Environmental Principles](#).

The Environment Act 2021 also requires the government to publish an [Environmental Improvement Plan \(EIP\) 2025 - GOV.UK](#) for England. The EIP published in 2023 and updated in 2025, builds on the 25 Year Environment Plan by setting out how the government in England will work with landowners, communities and businesses to deliver goals for improving the environment. FMP policy supports the EIP by enabling the development of fisheries management tools that will contribute to securing clean, healthy, productive and biologically diverse oceans and seas. Through implementing a sustainable domestic fisheries policy, the Southern North Sea and Channel skates and rays FMP will deliver measures to secure healthy stocks that will be fished in an environmentally sustainable manner.

The Environment Act 2021 also makes provision for legally binding targets of which the targets for biodiversity and Marine Protected Areas will relate to FMPs. In addition, public authorities who operate in England must consider what actions they can take to conserve and enhance biodiversity in England. This obligation is the strengthened ‘[biodiversity duty](#)’ that the Environment Act 2021 introduced. The Bass FMP will comply with the biodiversity duty.

The Environmental Targets (Biodiversity) Regulations 2023 - England

[The Environmental Targets \(Biodiversity\) Regulations 2023](#) sets out legally binding targets to halt species decline by 2030, reverse species decline by 2042 and restore

or create over 500,000 hectares of wildlife-rich habitat by 2042. The Southern North Sea and Channel skates and rays FMP will support achieving the targets set out in the regulations as appropriate.

The Environmental Targets (Marine Protected Areas) Regulations 2023 – England

[The Environmental Targets \(Marine Protected Areas\) Regulations 2023](#) set a long-term environmental target under section 1 of the [Environment Act 2021 \(c. 30\)](#). The target set by regulation 3 is in respect of the condition of protected features in MPAs. These Regulations specify the standard to be achieved in respect of the target and the date by which it must be achieved. The Regulation specifically sets a legally binding target for at least 70% of protected features in marine protected areas to be in favourable condition by the end of 2042, with the remaining features to be in a recovering condition.

The Southern North Sea and Channel skates and rays FMP will support achieving the targets set out in the regulations.

Climate Change Act 2008 – UK wide

The [Climate Change Act 2008](#) is the basis for the UK's approach to tackling and responding to climate change. It requires that emissions of carbon dioxide and other greenhouse gases are reduced and that climate change risks are adapted to. The Act also establishes the framework to deliver on these requirements. The Southern North Sea and Channel skates and rays will support policies to meet targets to achieve net zero by 2050 as set out in the legislation.

Marine wildlife bycatch mitigation initiative – UK wide

The [Marine wildlife bycatch mitigation initiative](#) outlines how the UK will achieve its ambitions to minimise and, where possible, eliminate the bycatch of sensitive marine species. This initiative brings together, and builds on, existing work such as the UK Bycatch Monitoring Programme and [Clean Catch UK](#), recognising that further actions need to be taken if we are to achieve our objectives. The Southern North Sea and Channel skates and rays FMP will support this initiative by contributing to mitigating the negative impacts of fishing activity as appropriate.

Water Environment Regulations (Water Framework Directive)

The Water Environment, (Water Framework Directive) (England & Wales), Regulations 2017 (referred to as the WFD Regulations) provide a framework for assessing and managing the water environment, which includes estuaries and

coastal waters in England. The Southern North Sea and Channel skates and rays FMP will support achieving the targets for water quality set out in the regulations.

[River Basin Management Plans \(RBMPs\)](#) produced under the Water Environment Regulations, provide the overarching framework for water management to help protect and improve our water environment. RBMPs extend out to 1 nautical mile from the baseline into the marine environment and seek to maintain or restore Good Ecological Status²² within the area they cover. The Southern North Sea and Channel skates and rays FMP will support the objectives in the relevant RBMPs to meet Good Ecological Status.

Other FMPs

Defra and our delivery partners considered the interaction between the published FMPs and this tranche of plans whilst drafting this FMP. The Southern North Sea flatfish FMP overlaps with the Southern North Sea and Channel skates and rays FMP spatially over ICES areas 4b and 4c. Measures applied to flatfish will likely impact the fisheries under the sphere of this FMP.

The Channel Demersal Non-Quota Species FMP imposes management on a number of species in the Southern North Sea and Channel skates and rays FMP. While these FMPs are spatially distinct, interconnectivity of stocks will likely mean management in one FMP will influence the other.

The Southern North Sea Non-Quota demersal FMP currently in development will share some synergies with the Southern North Sea and Channel skates and rays FMP. While the focal species of the FMPs are distinct, spatial overlap will apply to the same demersal fisheries.

The Southern North Sea and English Channel skates and rays FMP will have spatial overlap with the published bass and shellfish FMPs. This may include overlap of demersal fisheries.

The interaction between other FMPs will be further considered when monitoring the effectiveness of plans. Any necessary adaptations would be built into the plan's ongoing implementation and adjusted in future revisions of the FMP.

²² Good ecological status (GES) is a metric for assessing the health of the water environment. It is assigned using various water flow, habitat and biological quality tests. Failure to meet any one individual test means that the whole water body fails to achieve good ecological status. Source: Department for Environment, Food and Rural Affairs (DEFRA) ([WQR0028](#))

Other localised plans

[Explore Marine Plans \(EMP\)](#) is an online interactive tool developed by the Marine Management Organisation (MMO) to allow a user find and view spatial marine activity data for the English marine area, information on marine planning licences relating to a specific area, and marine plan policy information.

The Southern North Sea and Channel skates and rays FMP will use this tool to identify where the plan could interact with other relevant marine activities, plans or projects. Any necessary adaptations would be built into the plan's ongoing implementation and contribute to future revisions of the FMP.

5. Assessment of environmental effects

The environmental baseline information (section 3) shows that the marine environment is subject to a range of pressures from human activities. Fishing-related activities form only part of the contribution of these pressures to the current state of our marine environment.

The present assessment acknowledges the evidence that shows those pressures that are largely derived from fishing activity and can impact the marine environment directly. Fishing can also contribute to other environmental effects when considered in-combination with other processes and activities.

Section 5 assesses the environmental effects of the policies and actions of the Southern North Sea and Channel skates and rays FMP in relation to the environmental issues screened into this SEA, and where applicable their associated UK MS descriptors.

Overview of the potential positive and negative environmental effects of the goals and actions of the Southern North Sea and Channel skates and rays FMP

Policy goal 1

Harvest stocks of blonde ray (in 4b, 4c and 7d), cuckoo ray, spotted ray, thornback ray (in subarea 4, 3a and 7d) and undulate ray sustainably, with biomasses maintained above the level capable of producing MSY

Actions to deliver policy goal:

- continue to seek to set TACs and determine fishing opportunities based on the best available scientific advice
- continue to work with the EU in accordance with the policies in the JFS including the Principles of International Fisheries Negotiations with the aim of agreeing TACs to maintain the sustainable harvesting of the stocks through international negotiations
- continue to work with the EU on existing joint commitments, in particular the existing Written Record commitment on exploring alternatives to the current group TAC management that is ongoing through the SCF, this covers all jointly managed group TACs, which include the FMP stocks

Positive effects:

- these stocks have sufficient available information to assess MSY. Committing to ensure that these stocks are fished within sustainable limits will also have indirect benefits for the wider environment via improvements to food webs and biodiversity. Restoring or maintaining stocks above MSY should reduce uncertainty and inherent risks associated with setting sustainable catch limits

Relevant SEA Issues: Biodiversity, fauna, flora (UK MS - D1, D3, D4, D6).

Negative effects:

- levels of realised fishing effort may fluctuate in response to changes in catch limits. Reducing opportunities could also result in fishers switching to areas and species not within the scope of this FMP, thus increasing pressure on the environment elsewhere

Relevant SEA Issues: Biodiversity, fauna, flora (UK Marine Strategy - D1, D3, D4, D6) Water (UK Marine Strategy descriptors D10, D11)

Policy goal 2

Implement effective management that contributes to the restoration of starry ray stocks to levels capable of producing MSY and to maintain or increase the level of blonde ray (in 7e), small eyed ray and thornback ray (in 7e)

Action 1

Continue current management for these stocks and species level prohibition of starry ray.

Positive effects:

- existing management currently prohibits catches of starry ray in UK and EU waters of divisions 2a, 3a, 7d and Subarea 4 to contribute to restoring the stock by not allowing the stock to be landed. This will continue to protect starry ray populations and may have indirect benefits for wider environment, for example food webs and biodiversity

Relevant SEA Issues: Biodiversity, fauna, flora (UK Marine Strategy D1, D3, D4 and D6), Water (UK Marine Strategy descriptor D10, D11)

Negative effects:

- no immediate negative effects are anticipated. However, continued prohibition of starry ray may increase pressure on other target species, if not managed appropriately.

Action 2

Consider alternative approaches to the current group total allowable catches

Positive effects:

- evidence gathered on alternative approaches to the current group TAC management will in the future inform approaches to mitigate the risk of individual stock overexploitation under the current combined TAC system. Improvements to the stock assessment data and process will reduce uncertainty and inherent risks associated with setting sustainable catch limits

Relevant SEA Issues: Biodiversity, fauna, flora (UK MS - D1, D3, D4, D6).

Negative effects:

- if evidence gathered supports introduction of species specific TACs as an alternative approach, it may introduce choke points in the fishery, potentially leading to increased discards, non-compliance and misreporting.
- choke points may lead to increased effort and impact on other species in the fishery, either through avoidance of catching the choke species or making up financial shortfall

Relevant SEA Issues: Biodiversity, fauna, flora (UK MS - D1, D3, D4, D6).

Action 3

Consider the implementation of minimum conservation reference sizes (MCRS)

Positive effects:

- introducing a MCRS may promote fish growth to the age of maturity beneficial to the recruitment of the stock. This may support local biodiversity and food

webs by promoting ecosystem functions and recovery through increasing juvenile population size

Relevant SEA Issues: Biodiversity, fauna, flora (UK MS - D1, D3, D4, D6).

Negative effects:

- it could lead to further discards of under MCRS fish and an increase in effort to fill any financial shortfall
- a standardised MCRS may not benefit larger and later maturing skates and rays, in particular, blonde ray and thornback ray, as significantly as it will the smaller FMP species
- there could also be wider ecosystem effects if MCRS is the only management measure used. For example, if a MCRS led to greater discarding of smaller fish or subsequent increased effort on other fisheries this could impact on the overall ecosystem
- this negative impact can be mitigated in part by combining this measure with increased mesh size

Relevant SEA Issues: Biodiversity, fauna, flora (UK MS - D1, D3, D4, D6).

Action 4

Consider the implementation of a maximum conservation reference size

Positive effects:

- introducing a MaxCRS may promote recruitment, giving the most opportunity to reproduce to a brood stock comprising the largest and most fecund individuals. This may support local biodiversity and food webs by promoting ecosystem functions and recovery through increasing population size

Relevant SEA Issues: Biodiversity, fauna, flora (UK MS - D1, D3, D4, D6).

Negative effects:

- a MaxCRS may have a financial impact on commercial fisheries as larger fish more valuable – this in turn may lead to increased fishing effort or exploitation of permitted sizes to make up financial shortfalls
- a MaxCRS may lead to an increase in by-catch, discards, misreporting and non-compliance
- mesh sizes intended on only catching larger skates and rays may be reduced to allow fishers to target the permitted landing size. Reducing mesh sizes may have sustainability impacts on other species

- it could lead to an increase in effort and exploitation of the harvestable size of skates and rays to fill any financial shortfall. This may in turn negate the positive effects of having a protected brood stock if very few individuals grow to this size
- there could also be indirect wider ecosystem effects through changes to gears in order to avoid catching individuals over the maxCRS. i.e. reducing net mesh sizes

Relevant SEA Issues: Biodiversity, fauna, flora (UK MS - D1, D3, D4, D6).

Action 5

Introduce voluntary guidelines

Positive effects:

- following the guidelines should reduce the pressure on stocks from the commercial and recreational fishers. Furthermore, education building on species ID and measures should contribute to improved and more reliable evidence gathering of FMP species. Improved education should contribute to increasing compliance with the measures introduced through the FMP

Relevant SEA Issues: Biodiversity, fauna, flora (UK MS - D1, D3, D4, D6).

Negative effects:

- voluntary guidelines may not be followed which could lead to potential negative environmental consequences

Relevant SEA Issues: Biodiversity, fauna, flora (UK MS - D1, D3, D4, D6).

Action 6

Explore and, where appropriate, implement spatial and temporal closures

Positive effects:

- seasonal and spatial closures would be designed to protect essential skate and ray habitats. In addition to the positive species effects, this may have indirect positive impacts on the wider marine environment by promoting ecosystem recovery
- protections for fish habitats that are important to key life stages of skates and rays, should support the sustainability of the stock by improving recruitment success. It is also likely to have a wider positive effect on biodiversity, food webs and seabed integrity

Relevant SEA Issues: Biodiversity, fauna, flora (UK MS - D1, D3, D4, D6);
Geology/sediments (UK MS - D6) and Landscape and Seascape.

Negative effects:

- this may lead to spatial changes in fishing effort of fishing pressure to other places within the FMP area or beyond

Relevant SEA Issues: Biodiversity, fauna, flora (UK MS - D1, D3, D4, D6);
Geology/sediments (UK MS - D6); Landscape and Seascape, Water (UK MS
descriptors D10, D11) and Climatic factors.

Policy goal 3

Deliver effective management through, where possible, identifying, minimising and mitigating pressures on skate and ray stocks

Action 1

Look to define key interactions of fisheries landing skates and rays in targeted or bycatch fisheries and better understand the pressures exerted on these stocks, including consideration of the targeting behaviour of the fleet and recreational fishery.

Positive effects:

- although this action will have no immediate positive effects on the environment, the increased understanding should ultimately support better management which will help achieve sustainability goals
- a better understanding of bycatch will allow for appropriate mitigation measures to be designed where required. If then implemented, this should have a positive on biodiversity and, in some cases, MPA condition

Relevant SEA Issues: Biodiversity, fauna, flora (UK MS - D1, D3, D4, D6).

Negative effects:

- no immediate negative effects are anticipated. If this eventually leads to management that reduces opportunities, that may lead to spatial changes in fishing effort that increases fishing pressure elsewhere
- data collection needs to be considered alongside proposed management actions as it will not stop the associated fisheries from declining further if overfishing is taking place

Relevant SEA Issues: Biodiversity, fauna, flora (UK MS - D1, D3, D4, D6), Geology/sediments (UK MS - D6); Water (UK MS descriptors D10, D11) and Climatic factors.

Action 2

Following the outcome of Action 1, seek to manage key interactions to minimise adverse impacts and consider the integration of mixed and multi-species management approaches for the relevant skate and ray fisheries, where appropriate.

Positive effects:

- this should make a strong contribution towards the sustainability of targeted stocks. This may also have indirect benefits for the wider environment, for example food webs and biodiversity

Relevant SEA Issues: Biodiversity, fauna, flora (UK MS - D1, D3, D4, D6); Geology/sediments (UK MS - D6); Landscape and Seascape, Water (UK MS descriptors D10, D11).

Negative effects:

- if this leads to management that reduces opportunities, that may lead to spatial changes in fishing effort that increases fishing pressure outside the scope of the FMP (area and/or species). If this leads to management that increases opportunities within the plan area, the increase in pressure could have a negative impact on the wider environment

Relevant SEA Issues: Biodiversity, fauna, flora (UK MS - D1, D3, D4, D6); Geology/sediments (UK MS - D6); Water (UK MS descriptors D10, D11) and Climatic factors.

Action 3

Better understand the impact of non-fishing pressures on skate and ray stocks. This is to include, but is not limited to, the impact of anthropogenic non-fishing pressures and the impact and species sensitivities to climate change. Identify where climate change mitigation and adaptation measures can be implemented.

Positive effects:

- although understand the impact of non-fishing pressures on skate and ray stocks will have no immediate positive effects on the environment,

understanding other impacts on stocks will allow for better management in the future

- in relation to climate change, by mitigating and adapting, it will allow for better management of the fisheries. Increased understanding will ultimately support better management which will help achieve sustainability goals

Relevant SEA Issues: Biodiversity, fauna, flora (UK MS - D1, D3, D4, D6); Geology/sediments (UK MS - D6); Landscape and Seascape and Climatic factors.

Negative effects:

- any unintended reduction in fishing opportunities could lead to spatial changes in fishing effort and increased fishing pressure elsewhere. Any change in fishing practices as mitigation could introduce a different set of pressures that may have negative effects

Relevant SEA Issues: Biodiversity, fauna, flora (UK MS - D1, D3, D4, D6); Geology/sediments (UK MS - D6); Water (UK MS descriptors D10, D11) and Climatic factors.

Action 4

Better understand the impact of fishing gear interactions with the marine environment in the skate and ray fishery. This includes investigating the key issues in current unwanted and protected species bycatch within the fishery where skates and rays are being targeted.

Positive effects:

- a better understanding of benthic impact will allow for appropriate mitigation measures to be designed where required. If then implemented, this should have a positive effect on sea floor integrity and biodiversity
- a better understanding of bycatch will allow for appropriate mitigation measures to be designed where required. If then implemented, this should have a positive on biodiversity and, in some cases, MPA condition

Relevant SEA Issues: Biodiversity, fauna, flora (UK MS - D1, D3, D4, D6); Geology/sediments (UK MS - D6) and Landscape and Seascape.

Negative effects:

- no immediate negative effects are anticipated. If this eventually leads to management that reduces opportunities, that may lead to spatial changes in fishing effort that increases fishing pressure elsewhere

- data collection needs to be considered alongside proposed management actions, as in isolation it will not prevent environmental impacts associated with fishing activity

Relevant SEA Issues: Biodiversity, fauna, flora (UK MS - D1, D3, D4, D6, Geology/sediments (UK MS - D6); Landscape and Seascape, Water (UK MS descriptors D10, D11) and Climatic factors.

Policy goal 4

Seek to improve datasets to support a MSY assessment of thornback ray in 7e, blonde ray in 7e and small-eyed ray in 7d and 7e.

Positive effects:

- although this action (improving datasets) will have no immediate positive effects on the environment in the short term, it should ultimately support the move towards harvest control rules that make a strong contribution to the sustainability of targeted stocks. This may also have indirect benefits for wider environment, for example food webs and biodiversity (e.g. reduced unwanted bycatch) by considering approaches to mixed fishery and mixed species management. In the medium term (seek to manage at or below MSY) this will make a strong contribution towards the sustainability of targeted stocks. This may also have indirect benefits for the wider environment, for example food webs and biodiversity
- a sentinel fishery will follow a precautionary approach to gather data to determine how to sustainably fish from this stock. This measure could balance harvest removals against maintaining or improving stock health

Relevant SEA Issues: Biodiversity, fauna, flora (UK MS - D1, D3, D4, D6); Geology/sediments (UK MS - D6); Landscape and Seascape and Water (UK MS descriptors D10, D11).

Negative effects:

- no immediate negative effects are anticipated. If this leads to management that reduces opportunities, that may lead to spatial changes in fishing effort that increases fishing pressure outside the scope of the FMP (area and/or species). If this leads to management that increases opportunities within the plan area, the increase in pressure could have a negative impact on the wider environment
- lifting of the prohibition for small-eyed rays could impact stock health (e.g. reducing spawning stock biomass and recruitment) through fishing mortality

- local increases to fishing effort targeting this species may negatively impact food webs and biodiversity

Relevant SEA Issues: Biodiversity, fauna, flora (UK MS - D1, D3, D4, D6); Geology/sediments (UK MS - D6); Water (UK MS descriptors D10, D11) and Climatic factors.

Policy goal 5

Better understand the wider skate and ray species evidence gaps and develop the evidence base.

Action 1

Building on the supporting evidence statement that will be published alongside the final FMP, this document will be regularly developed and updated to establish what evidence is required to meet the wider goals of the FMP, as well as any further policy or legislative objectives. Identify how current data channels can be adapted or improved to meet evidence gaps and prioritise evidence gaps based on current evidence baselines and evidence needs.

Positive effects:

- this action, while important, will not by itself have a positive effect on the environment. However, it will allow for more informed management decisions in the future that could result in wider environmental improvements

Relevant SEA Issues: Biodiversity, fauna, flora (UK MS - D1, D3, D4, D6); Geology/sediments (UK MS - D6); Landscape and Seascape, Water (UK MS descriptors D10, D11) and Climatic Factors.

Negative effects:

- this action, while important, will not by itself have an effect on the environment. However, it will allow for more informed management decisions. The intention of these would be to have a positive impact, but there could be unintended negative effects, resulting from spatial changes in fishing effort
- data collection needs to be considered alongside proposed management actions as it will not prevent the associated fisheries from declining further if overfishing is taking place

Relevant SEA Issues: Biodiversity, fauna, flora (UK MS - D1, D3, D4, D6); Geology/sediments (UK MS - D6); Landscape and Seascape, Water (UK MS descriptors D10, D11) and Climatic factors.

Action 2

Where necessary, establish new data collection channels to close evidence gaps. Investigate opportunities to gather non-traditional or novel sources of data to complement this, including using new technologies. Explore methods to consolidate new data with existing data in a single platform.

Positive effects:

- this action, while important, will not by itself have a positive effect on the environment. However, it will allow for more informed management decisions in the future that could result in improvements across a range of receptors

Relevant SEA Issues: Biodiversity, fauna, flora (UK MS - D1, D3, D4, D6); Geology/sediments (UK MS - D6); Landscape and Seascape, Water (UK MS descriptors D10, D11) and Climatic factors.

Negative effects:

- field surveys could result in negative effects on the environment if impacts are not adequately considered during the planning stage
- data collection and processing needs to be considered alongside proposed management actions as it will not prevent the associated fisheries from declining further if overfishing is taking place

Relevant SEA Issues: Biodiversity, fauna, flora (UK MS - D1, D3, D4, D6); Geology/sediments (UK MS - D6); Landscape and Seascape, Water (UK MS descriptors D10, D11) and Climatic factors.

Policy goal 6

Better understand and optimise social and economic benefits.

Action 1

Building on the existing evidence base, undertake research on the reliance on skate and ray fisheries, and identify social and economic data on the current direct and indirect benefits derived from skate and ray fisheries on coastal communities. Using this evidence, develop indicators to monitor social and economic impacts.

Positive effects:

- including social, economic and cultural importance in fisheries management is consistent with ecosystem-based approaches and can lead to improved governance and environmental outcomes

Negative effects:

- if social, economic and cultural importance are considered in isolation, fisheries management approaches may have negative environmental consequences

Action 2

Where data is not currently available, seek to identify new ways to collect social and economic data against the monitoring indicators identified in action 1. Additionally, seek to understand if there are opportunities to optimise direct and indirect benefits from skate and ray fisheries.

Positive effects:

- including social, economic and cultural importance in fisheries management is consistent with ecosystem-based approaches and can lead to improved governance and environmental outcomes

Negative effects:

- if social, economic and cultural importance are considered in isolation, fisheries management approaches may have negative environmental consequences

Action 3

Sector support measures - Reports suggest that there is a low market interest in ray landings compared to other species. Alongside the suite of other management recommendations (which work to enhance sustainability in the fishery), this measure sets out to understand what else can be done to improve the market. While this approach is a non-statutory requirement, and the associated actions and measures go beyond the legal obligations for FMPs in section 6 of the Act, Defra welcomes these industry commitments to complement and support the delivery of the FMPs and objectives in the Act.

Positive effects:

- including social, economic and cultural importance in fisheries management is consistent with ecosystem-based approaches and can lead to improved governance and environmental outcomes. Improved market price may

disincentivise targeting of skates and rays for less sustainable uses. i.e. for pot bait. Higher and stable market value may reduce fishing effort on FMP stocks. Improvement of stock health through improved data collection and better management. Improved relationships between commercial and recreational fishers may encourage cooperation and progress toward marine stewardship

Relevant SEA Issues: Biodiversity, fauna, flora (UK MS - D1, D3, D4, D6).

Negative effects:

- if social, economic and cultural importance are considered in isolation, fisheries management approaches may have negative environmental consequences
- improved market prices may increase demand and therefore increase effort, impacting stock and local biodiversity

Relevant SEA Issues: Biodiversity, fauna, flora (UK MS - D1, D3, D4, D6).

Policy goal 7

Develop partnership working to build capacity for industry to be able to input into matters affecting skate and ray fisheries management.

Action 1

Consider the establishment of a skates and rays management group or another similar forum, which may develop over time to allow for continued engagement in ongoing management of skate and ray fisheries.

Positive effects:

- including social, economic and cultural importance in fisheries management is consistent with ecosystem-based approaches and can lead to improved governance and environmental outcomes

Negative effects:

- if social, economic and cultural importance are considered in isolation, fisheries management approaches may have negative environmental consequences

Overview of potential positive environmental effects of the FMP

Biodiversity, flora, fauna, geology and sediments, water quality, climatic factors, cultural heritage, landscape and seascape

Acknowledging that the proposed policies, measures and actions are at the beginning stages of their development, the assessment of likely negative effects identified a low risk of significant adverse effects on biodiversity, flora, fauna, water quality, climatic factors and cultural heritage from implementing individual policies, measures and actions. However, there remains uncertainty. In particular, we do not yet know the potential environmental effects of implementing the combination of measures and actions set out in the Southern North Sea and Channel skates and rays FMP.

Nevertheless, the fisheries objectives which will guide our actions should deliver improved environmental protection, so although it is difficult at this stage to anticipate all the potential significant negative effects on the environment in the short term, the overall ambition is to have a positive effect on the environment over the long term through the implementation of the ecosystem-based approach to fisheries management. From an MPA perspective, any changes in management will be subject to MPA assessments which will ensure MPA features are protected inside and outside sites.

There is the potential for factors such as the spatial footprint, intensity, type of gear and fishing methods of the skate and ray fishery to alter through publishing the Southern North Sea and Channel skates and rays FMP and implementing its policies and actions. We recognise that management interventions brought in through FMPs may solve one issue, but unintended and unpredictable issues could arise because of the measures being implemented. For example, it is acknowledged that some of the proposed precautionary management measures and actions to support the FMP goals may, through interventions intended to have a positive effect, lead to displacement of fishing activities to other locations or into fisheries. This may result in negative environmental effects that fall outside the scope (area or species) of this FMP. Where an FMP cannot solve an issue, it may be appropriate for other FMPs to consider this issue. Or, if areas beyond English waters are affected, it may be appropriate for this issue to be considered through wider UK or international fisheries management fora.

Section 5 has identified potential negative effects that could arise from the implementation of the FMP's policies, actions, and measures. Due to the policies, actions, and measures being at an early stage of development it is difficult to

systematically set out their magnitude and significance, without further detail on the nature, timing, duration, scale or location of the proposed actions or measures. Changes to fishing activity resulting from the implementation of the FMP goals and measures should be monitored as part of the process of evaluating the effectiveness of FMPs. Tools such as inshore Vessel Monitoring Systems (iVMS) and VMS greatly improve, or could improve, our ability to monitor spatial and temporal changes in fishing effort. Such monitoring would help identify any unintended consequences on the environment and indicate whether the implementation of these measures could lead to any significant environmental effects if unmanaged. Mitigating action could then be considered where any significant negative effects are identified, that are related to those issues scoped into this assessment.

Biodiversity, flora, fauna, geology and sediments, water quality, climatic factors, cultural heritage, landscape and seascape

The Southern North Sea and Channel skates and rays FMP seeks to effectively manage the harvesting of target species stocks within sustainable limits while focussing on improving the sustainability of the fishery over the long-term.

The proposed priority management measures are designed to protect stocks in the short term that are potentially not being fished sustainably at present. Exploring the use of standardised minimum conservation reference sizes and new maximum conservation reference sizes should improve stock sustainability while more data are gathered to inform future comprehensive harvest control rules and alternative approaches to the current group TACs. Additionally, improvements to education through handling, identification and management guidelines should contribute to improving stock health and evidence gathering.

The proposed longer term management measures for spatial restrictions, protecting skate and rays spawning stocks and essential habitats, should improve stock health by improving recruitment. As well as improving the status of the stocks themselves and contributing to improvements against UK MS commercial fish descriptor targets (D3), these precautionary management measures may also benefit wider fish biodiversity and food webs, therefore contributing to improvements in UK MS targets under D1 and D4.

To determine what the most effective approach will be, data will be gathered on the fishery and the state of the stock. Alongside this, the efficacy of technical measures for conserving the stock will be tested. This will enable consideration of options for the future introduction of management during the implementation cycle of the first iteration of the Southern North Sea and Channel skates and rays FMP.

The FMP proposes actions under the sustainable fisheries goal theme to help reach harvest below MSY. ICES have eleven identified stocks of FMP skate and ray species, five of which are already assessed against MSY, and three are assessed against an MSY proxy. Three stocks currently have no assessment and are based on the ICES precautionary approach. In the short term there will be a focus on gathering data to contribute to the future assessment of the three ICES data category five stocks. Commitments for the long-term will look to close the data gaps on all FMP species, enabling all stocks to be managed through MSY assessment, with the aim that all FMP species will be fished at or beneath this.

By progressing towards MSY or a suitable proxy, or implementing precautionary management for stocks of particular concern, further improvements in targeted stocks and UK MS commercial fish descriptor targets (D3) are expected in the longer term. As with the proposed priority management measures, improving commercial stocks will also lead to some improvements in wider fish biodiversity as a result of general improvements to the functioning of the ecosystem and food webs. Therefore, contributing to UK MS targets under D1 and D4. The FMP also proposes policies that consider mixed fishery and mixed species management to minimise adverse impacts on the wider marine ecosystem such as the bycatch of unwanted, non-target species. This is important to ensure the management of these stocks takes a holistic mixed fishery approach, further contributing to UK MS targets under D1 and D4.

Following more evidence collection there are proposed actions that will identify and protect essential fish habitats important key life stages of skate and ray species in the Southern North Sea and English Channel. This should increase recruitment into, and increase the resilience of, the commercial stocks (D3). It is also likely to benefit other species (commercial and non-commercial) that also use those habitats. Therefore, contributing to fish biodiversity and food web UK MS targets under D1 and D4. If protection is year-round and not seasonal there is likely to be some benefit to benthic habitats, and therefore a contribution to benthic habitat biodiversity and seafloor integrity UK MS targets under D1 and D6.

The FMP recommends that given the current lack of data on bycatch associated with skates and rays fisheries, additional evidence is needed to understand levels of bycatch associated with static and towed gear use on birds, mammals, and fish, as well as their impact on benthic habitat integrity. Impact of gillnets on cetaceans, longlines on birds, and mobile demersal gear were identified as high risk. This evidence should then be used to develop robust mitigation strategies which will be set out in future versions of the FMP. This information should also be used to support the national bycatch mitigation programme to allow for a strategic approach to reducing the impact of bycatch across different fisheries. This is particularly important to better understand skates and rays bycatch from other fisheries and what impact that has on skates and rays stocks and the wider marine environment. This

information will also feed into strategic approaches that consider benthic impacts such as the Benthic Impact Working Group.

The Southern North Sea and Channel skates and rays FMP does not include specific actions on water quality issues such as marine litter at this time. The FMP acknowledges the ongoing work Defra is undertaking with other Contracting Parties to the OSPAR convention to implement the second Regional Action Plan on Marine Litter. This includes action to tackle marine litter from land and sea-based sources, including fishing.

The Southern North Sea and Channel skates and rays FMP acknowledges that the UK seafood sector will need to consider how it will reduce emissions to contribute to meeting the Net Zero target. The FMP has not proposed any actions to reduce emissions at this stage. However, where applicable the FMP will support actions to transition to low carbon fishing.

The Southern North Sea and Channel skates and rays FMP acknowledges that the UK continues to build the evidence base on blue carbon habitats, including marine sediments. The Blue Carbon Evidence Partnership is looking to progress the evidence base to address some of the uncertainties in this area. This evidence could be used in future FMP iterations.

The Southern North Sea and Channel skates and rays FMP has an action to identify where climate change mitigation and adaptation measures can be implemented to reduce impacts on the fishery. However, this is designed to support sustainable fisheries rather than contribute to the Net zero target.

While the FMP is not intended to focus on mitigating the impacts of fishing on marine heritage assets, or submerged prehistoric landscapes or seascapes, fisheries management could contribute to safeguarding these assets and their locations.

In addition, there is the potential for positive interactions to arise between fishing and cultural heritage and submerged prehistoric landscapes or seascapes. A degree of fishing disturbance can lead to some heritage assets being revealed and investigated, thereby improving the knowledge base.

Fisheries management that reduces adverse effects on habitats and seabed features, for example through gear design and spatial closures, could indirectly help to conserve both known and unknown marine heritage assets and submerged prehistoric landscapes or seascapes. However, further consideration of mitigating any impacts on these features may need to be considered.

Managing stocks so they are harvested in a sustainable way can have environmental, social and economic benefits. Ensuring a fishery is environmentally, socially and economically sustainable over the long term could help promote the

cultural importance of skates and rays fishing and preserve the cultural heritage of fishing itself including wrecks of fishing vessels, historic harbours and infrastructure, and fishing communities.

The SEA process will highlight to fisheries policy authorities how skates and rays fisheries management policies and measures could support measures that protect the historic marine environment and improve early reporting of previously unknown sites.

Overview of potential negative environmental effects of the FMP

In-combination effects

The Southern North Sea and Channel skates and rays FMP could potentially have positive (or negative) in-combination effects with other programmes to deliver sustainable fisheries (read section 4). Whilst these other programmes focus on different topics, there are common themes that positively link them together. For example, FMPs and the Marine Plans share the common principles of managing marine resources sustainably and reducing the impact of anthropogenic pressure on the marine environment. Having due regard to the Environmental Principles during the development of policy will further ensure that the environment will be appropriately considered throughout the FMP process. More broadly, we anticipate the cumulative positive effect of these programmes will result in helping to meet sustainability objectives and achieving long-term improvements to the marine environment.

Undertaking the in-combination assessment at this stage in the production cycle of the FMP proved difficult due to the policies and measures being at an early stage of development. The assessment of the likely negative effects of the individual policies, measures and actions in section 5 identified a low risk of significant adverse effects on the environment and therefore no amendments are needed ahead of publishing the FMP. When considering the combined effects of other potential policies, we are not aware at this stage that any other regimes/activities are going to change that position.

The FMP could facilitate the in-combination assessment with Marine Plans by providing more specific detail on how the FMP could positively or negatively interact with them. However, a Marine Plan assessment will be undertaken on the finalised FMP goals prior to publication, to assess how they will interact with Marine Plan policies. The assessment will identify whether an FMP policy will be compliant, potentially conflict, or not be compliant with Marine Plan policies. The interaction between FMPs and Marine Plans will be further considered when monitoring the

effectiveness of plans. Any necessary adaptations, to ensure FMPs and Marine Plans interact positively, would be built into the plan's ongoing implementation and adjusted in future revisions of the FMP as required.

Marine Plans set out priorities and directions for future development within the plan area, inform sustainable use of marine resources and help marine users understand the best locations for their activities. Marine Plans consider all marine activities, resources and ecosystems and therefore assessing FMP policies against Marine Plan policies represents the most efficient way of determining how FMP policies will broadly interact with other marine activities, ensuring compliance with [Section 58 of the Marine and Coastal Access Act 2009](#).

Before there are any changes to fisheries management as a result of the Southern North Sea and Channel skates and rays FMP, where necessary, all new measures will be subject to Habitats Regulations Assessments and Marine Conservation Zone assessments. Such assessments will consider the potential in-combination effects with other plans and projects that are occurring or will occur within in an MPA. These assessments will also identify where any specific interactions exist.

The combined effect of implementing the policies and measures of all FMPs will be considered through the mandatory FMP monitoring process once the plan is published and could form part of the longer-term JFS or FMP review cycles (section 8).

Conclusions

Fishing for skate and ray species in the Southern North Sea and English Channel is an ongoing activity that poses some risks to the quality status of the marine environment. The Southern North Sea and Channel skates and rays FMP focuses on achieving the sustainable harvesting of stocks and therefore will reduce the risks to the future status of stocks in the long-term giving positive benefit to the environment.

Proposed management measures will take immediate steps towards improving sustainability and reduce the risk posed to the stock, for example exploring the introduction of minimum and maximum conservation reference sizes. In the longer term, the FMP proposes to explore alternative approaches to current group TACs and introduce spatial closures protecting essential habitats.

Together, these actions will have the positive benefit of ensuring stock sustainability and contributing to improving the status of UK MS commercial fish stocks (D3) in the UK. In doing this there may also be improvements in overall fish biodiversity (D1) and the marine food webs (D4).

Nevertheless, we acknowledge that fishing for skate and ray species in the Southern North Sea and English Channel within sustainable limits may not remove all the associated negative effects of that fishing on the wider marine environment. As well as impacting the commercial fish stocks themselves, high level risks were identified for gillnet bycatch of cetaceans, longline bycatch of seabirds, and the impact of demersal mobile gears on seafloor integrity.

The Fisheries Objectives (in the Fisheries Act 2020) require FMPs to integrate environmental, social, and economic aspects of a fishery when introducing interventions to control fishing activity within sustainable levels. Achieving the balance between these three elements will be a central component of making a contribution to the sustainability objective.

The Southern North Sea and Channel skates and rays FMP takes a precautionary approach to fisheries management and adopts a balanced and proportionate approach towards delivering the fisheries objectives.

The Southern North Sea and Channel skates and rays FMP may result in positive and negative effects on the environment in the short term, with the overall ambition to have a positive effect on the environment over the long term through the implementation of the ecosystem-based approach to fisheries management.

Actions have been proposed to investigate the impact of both unwanted / protected species bycatch and demersal gear and seafloor interactions. While these will not result in immediate positive environmental benefits or environmental improvements, they should help determine what mitigation may be required. The FMP recommends using additional evidence to develop robust mitigation strategies and be used to support the national bycatch strategies.

Before there are any changes to fisheries management as a result of the Southern North Sea and Channel skates and rays FMP, where necessary, all new measures will be subject to Habitats Regulations Assessments and Marine Conservation Zone assessments. Such assessments will consider the potential in-combination effects with other plans and projects that are occurring or will occur within in an MPA. These assessments will also identify where any specific interactions exist.

The Southern North Sea and Channel skates and rays FMP does not specifically consider the impacts of fishing on marine heritage assets. However, any future fisheries management aimed at reducing wider environmental effects could indirectly help to conserve both known and unknown marine heritage assets. This iteration of the FMP focuses on setting out measures to achieve sustainable harvesting of targeted stocks but there is scope for future iterations of the FMP to address this wider issue.

The Southern North Sea and Channel skates and rays FMP does not specifically consider the impacts of fishing on submerged prehistoric landscapes or seascapes. However, fisheries management aimed at reducing the impact on seabed integrity could indirectly help to conserve submerged prehistoric landscapes or seascapes. This iteration of the FMP focuses on setting out measures to achieve sustainable harvesting of demersal stocks but there is scope for future iterations of the FMP to address this wider issue.

6. Proposed measures to reduce significant negative effects

Existing negative effects Southern North Sea and Channel skates and rays fishing

This environmental report has acknowledged the existing negative environmental effects associated with the fishing activity which will be managed through the FMP. The actions proposed by the FMP to reduce negative effects are set out below.

Biodiversity, flora, fauna, geology and sediments (soil), water quality

Existing measures to regulate the skate and ray species fishing in the Southern North Sea and English Channel largely focus on combined TACs. There is a separate stock-specific TAC in place for undulate ray in the English Channel. Catch restrictions exist for small eyed ray in the North Sea and western English Channel, and starry ray in all FMP waters. Some minimum size regulations exist within the Kent and Essex, and Southern IFCA districts. These measures will be part of the overall management strategy and will contribute to the conservation of stocks and the wider environment.

The Southern North Sea and Channel skates and rays FMP has considered advice from Statutory Nature Conservation Bodies (SNCBs) with respect to the impacts from skate and ray species fishing activity on MPA features and the wider marine environment in relation to UK MS descriptors. The Southern North Sea and Channel skates and rays FMP has set out the following proposed measures to reduce those known negative effects as follows:

Impacts within MPAs

The MPA network (Appendix C) is protected through the existing MPA management process by managing human activities such as fishing, to avoid likely significant

effects on the environment. These activities are mainly controlled through the powers vested in the IFCA and the MMO to make bylaws.

IFCA and MMO were involved in the development of the FMP to ensure measures proposed through the FMP are compatible with existing MPA management.

Before Defra implement any new management interventions proposed in the Southern North Sea and Channel skates and rays FMP, those interventions will be screened for likely significant effects on any European sites or European offshore marine sites that overlap with the geographical scope of the measure and, where necessary, a further appropriate assessment will be completed in accordance with the Conservation of Habitats and Species Regulations 2017 or the Conservation of Offshore Habitats and Species Regulations 2017. In accordance with the Marine and Coastal Access Act 2009 (MaCAA), a Marine Conservation Zone (MCZ) Assessment will also be completed before any new management measure is implemented that may significantly hinder the conservation objectives of an MCZ.

The points above will make sure the impacts of skate and ray fishing activity, and the FMP's policies, actions, and measures, do not prevent our ability to meet the conservation objectives for MPA features. Thereby enabling us to achieve the legally binding target for MPA condition set out in the Environmental Targets (Marine Protected Areas) Regulations 2022.

Impacts outside MPAs

SNCB advice highlighted the risk of bycatch of mobile species (birds, mammals) that are designated features of MPAs where they occur out of sites. This bycatch was classified as a high-moderate risk for different gear types. The advice acknowledged the lack of high-quality bycatch data. This severely restricts both the ability to draw firm conclusions on mobile bycatch risks on MPA features beyond site boundaries, and the ability to identify specific mitigation. The Southern North Sea and Channel skates and rays FMP links specific data collection initiatives to wider bycatch monitoring and mitigation programmes such as the Bycatch Mitigation Initiative, Clean Catch UK, which has the potential to appropriately mitigate risks associated with highly mobile MPA features. In addition, consideration should be given to how the caught animals are handled and the length of time before their release. Improvements in handling of bycaught animals would minimise post-release mortality.

UK MS descriptor impacts

The Southern North Sea and Channel skates and rays FMP focuses on achieving sustainable harvesting of a number of stocks. This will support the achievement of GES for UK MS Descriptor 3 – Commercial fish and shellfish stocks. This will also

benefit the wider marine environment and support improvements in the status of fish biodiversity (Descriptor 1) and marine food webs (Descriptor 4).

The Southern North Sea and Channel skates and rays FMP proposes to investigate the impact of both unwanted and protected species bycatch, and demersal gear and seafloor interactions. The FMP recommends using additional evidence to develop robust mitigation strategies and be used to support the national bycatch strategies.

In the update to [UK Marine Strategy Part One](#) (2019) Defra made a commitment to assess the feasibility of setting up a partnership working group, referred to here as the Benthic Impact Working Group. The UK Administrations and Government agencies are in the process of developing this Group which will be tasked with providing evidence-based advice to reduce the impacts of fishing activity on benthic habitats to achieve GES. Once convened, this group should provide strategic oversight and direction for delivering future advice. This includes identifying, developing, and trialling possible mitigation or management options, in partnership.

Climate change

Vessel emissions

The Southern North Sea and Channel skates and rays FMP acknowledges that Defra are in the process of investigating the feasibility and potential of existing carbon mitigating solutions. This will be done by collaborating across Government, with industry and academic organisations to understand the current evidence gaps and latest innovations, to support the development of pathways towards Net Zero for the UK fishing fleet. The FMP will support the fishery through national transition to low carbon fishing, contributing to UK Government commitments to Net Zero.

Blue carbon

The Southern North Sea and Channel skates and rays FMP acknowledges that the UK continues to build the evidence base on blue carbon habitats, including marine sediments. The Blue Carbon Evidence Partnership is looking to progress the evidence base to address some of the uncertainties in this area.

Climate change impacts on skates and ray's stocks and fisheries

The Southern North Sea and Channel skates and rays FMP acknowledges that climate change poses potential knock-on effects for the skates and rays fishery. However, given the highly adaptable nature of wild capture fisheries, warmer seas may open new opportunities for fishers and for inclusion of these species in the FMP management. Further research will be required to predict the scale of impacts to the environment and over what timeframe this will be applicable to the Southern North Sea. Climate mitigation and adaptation measures can then be proposed and

developed. Direction on climate research and adaptation may be set at a national level, should this occur, the relevant chapter in the FMP will be reviewed and amended.

Cultural heritage

The Southern North Sea and Channel skates and rays FMP does not explicitly consider the potential impacts of fishing activity on marine cultural heritage.

Historic England have developed a range of options designed to manage negative interactions between commercial fishing and the historic marine environment. Defra should work with agencies such as Historic England to consider how measures that could protect the marine historic environment could be incorporated into fisheries management for future iterations. Considering appropriate measures to reduce negative interactions with marine heritage assets could strengthen the positive interactions between FMPs and cultural heritage and has the potential for the FMP to contribute to having a positive effect on the current baseline. In addition, by working with Historic England to better understand the extent of prehistoric deposits like moorlog and how they are changing, efforts to conserve them from the impacts of fishing them might contribute to climate change mitigation and adaptation.

Landscapes and seascapes

The Southern North Sea and Channel skates and rays FMP does not explicitly consider the potential impacts of fishing activity on submerged prehistoric landscapes or seascapes.

The FMP will investigate the impact of fishing activity has on the wider environment. Any future management intervention could indirectly help to conserve submerged prehistoric landscapes or seascapes.

Defra should work with agencies such as Natural England, JNCC and Historic England to consider how measures that could protect the marine historic environment could be incorporated into fisheries management for future iterations. Considering appropriate measures to reduce negative interactions with submerged prehistoric landscapes or seascapes could strengthen the positive interactions between the FMP and the wider marine environment that fishing for skate and ray species in the Southern North Sea and English Channel operates in. This has the potential for the FMP to contribute to having a positive effect on the current baseline.

Effects identified by this assessment

The assessment of the likely negative effects of the individual policies, measures and actions in section 5 identified a low risk of significant adverse effects on the environment from implementing individual policies, measures and actions. Therefore, no changes to the proposed goals, policies and measures are needed ahead of publishing the FMP. Where appropriate, the policies, measures and actions will be developed and implemented to mitigate any potential negative effects identified by the current assessment.

The likely negative effects will also be considered when developing monitoring activities as part of the implementation process (read section 8), to ensure that any negative effects of the of the FMP's policies, measures and actions individually or combined can be further reduced. Given the uncertainty as to the negative effects of implementing the individual policies, measures and actions, monitoring changes to fishing activity resulting from the implementation of the FMP will help identify any unintended consequences on the environment that could subsequently lead to significant negative environmental effects. Where likely unintended environmental consequences are identified, appropriate changes to management or mitigation can be implemented to reduce to any negative environmental effects developing.

General

The UK is committed to using marine resources sustainably and reducing the impacts of fishing on the marine environment to comply with its international and domestic obligations. The Southern North Sea and Channel skates and rays FMP seeks to support these commitments by providing the tools (FMP policies and measures) to deliver the sustainable harvesting of stocks.

The range of environmental issues identified through this assessment have been considered by the Southern North Sea and Channel skates and rays FMP. The FMP acknowledges that the evidence base is not sufficiently comprehensive at present to fully address many of the issues and therefore proposes a multi-step, iterative approach to deliver long-term sustainability through improving the evidence base. The FMP should remain flexible to adapt its policies and measures as new evidence on potential impacts of skate and ray fishing emerge, particular in relation to climate change.

This environmental report considers that the FMP has proposed all necessary actions to address existing issues and has appropriately considered how it will address potential issues arising from the implementation of the FMP's policies, measures, and actions. This environmental report has therefore not proposed any mitigations in addition to those already set out in the FMP.

7. Reasonable alternatives

Regulation 12(2)(b) of the SEA Regulations 2004 requires the fisheries policy authorities to consider reasonable alternatives to the Southern North Sea and Channel skates and rays FMP. A reasonable alternative has been defined as ‘an activity that could feasibly attain or approximate the FMP’s goals at a lower environmental cost or decreased level of environmental degradation’²³.

Section 2 of the Fisheries Act 2020 requires the fisheries policy authorities to publish a JFS setting out how they will use FMPs to achieve, or contribute to achieving, the fisheries objectives. The JFS lists the planned FMPs, including the Southern North Sea and Channel skates and rays FMP. This listing creates a legal requirement to prepare and publish the Southern North Sea and Channel skates and rays FMP and does not allow for a reasonable alternative to producing an FMP unless a ‘relevant change of circumstances’, as set out in section 7 (7)²⁴ of the Fisheries Act applies; we are not aware of any information that would invoke these circumstances.

The Southern North Sea and Channel skates and rays FMP, alongside the other 43 FMPs was agreed by the fisheries policy authorities through the JFS publication. Engagement across administrations took place via the processes outlined in the [Fisheries Framework](#). Regular scrutiny of the emerging list of FMPs was built into every step of the JFS policy formation, and through this process credible alternatives to managing stocks without an FMP were considered. The list of proposed FMPs, that included an FMP for Southern North Sea and Channel skates and rays species, was part of the public consultation on the Joint Fisheries Statement in early 2022.

Fishing for skate and ray species in the Southern North Sea and English Channel is an ongoing activity and management already exists. Continuing with the current approach without strengthened or new management alongside further evidence collection was judged to increase the likelihood of stocks being overexploited with insufficient protection for the wider marine environment. Therefore, additional and/or amended management was required. The Southern North Sea and Channel skates and rays FMP seeks to promote the management of the fishery in a more coherent and coordinated manner that considers wider environmental issues. On that basis, the FMP will likely deliver greater environmental gain and will have a more significant positive impact on improving the current environmental baseline, compared to a ‘business as usual’ approach that only continues with existing fisheries management.

²³ [Reasonable alternatives definition](#)

²⁴ [Fisheries Act 2020 \(legislation.gov.uk\)](#)

The Southern North Sea and Channel skates and rays FMP policies and measures were developed to specifically address fisheries management issues identified within the fishery.

The interventions adopt a precautionary approach as required by the Fisheries Act 2020 and are intended to safeguard stocks and the fishery in the short term whilst more information is gathered to inform evidence-based adaptive management in the future.

A range of environmental issues (e.g., through SNCB advice, evidence relating to climatic change impacts) have been considered during the development of the current proposed policies and measures to ensure they have minimal negative environmental effects and where applicable maximum positive environmental gain. Stakeholder input, including that from the environmental sector has been considered during the development of policies and measures. These processes have been employed to ensure the most appropriate actions have been proposed for this stage in the life cycle of the FMP. An assessment of the potential alternatives is provided below.

Assessment of alternatives to proposed goals and actions.

Policy goal 1

Harvest stocks of blonde ray (in 4b, 4c and 7d), cuckoo ray, spotted ray, thornback ray (in subarea 4, 3a and 7d) and undulate ray sustainably, with biomasses maintained above the level capable of producing MSY.

Actions to deliver policy goal:

- continue to seek to set TACs and determine fishing opportunities based on the best available scientific advice
- continue to work with the EU in accordance with the policies in the JFS including the Principles of International Fisheries Negotiations with the aim of agreeing TACs to maintain the sustainable harvesting of the stocks through international negotiations
- continue to work with the EU on existing joint commitments, in particular the existing Written Record commitment on exploring alternatives to the current group TAC management that is ongoing through the SCF, this covers all jointly managed group TACs, which include the FMP stocks

Alternatives:

- harvesting stocks in line with MSY/scientific advice would ensure stocks are fished sustainably. No reasonable alternative is available

Policy goal 2

Implement effective management that contributes to the restoration of starry ray stocks to levels capable of producing MSY and to maintain or increase the level of blonde ray (in 7e), small eyed ray and thornback ray (in 7e).

Action 1

Continue current management for these stocks and species level prohibition of starry ray.

Alternatives:

- currently data is not available to support lifting the prohibition of starry ray, therefore no reasonable alternative is available

Action 2

Consider alternative approaches to the current group total allowable catches

Alternatives:

- these measures have been proposed to reduce the current risk of single species exploitation under a combined TAC
- they are part of a suite of different measures to protect stocks, improve stock sustainability and reduce the effects on the wider environment
- other alternatives will be considered in future iterations of the FMP as the evidence base develops

Action 3

Consider the implementation of minimum conservation reference sizes (MCRS)

Alternatives:

- given each of the FMP species exhibit different life-history parameters, including the size-at-maturity and fecundity at size, a universal MCRS may be less effective than grouped or species-specific approaches. The evidence gathered in the short-term will help to inform the most suitable approach
- this is intended to protect juvenile fish. Sizes will be informed by linking to the best available evidence on the maturity of each species. The FMP will need to

explore the effectiveness of blanket versus species specific MCRS for managing the stocks

- this was deemed a simple measure to implement that will significantly help promote stock health and therefore fishing opportunities across each sector
- this is one available management tool to increase stock protection. Other alternatives have been considered that have also been included as part of a suite of measures to improve stock sustainability

Action 4

Consider the implementation of a maximum conservation reference size

Alternatives:

- this measure aims to gather evidence to inform future management. No alternative was identified at this stage. Different approaches to management can be considered once more information is available
- some concerns exist surrounding implementation, impact on mesh sizes and compliance with this measure. For ease of management and increased uptake from the fishing sector, an increase in the MCRS for these species may be favourable over setting a MaxCRS

Action 5

Introduce voluntary guidelines

Alternatives:

- a voluntary approach is considered most appropriate in the first instance
- no reasonable alternatives have been identified at this stage. Alternatives can be considered later if required

Action 6

Explore and, where appropriate, implement spatial and temporal closures

Alternatives:

- this will increase understanding of the pressures on stocks with the intention to mitigate where possible pressures exerted on essential habitats
- the management option can be considered alongside standard input / output controls. This will lead to better management. Alternative options can be considered as detailed measures are drafted

Policy goal 3

Deliver effective management through, where possible, identifying, minimising and mitigating pressures on skate and ray stocks.

Action 1

Look to define key interactions of fisheries landing skates and rays in targeted or bycatch fisheries and better understand the pressures exerted on these stocks, including consideration of the targeting behaviour of the fleet and recreational fishery.

Action 2

Following the outcome of Action 1, seek to manage key interactions to minimise adverse impacts and consider the integration of mixed and multi-species management approaches for the relevant skate and ray fisheries, where appropriate.

Action 3

Better understand the impact of non-fishing pressures on skate and ray stocks. This is to include, but is not limited to, the impact of anthropogenic non-fishing pressures and the impact and species sensitivities to climate change. Identify where climate change mitigation and adaptation measures can be implemented.

Action 4

Better understand the impact of fishing gear interactions with the marine environment in the skate and ray fishery. This includes investigating the key issues in current unwanted and protected species bycatch within the fishery where skates and rays are being targeted.

Alternatives:

- this group of actions will increase understanding of the pressures on stocks with the intention to minimise and mitigate where possible
- better information is required to understand the detailed nature of bycatch to adequately mitigate impacts. Without this, it is not possible to design effective mitigation measures
- the management options they lead to can be considered alongside standard input / output controls
- this will lead to better management
- alternative options can be considered as detailed measures are drafted

Policy goal 4

Seek to improve datasets to support a MSY assessment of thornback ray in 7e, blonde ray in 7e and small-eyed ray in 7d and 7e.

Alternatives:

- improving datasets for skates and rays are essential
- no reasonable alternatives have been identified at this stage

Policy goal 5

Better understand the wider skate and ray species evidence gaps and develop the evidence base.

Action 1

Building on the supporting evidence statement that will be published alongside the final FMP, this document will be regularly developed and updated to establish what evidence is required to meet the wider goals of the FMP, as well as any further policy or legislative objectives. Identify how current data channels can be adapted or improved to meet evidence gaps and prioritise evidence gaps based on current evidence baselines and evidence needs.

Action 2

Where necessary, establish new data collection channels to close evidence gaps. Investigate opportunities to gather non-traditional or novel sources of data to complement this, including using new technologies. Explore methods to consolidate new data with existing data in a single platform.

Alternatives:

- better data are required to make evidence-based management decisions
- no reasonable alternative identified

Policy goal 6

Better understand and optimise social and economic benefits.

Action 1

Building on the existing evidence base, undertake research on the reliance on skate and ray fisheries, and identify social and economic data on the current direct and

indirect benefits derived from skate and ray fisheries on coastal communities. Using this evidence, develop indicators to monitor social and economic impacts.

Action 2

Where data is not currently available, seek to identify new ways to collect social and economic data against the monitoring indicators identified in action 1. Additionally, seek to understand if there are opportunities to optimise direct and indirect benefits from skate and ray fisheries.

Alternatives:

- this is considered a requirement for making appropriate management decisions
- it allows management measures to be developed in partnership by those that will be impacted
- this will allow for alternative management measures to be discussed and agreed upon in the future

Action 3

Sector support measures - reports suggest that there is a low market interest in ray landings compared to other species. Alongside the suite of other management recommendations (which work to enhance sustainability in the fishery), this measure sets out to understand what else can be done to improve the market. While this approach is a non-statutory requirement, and the associated actions and measures go beyond the legal obligations for FMPs in section 6 of the Act, Defra welcomes these industry commitments to complement and support the delivery of the FMPs and objectives in the Act.

Alternatives:

- these measures support the development of management measures in partnership with those that will be impacted
- strategies aimed at improving the domestic market for skates and rays will be dependent on evidence gathering and collaboration with stakeholders to determine appropriate ways of strengthening market interest without compromising stock or environmental sustainability
- an alternative would be that this measure does not go ahead as the increased market demand could lead to skates and rays being targeted more frequently which could lead to a potential impact on the environment

Policy goal 7

Develop partnership working to build capacity for industry to be able to input into matters affecting skate and ray fisheries management.

Action 1

Consider the establishment of a skates and rays management group or another similar forum, which may develop over time to allow for continued engagement in ongoing management of skate and ray fisheries.

Alternatives:

- without this, continued engagement in ongoing management issues would be difficult
- no reasonable alternative identified

The proposed policies and measures set out in the FMP are therefore considered to be the most appropriate for this stage in the FMP's development.

The Southern North Sea and Channel skates and rays FMP will develop through future iterations as the evidence base improves. Policies and actions will be adapted to ensure the most appropriate and effective management interventions are used to address contemporary issues. Where appropriate, additional measures will be developed as options for more targeted management become available to tackle a wider range of fisheries management issues over the longer-term.

The public will be consulted on the Southern North Sea and Channel skates and rays FMP, alongside the consultation of this environmental report. These consultations will provide stakeholders with the opportunity to review proposed measures and present alternatives if available.

8. Monitoring and review

Monitoring

Regulation 17 of the SEA Regulations 2004 requires Defra to monitor the significant environmental effects of the implementation of Southern North Sea and Channel skates and rays FMP policies and measures to identify unforeseen adverse effects at an early stage, ensuring appropriate remedial action can be undertaken.

Paragraph 9 of Schedule 2 to the 2004 Regulations requires the Environmental Report to include a description of the measures envisaged concerning monitoring in accordance with regulation 17.

The types of relevant monitoring already undertaken or proposed by the FMP fall into two types:

- monitoring the effectiveness of FMP goals and measures
- environmental impacts monitoring

Monitoring effectiveness of the FMP

Section 6 of the Fisheries Act 2020 requires the FMP to identify appropriate monitoring against specified indicators to assess the effectiveness of the Southern North Sea and Channel skates and rays FMP.

The impact of the Southern North Sea and Channel skates and rays FMP outputs will be monitored to assess the effectiveness of its goals and contribution towards the Fisheries Act Objectives. Full details can be found in the Monitoring section of the FMP.

For some skate and ray stocks there is insufficient evidence to determine MSY or a proxy for MSY. This FMP sets out the proposed steps to build the evidence base for these data limited stocks to support progress towards defining and measuring stock status and reporting on stock sustainability. An increase in the available evidence to define and measure stock status will be an indicator of the effectiveness of this plan for these stocks.

For some stocks with insufficient data to carry out a stock assessment, there are currently no specific plans set out in this FMP to increase data collection. A prioritisation exercise will be carried out to focus research efforts across all FMP stocks and plans to increase data collection will be reviewed over time.

For other skate and ray stocks there is sufficient evidence to determine MSY or a proxy for MSY and to assess the sustainability of the stock. An increase and/or maintenance of the number of stocks fished at sustainable levels will indicate the effectiveness of this plan for these stocks. This FMP sets out the proposed steps to build the evidence base to improve stock assessment calculations. An increase in the available evidence with improved stock assessments will be an indicator of the effectiveness of this plan for these stocks.

The Southern North Sea and Channel skates and rays FMP identified the following indicators for management measures:

- MCRS is considered as a tool to regulate skate and ray landings within English waters of ICES areas 4b, 4c, 7d and 7e
- species-specific MaxCRS will be modelled for future implementation of maximum size-based restrictions, the efficacy of maximum sizes as a management tool will be understood for key FMP species

- handling guidelines will have been produced for all fishers
- compliance and education guidelines will have been produced for all fishers
- a sentinel fishery is in place to inform state of the stock for small-eyed ray in 7e
- evidence will be gathered to support of the SCF skates and rays indicative road map for alternative approaches to the current group TAC

There are some goals and interventions within the FMP that still require further indicator development work. As new data sets and evidence becomes available to fill identified gaps, the FMP and its supporting Evidence Statement will be updated to keep current indicators under review.

In addition to the monitoring set out in the FMP, monitoring of the environmental effects of implementing the FMP's policies, actions and measures will be undertaken by fisheries managers (Defra, MMO, and IFCA) These actions may include:

- monitor any changes to fishing activity e.g. changes in effort or the spatial and/or temporal patterns of fishing, resulting from the implementation of the FMP. This action will form part of the monitoring of the effectiveness of the plan to help identify any unintended consequences on the environment that could lead to any significant negative environmental effects

If any negative impacts are identified, fisheries managers should consider adjusting skate and ray fisheries management.

Environmental impacts

MPAs

The conservation status of conservation sites, including SACs, SPAs, and MCZs is monitored by the SNCBs, and is reported under the Habitats Regulations and Marine and Coastal Access Act. Findings from these monitoring activities could be used to help indicate where potential risks or impacts associated with fishing activity being managed through the FMP are occurring. FMPs could act on this evidence to amend its policies and measures to reduce or avoid these risks or impacts. Findings from these monitoring activities could also be used to indicate where FMP policies and measures are having a positive effect.

UK MS

The UK MS monitors and assesses the state of the marine environment against 11 descriptors. Read section above for details on how monitoring the FMP will link into future assessments under the UK MS.

Atmospheric emissions

The Climate Change Committee (CCC) was set up under the Climate Change Act 2008 to support the strategic aims of Defra and the devolved administrations and to independently assess how the UK can optimally achieve its emissions reductions goals. The Committee advises on the level of carbon budgets and submits annual reports to Parliament on the UK's progress towards targets and budgets. Evidence on the contribution of the UK Southern North Sea non-quota fishing fleet has been considered in this SEA and would continue to be reviewed against the FMP goals as part of monitoring.

Review

The Fisheries Act 2020 requires the Southern North Sea and Channel skates and rays FMP to be reviewed at least every six years; the Act requires a report on the FMP's progress to be included in the report on the JFS every three years. The formal review will assess how the FMP has contributed to the Southern North Sea non-quota fishery harvesting within sustainable limits and the Fisheries Act objectives.

The results of monitoring the effectiveness of the Southern North Sea and Channel skates and rays FMP will also contribute to the legally required process to review the JFS. The JFS report will set out the extent to which each FMP has been implemented and has affected stock levels in the UK.

Additional reviews can be conducted at any point within these time scales if relevant evidence, international obligations, or wider events require a change in the policies set out in the FMP.

The findings of these reviews will inform the development of subsequent iterations of the Southern North Sea and Channel skates and rays FMP. As part of the reporting and wider review processes, alternatives to management can be identified to ensure the Southern North Sea and Channel skates and rays FMP delivers on its goals and wider environmental obligations.

The SEA Environmental Report will be periodically updated to reflect how the implementation of proposed FMP policies and actions affect the environment. Such updating will ensure that the SEA remains up to date throughout the ongoing FMP process into the future.

Appendix A: 11 descriptors of the UK MS

D1 - Biological diversity (cetaceans, seals, birds, fish, and benthic habitats)

D2 - non-indigenous species

D3 - Commercially exploited fish and shellfish

D4 - Food webs (cetaceans, seals, birds, and fish)

D5 - Eutrophication

D6 - Sea-floor integrity (benthic habitats)

D7 - Hydrographical conditions

D8 - Contaminants

D9 - Contaminants in fish and other seafood for human consumption

D10 - Litter

D11 - Introduction of energy, including underwater noise

Appendix B: additional baseline information

D1 and D4 – cetaceans

Cetaceans (whales and dolphins) are an important marine ecosystem component that contributes to overall levels of biodiversity (D1). In addition, as top predators, the abundance of cetaceans can also provide some understanding on how the food web is functioning (D4).

To meet Good Environmental Status, the high-level objective is that 'the population abundance of cetaceans indicates health populations that are not significantly affected by human activities'. In 2019 the [Marine Strategy Part One: UK updated assessment and Good Environmental Status](#) recorded the overall status of cetaceans in the North Sea and Celtic Seas as uncertain. However, the 2023 OSPAR QSR indicator assessment updates have recorded a decline of harbour porpoise within the Celtic Sea. The baseline environmental condition with respect to cetaceans is therefore one where some degree of recovery is potentially required to meet GES. For more information, read [UK MS Cetaceans assessment](#).

A summary of the status is shown in Table A1. When considering the detailed targets and indicators used to make the assessment, the data suggests some are in line with GES in some geographic areas. But for many others, the results are either unclear, or insufficient data is available to make an assessment. It should be noted that the indicators used do not always cover the entire breadth of what is set out in the target. For instance, the bycatch assessment is currently primarily driven by looking at harbour porpoise. The indicators can be developed in the future as more evidence is available.

Table A1. Detail from the 2019 UK MS assessment on descriptor [D1; D4: Cetaceans](#). Taken from [Marine Strategy Part One: UK updated assessment and Good Environmental Status](#) and the [UK MS Marine Online Assessment Tool](#).

Target	Indicator	North Sea	Celtic Seas
The long-term viability of cetacean populations is not threatened by incidental bycatch	Harbour porpoise bycatch	GES not achieved (based on OSPAR QSR)	GES not achieved (based on OSPAR QSR)
There should be no significant decrease in abundance caused by human activities	Abundance and distribution of coastal bottlenose dolphins	GES achieved	GES status uncertain
There should be no significant decrease in abundance caused by human activities	Abundance and distribution of cetaceans other than coastal bottlenose dolphins	GES partially achieved	GES status uncertain
Population range is not significantly lower than the favourable reference value for the species	Abundance and distribution of coastal bottlenose dolphins	GES achieved	GES status uncertain
Population range is not significantly lower than the favourable reference value for the species	Abundance and distribution of cetaceans other than coastal bottlenose dolphins	GES partially achieved	GES status uncertain

Current impact of fisheries on the baseline condition

Fishing is one of several anthropogenic activities that are considered relevant to this ecosystem component. Other pressures include noise impacts from offshore infrastructure such as renewable energy and pollution from a range of sources. More information on relevant pressures is provided in section 2.6.1 of the [Marine Strategy Part One: UK updated assessment and Good Environmental Status](#).

Cetacean bycatch

There is a specific target associated with the impact of bycatch from fisheries on the viability of cetacean populations. In the 2019 UK MS assessment, only data on the bycatch of Harbour Porpoise was used. This estimated that bycatch in the North Sea was below the precautionary threshold of 1% of the population estimate (and therefore meeting the indicator target), but above this threshold for the Celtic Seas. It was, however, below the less precautionary 1.7% of population estimate. Whether the target was being met in the Celtic Seas was therefore uncertain. For more detail on the assessment, read [UK MS harbour porpoise bycatch assessment](#).

However, more recent analysis for the 2023 OSPAR quality status report (which will inform updates to UK MS indicators) shows that bycatch of harbour porpoise in the Greater North Sea and Irish & Celtic seas are exceeding the threshold. Bycatch of common dolphin is also exceeding the threshold. For more details, read [OSPAR Marine Mammal By-catch assessment](#). As this is a common indicator for both OSPAR and UK MS, that suggests that an updated UK MS assessment would no longer be seen as meeting this target.

Using the latest evidence from the UK Bycatch Monitoring Programme by Kingston et al (2021)²⁵, it is net fisheries (for example, gill nets, tangle nets etc) that are largely responsible for both harbour porpoise and common dolphin bycatch.

Cetacean abundance and range targets

For coastal bottlenose dolphins, the indicator target of 'no statistically significant decrease in abundance' was met in the Greater North Sea and for the largest group in the Celtic Seas (in the Coastal Wales assessment unit). No assessment has been possible for the other two smaller Celtic Seas Groups (in the West Coast

25 Kingston, A., Thomas, I. and Northridge, S. (2021) [UK Bycatch Monitoring Programme Report for 2019](#). Sea Mammal Research Unit.

assessment unit and Coastal Southwest assessment unit). For more information, read [UK MS Abundance and distribution of coastal bottlenose dolphins assessment](#).

For species other than coastal bottlenose dolphins, the indicator target of 'no significant decline' was met for some species in some areas (minke whale in the Greater North Sea), but for most species and all of the Celtic Seas, there was insufficient evidence to make an assessment. For more information, read [UK MS Abundance and distribution of cetaceans other than coastal bottlenose dolphins assessment](#).

The recent OSPAR indicator assessment identified a possible decline in abundance of harbour porpoises in the Celtic and Irish Seas assessment unit. If true, this decline would amount to an annual rate of approximately -7%, exceeding the threshold of -1,6% for this species. The OSPAR assessment speculated that this decline may be linked to excessive incidental by-catch.

However, the assessments noted that there remain substantial gaps in coverage resulting in a low data availability for offshore areas and in the winter season in particular. For these reasons, data availability underpinning the assessments was considered to be low to moderate (Geelhoed et al. 2023).

Aside from bycatch (which is considered separately), the mechanism by which certain fisheries could theoretically be impacting on abundance and distribution would be through the removal of prey species important to cetacean species. At high levels, this could potentially lead to population-level impacts. The 2023 OSPAR QSR assessment for Abundance and Distribution of cetaceans detected that populations of harbour porpoise in the North Sea are steadily shifting their distribution southwards. Though this assessment also noted that their abundance overall remains steady and that the North Sea population numbers remain stable despite the distribution changes.

Cetacean summary

The status of cetaceans with both the North Sea and Celtic Sea is mixed. While there are some aspects that are in line with the achievement of GES, much of the picture is unclear. The impact of various net fisheries is leading to bycatch that, in places, might be impacting long term population viability of harbour porpoise.

Other than for a limited number of coastal bottlenose dolphin populations, it is unclear whether the abundance and range of most cetacean species can be considered in line with GES. Fisheries and the removal of prey species is one of several activities / pressures that have the potential to result in changes in cetacean abundance and distribution.

D1 and D4 – seals

The UK has achieved its aim of GES for grey seals in the Greater North Sea and Celtic Seas. There was a significant increase in the abundance of harbour seals in West Scotland where most harbour seals are located, but their status in other parts of the Celtic Seas is uncertain. Harbour seals in the Greater North Sea have not yet achieved GES.

Seals are an important marine ecosystem component that contributes to overall levels of biodiversity (D1). In addition, as top predators, seal productivity can also provide some understanding and insight as to how the food web is functioning (D4).

To meet Good Environmental Status, the high-level objective is that 'the population abundance and demography of seals indicate healthy populations that are not significantly affected by human activities'. According to the [Marine Strategy Part One: UK updated assessment and Good Environmental Status](#), the UK has achieved its aim for GES for grey seals in the Greater North Sea and Celtic Seas. For harbour seals, there has been a significant increase in abundance in West Scotland where most harbour seals are located but their status is uncertain in other parts of the Celtic Seas and below what is required for GES in the Greater North Seas. For more information, read, [UK MS seal biodiversity assessment](#).

The latest OSPAR assessment, which will inform updates to the UK MS assessments, found that grey seal abundance is largely increasing across the assessed area. Harbour seals abundance trends are mixed within the Greater North Sea. Southern Celtic Seas data were limited, but trends are generally increasing. Distribution appears generally stable for both species. A summary of the current status is shown in Table A2. It should be noted that the current indicators used do not always cover the entire breadth of what is set out in the targets. For instance, there was no indicator developed or used as part of the 2019 assessment for bycatch.

Table A2. Detail from the 2019 UK MS assessment on descriptor [D1; D4: Seals](#). Taken from [Marine Strategy Part One: UK updated assessment and Good Environmental Status](#) and the [UK MS Marine Online Assessment Tool](#).

Table notes:

Note 1: For this indicator, read [OSPAR Marine Mammal By-catch assessment 2023](#).

Target	Indicator	North Sea	Celtic Seas
The long-term viability of seal populations is not threatened by incidental bycatch.	Marine mammal bycatch (OSPAR) ^{Note1}	GES achieved in OSPAR QSR 2023	GES achieved in OSPAR QSR 2023
Population abundance and distribution are consistent with favourable conservation status.	Grey seal abundance and distribution	GES achieved	GES achieved
Population abundance and distribution are consistent with favourable conservation status.	Harbour seal abundance and distribution	GES not achieved	GES status uncertain
Grey seal pup production does not decline substantially in the short or long-term.	Grey seal pup production (OSPAR)	GES achieved	GES achieved

Current impact of fisheries on the baseline condition

Fishing is one of several anthropogenic activities that are considered relevant to marine mammals. Other pressures include noise impacts from offshore infrastructure such as renewable energy and pollution from a range of sources. More information on relevant pressures is provided in section 2.6.1 of the [Marine Strategy Part One: UK updated assessment and Good Environmental Status](#).

Seal bycatch

The 2019 UK MS assessment suggests a new target on bycatch mortality will be used in the future. Seal bycatch was not considered within the 2019 assessment. Grey seals are one of the three marine mammal species regularly recorded during the UK Bycatch Monitoring programme. Figures for seals (grey and harbour) are

combined but the majority are thought to be greys. In the 2018 report²⁶ the authors were fairly confident that all seals observed in gillnets were greys. Harbour seals (referred to as common seals in the report) are rarely caught and numbers are too low to generate a useful bycatch estimate separately. The gears that pose the most risk to grey seals appears to be tangle and trammel nets, which was estimated to account for over 90% of seal bycatch in 2019²⁷.

The most recent OSPAR quality status reports assessment on marine mammal bycatch²⁸ (which is likely to feed into the next round of UK MS assessments), concludes that although grey seal bycatch is high, bycatch in 2020 was below the threshold value set and therefore not thought to be demographically significant. This suggests that in an updated UK MS assessment, seal bycatch is not likely to be threatening the long-term viability of the population and the bycatch target will be met.

Seal abundance and production

The 2019 UK MS assessment reports that grey seal numbers have continued to increase. Increases in grey seal pup production has slowed since the rapid increase following the end of culling in the 1970s, but still shows a positive trend. This is in line with GES. Harbour seal abundance has increased over both the short and long term in the English Channel and along the East Coast of England. But there have been short-term and long-term declines in parts of Scotland. The cause of the declines is not currently known. For more information, read [UK MS seal biodiversity assessment](#).

Seals summary

Grey seals populations and productivity continues to increase, and targets are being met. Bycatch (largely in tangle and trammel nets) is occurring but not at levels that threaten population viability. For harbour seals, the status is not in line with GES where population declines have occurred in some areas. The cause is unknown. It is not thought to be linked to bycatch as occurrences are rare and there is no indication that it is linked to other pressures associated with fishing.

26 Northridge, S., Kingston, A. and Thomas, I. (2019) [Annual report on the implementation of Council Regulation \(EC\) No 812/2004 during 2018](#). Sea Mammal Research Unit).

27 Kingston, A., Thomas, I. and Northridge, S. (2021) [UK Bycatch Monitoring Programme Report for 2019](#). Sea Mammal Research Unit.

28 [Marine Mammal By-catch](#)

D1 and D4 – birds

The UK has achieved its aim of GES for non-breeding waterbirds in the Greater North Sea but not in the Celtic Seas. Breeding seabirds have not achieved GES.

Seabirds are a relatively well monitored group that are an important marine ecosystem component that contributes to overall biodiversity (D1). In addition, as top predators, the abundance of birds can also provide some understanding and insight as to how the wider food web is functioning (D4).

To meet Good Environmental Status, the high-level objective is that ‘the abundance and demography of marine bird species indicate healthy populations that are not significantly affected by human activities. According to the [Marine Strategy Part One: UK updated assessment and Good Environmental Status](#), GES has not been achieved for seabirds in the Greater North Sea and the Celtic Seas and the situation is declining, evidenced by increasing breeding failure rates. The baseline environmental condition with respect to birds is therefore one where some recovery is required to meet GES. For more information, read [UK MS marine bird biodiversity assessment](#).

A summary of the current status is shown in Table A3. It should be noted that the current indicators used do not always cover the entire breadth of what is set out in the targets. For instance, although there are plans for target about bycatch, there was no indicator developed or used as part of the 2019 assessment.

Table A3. Detail from the 2019 UK MS assessment on descriptor [D1; D4: Birds](#). Taken from [Marine Strategy Part One: UK updated assessment and Good Environmental Status](#) and the [UK MS Marine Online Assessment Tool](#).

Table notes:

Note 1: For this indicator, read [OSPAR Pilot Assessment of Marine Bird Bycatch 2023](#).

Target	Indicator	North Sea	Celtic Seas
The long-term viability of marine bird populations is not threatened by deaths caused by incidental bycatch catch in mobile and static fishing gear.	Under development (Note1)	Data not available	Data not available
The population size of species has not declined substantially since 1992 as a result of human activities.	Marine bird abundance	GES not achieved	GES not achieved
Widespread lack of breeding success in marine birds caused by human activities should occur in no more than three years in six.	Marine bird breeding success/failure	GES not achieved	GES not achieved
Widespread lack of breeding success in marine birds caused by human activities should occur in no more than three years in six.	Kittiwake breeding success²⁹	GES achieved (except Northern Isles)	Not assessed
There is no significant change or reduction in population distribution caused by human activities.	Distribution of breeding and non-breeding marine birds	Not assessed	Not assessed
There is no significant change or reduction in population distribution caused by human activities.	Invasive mammal presence on island seabird colonies	Not assessed	Not assessed

29 Kittiwake breeding success has only been achieved for the English mainland colonies. GES for Kittiwake breeding success has not been achieved for the entire North Sea region due to breeding failures in Orkney and Shetland.

Current impact of fisheries on the baseline condition

Fishing is one of several anthropogenic activities that are considered relevant to this ecosystem component, including incidental bycatch and competition for resources (for example, sandeel fishing). Other pressures include mortality due to renewables, disturbance from a range of activities, oil pollution, and transfer of non-indigenous species to islands from ships. More information on relevant pressures is provided in section 2.6.1 of the [Marine Strategy Part One: UK updated assessment and Good Environmental Status](#).

Bird populations size and breeding success

In the 2019 UK MS assessment, population targets were met for non-breeding water birds in the Greater North Sea but not in the Celtic Seas. Population targets for breeding seabirds were not met for breeding seabirds in either sub-region. In both sub-regions, a quarter or more species showed frequent and widespread breeding failures. Surface-feeding species that predominantly prey on small fish are often subject to greater ecological pressures compared to others. This would suggest that the surface feeding availability of small forage fish species including lesser sandeel and sprat is limiting the breeding success of surface-feeding species such as black-legged kittiwake. Reductions in food availability could be a result of climate change or due to past and present fisheries, or a combination of both. For more information, read, [UK MS marine bird biodiversity assessment](#).

The recent avian influenza outbreak is likely to have had a strong negative effect on seabird population sizes for some species. It is not yet clear what the extent of the impact is, but it has the potential to move the baseline further away from meeting GES targets.

The recent OSPAR QSR indicator assessments for marine birds show that they are in poor status and declining in most of the OSPAR Maritime Area. This mainly refers to birds feeding at the water surface, diving to the seafloor or foraging in shallow water / on mudflats. Seabirds which are water column feeders are above thresholds in some areas. This is thought to be because water-column feeders have access to a wider range of prey at different depths compared to surface and benthic feeders. The availability of small forage fish species at the surface was considered to be limiting the breeding success or the annual survival of some surface-feeding species.

Bird bycatch

The 2019 UK MS assessment suggests a new target on bycatch mortality that will be used in the future. It is well recognised that certain fishing gears can pose a high

bycatch risk to seabirds. Anderson et al³⁰ (2022) identifies the UK offshore demersal longline fishery and the <10m static net fishery as the fleets that pose the highest risk to birds.

Mortality estimates are not produced routinely for birds using data available from the UK Bycatch Monitoring Programme. Preliminary estimates using the available data suggests that UK vessels in longline, gillnet and midwater trawls may account for thousands of seabird mortalities each year covering several species, with fulmar and cormorant being the most affected species in terms of possible population impacts with a further five species (great northern diver, gannet, shag, guillemot and razorbill) having an estimated bycatch mortality that exceeded 1% of total adult mortality (Northridge et al 2020³¹ and Miles et al 2020³²). However, these estimates have high uncertainty in part because sample sizes are low and possibly unrepresentative of the fleet.

A new indicator for seabird bycatch was trialled for the OSPAR QSR, but no results were presented.

Bird summary

Seabird populations are currently below the level that is considered to meet GES and the situation is deteriorating. Some declines in breeding success have been linked to prey availability caused by climate change and / or past and present fisheries. Invasive predatory mammals are also known to impact breeding success on island colonies. The impact of bycatch will be included in future assessments and current evidence suggests that some longline and static net fisheries could be having possible population level impacts on certain species.

30 Anderson, O.R.J., Thompson, D. & Parsons, M. (2022). [Seabird bycatch mitigation: evidence base for possible UK application and research. JNCC Report No. 717](#), JNCC, Peterborough. ISSN 0963-8091.

31 Northridge. S., Kinston. A. and Coram. A. (2020). Preliminary estimates of seabird bycatch by UK vessels in UK and adjacent waters. Scottish Ocean Institute, University of St Andrews. Final report to JNCC

32 Miles, J., Parsons, M. and O'Brien, S. (2020). Preliminary assessment of seabird population response to potential bycatch mitigation in the UK-registered fishing fleet. Report prepared for the Department for Environment Food and Rural Affairs (Project Code ME6024).

D1 and D4 – fish and D3 – commercially exploited fish and shellfish

Demersal fish biodiversity is recovering from a history of over-exploitation, but GES has not yet been achieved in either the Greater North Sea or the Celtic Seas. A partial assessment of pelagic shelf fish status did not provide a clear result.

The UK has achieved its aim of GES for some commercially exploited fish. Most national shellfish stocks have either not yet achieved GES or their status is uncertain. The percentage of quota stocks fished below MSY and the proportion of marine fish spawning stock biomasses capable of producing MSY have increased significantly since 1990.

Fish are an important ecosystem component that contributes to overall levels of biodiversity (D1). In addition, fish of different species have a significant role in marine food webs (D4), acting as both predators and prey. Some fish species are commercially exploited, and only a proportion of these have managed quotas. Over exploitation can lead to a decline in stocks (D3) which can reduce both future commercial opportunities and have wider ecological impacts.

In order to meet Good Environmental Status, the high-level objective for fish is that 'the abundance and demography of fish indicate healthy populations that are not significantly affected by human activities. For stocks of commercial fish, the high-level objective is that 'Populations of all commercially exploited fish and shellfish are within safe biological limits, exhibiting a population age and size distribution that is indicative of a healthy stock'.

According to the [Marine Strategy Part One: UK updated assessment and Good Environmental Status](#), neither of these objectives are currently being met, although there are signs of improvement. The baseline environmental condition with respect to fish is therefore one where recovery is required to meet GES. For more information, read, [UK MS fish biodiversity assessment](#) and [UK MS commercial fish and shellfish assessment](#).

The 2019 assessment used a limited number of indicators. More indicators are being included in future assessments. A summary of the current status and indicators is shown in Table A4a and A4b.

Table A4a. Detail from the 2019 UK MS assessment on fish [D1; D4: Fish](#). Taken from [Marine Strategy Part One: UK updated assessment and Good Environmental Status](#) and the [UK MS Marine Online Assessment Tool](#).

Target	Indicator	North Sea	Celtic Seas
The size structure of fish communities is indicative of a healthy marine food web.	Size composition in fish communities	GES not achieved	GES not achieved
The size structure of fish communities is indicative of a healthy marine food web.	Proportion of large fish (Large Fish Index)	GES not achieved	GES partially achieved
The size structure of fish communities is indicative of a healthy marine food web.	Mean maximum length of fish.	GES not achieved	GES not achieved
Incidental bycatch is below levels which threaten long-term viability and recovery of fish populations.	Under development	Not assessed	Not assessed
The population abundance of sensitive species is not decreasing due to anthropogenic activities and long-term viability is ensured.	Recovery in the population abundance of sensitive fish species	GES not achieved	GES not achieved
For fish species in the Habitats and Birds Directive population abundance and geographic distribution meets established favourable reference values.	UK assessments of listed fish species	Not assessed	Not assessed

For listed fish species, the area and the quality of the habitat is sufficient.	UK assessments of listed fish species	Not assessed	Not assessed
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Table A4b. Detail from the 2019 UK MS assessment [D3: commercial fish and shellfish](#). Taken from [Marine Strategy Part One: UK updated assessment and Good Environmental Status](#) and the [UK MS Marine Online Assessment Tool](#).

Target	Indicator	North Sea	Celtic Seas
The fishing mortality rate of populations of commercially exploited species is at or below levels which can produce the maximum sustainable yield.	Commercial fishing pressure for stocks of UK interest	GES partially achieved	GES partially achieved
The Spawning Stock Biomass of populations of commercially exploited species are above biomass levels capable of producing the maximum sustainable yield.	Reproductive capacity of commercially exploited stocks of UK interest	GES partially achieved	GES partially achieved

Current impact of fisheries on the baseline condition

The status of commercial fish stocks (D3) primarily relates to exploitation rates so is predominantly influenced by fishing activities. For commercial fish some (53% of quota stocks) were being exploited at or below MSY in 2015, but this was not the case for all stocks. Out of a suite of 79 TACs which can be reported across multiple years, 32 of the 79 baseline TACs were consistent with ICES' advice (40%) in 2023

compared to 27 TACs (34%) in 2022 (Bell et al.2023³³). Most non-quota stocks are unassessed, and do not have MSY or a suitable proxy in place despite being a significant proportion of UK landings. Most shellfish stocks have either not met the requirement, or their status is uncertain. For more information, read [UK MS commercial fish and shellfish assessment](#).

Fish as part of the ecosystem (D1 and D4) encompasses a much wider range of species, including those not commercially targeted. Both the removal of targeted species and bycatch of non-targeted / non-commercial fish species is relevant. While fishing is considered the main anthropogenic activity that is relevant to this ecosystem component, other pressures such as noise from renewable infrastructure and hydrodynamic changes brought about from coastal defence are also relevant in some instances. More information on relevant pressures is provided in section 2.6.1 of the [Marine Strategy Part One: UK updated assessment and Good Environmental Status](#).

Recovery from past over-exploitation by fisheries does appear to be occurring in some areas. Demersal fish biodiversity is recovering from a history of over-exploitation, but GES has not been achieved in either the Greater North Sea or the Celtic Sea. A partial assessment of pelagic shelf fish status did not provide a clear result. For more information, read [UK MS fish biodiversity assessment](#).

Fish summary

The current status of fish communities in the UK is primarily shaped by historical over-exploitation by fisheries, while ongoing over-exploitation continues to be a notable contributing factor. Improved fisheries management since the 1990s has resulted in more stocks being fished at or below MSY levels so, although the target is not yet met, there is a positive trend. Improved fisheries management has also resulted in some positive trend in fish communities beyond the targeted stocks.

D1 and D6 – benthic habitats

The levels of physical damage to soft sediment habitats are consistent with the achievement of GES in UK waters to the west of the Celtic Seas, but not in the Celtic Seas or in the Greater North Sea. For sublittoral rock and biogenic habitats GES has not yet been achieved. Descriptor also relevant to Geodiversity (geology and sediments).

33 Bell ED, Nash RMD, Garnacho E, De Oliveira J, Hanin M, Gilmour F, O'Brien CM 2023. Assessing the sustainability of negotiated fisheries catch limits by the UK for 2023. Cefas project report for Defra.

Benthic habitats are an important ecosystem component that contributes to overall levels of biodiversity (D1). It is also important to ensure the structure and function of the benthic ecosystems is adequately safeguarded by considering seafloor integrity (D6).

To meet Good Environmental Status, the high-level objective is that 'the health of seabed habitats is not significantly adversely affected by human activities'. However, according to the [Marine Strategy Part One: UK updated assessment and Good Environmental Status](#), GES has not been achieved. This states that the main problem is caused by physical disruption of the seabed from fishing gear (demersal towed gear). The baseline environmental condition with respect to benthic habitats is therefore one which is required to meet GES. For more information, read [UK MS benthic biodiversity and seafloor habitats assessment](#).

A summary of the current status is shown in Table A5. Most indicators focussing on intertidal benthic habitat are consistent with GES (except for saltmarsh in the North Sea), but subtidal habitats are not consistent with GES.

Table A5. Detail from the 2019 UK MS assessment on [D1; D6: Benthic habitats](#). Taken from [Marine Strategy Part One: UK updated assessment and Good Environmental Status](#) and the [UK MS Marine Online Assessment Tool](#).

Table notes:

Note 1: The benthic communities' indicator (OSPAR BH2) is currently in the pilot stage of development.

Target	Indicator	North Sea	Celtic Seas
The physical loss of each seabed habitat type caused by human activities is minimised and where possible reversed.	Physical loss of predicted habitats	GES not achieved	GES not achieved
The extent of habitat types adversely affected by physical disturbance caused by human activity should be minimised.	Extent of Physical damage indicator to predominant and special habitats	GES not achieved	GES not achieved
The extent of habitat types adversely affected by physical disturbance caused by human activity should be minimised.	Benthic communities' indicator ^{Note1}	Not assessed	Not assessed
Habitat loss of sensitive, fragile, or important habitats caused by human activities is prevented, and where feasible reversed.	Physical loss of predicted habitats indicator	GES not achieved	GES not achieved
The extent of adverse effects caused by human activities on the condition, function and ecosystem processes of habitats is minimised.	Benthic communities' indicator	Not assessed	Not assessed
The extent of adverse effects caused by human activities on the condition, function and ecosystem processes of habitats is minimised.	Aggregated Infaunal Quality Index	GES not achieved	GES partially achieved

The extent of adverse effects caused by human activities on the condition, function and ecosystem processes of habitats is minimised.	Aggregated Saltmarsh Tool	GES not achieved	GES achieved
The extent of adverse effects caused by human activities on the condition, function and ecosystem processes of habitats is minimised.	Aggregated Rocky Shore Macroalgal Index	GES achieved	GES achieved
The extent of adverse effects caused by human activities on the condition, function and ecosystem processes of habitats is minimised.	Aggregated Intertidal Seagrass Tool	GES achieved	GES achieved
The extent of adverse effects caused by human activities on the condition, function and ecosystem processes of habitats is minimised.	Intertidal rock community change indicator (MarClim)	GES status uncertain	GES status uncertain

Current impact of fisheries on the baseline condition

Fishing is one of several anthropogenic activities that are considered relevant to this ecosystem component. Other pressures include physical loss from renewable energy generation and oil extraction, coastal defence and the input and spread on invasive non-native species. But the main barrier to the achievement of GES is caused by physical disruption of the seabed from fishing. More information on relevant pressures is provided in section 2.6.1 of the [Marine Strategy Part One: UK updated assessment and Good Environmental Status](#).

Physical disturbance of seabed

Fishing is considered to be the main driver of physical disturbance and occurs when gear is towed across the seafloor. The degree of disturbance depends on factors such as the size of the gear, the activity level (for example, number of tows per year) how fragile the benthic species present are and how quickly they can recover. The use of demersal towed gears is widely distributed. Using available VMS data and

benthic habitat data available, the 2019 UK MS assessment concluded that seabed disturbance targets were not being met within the Greater North Sea and Celtic Seas. As the analysis combined the VMS of all towed gear metiers together, it is not yet possible to determine the relative contribution of different gear types to the current levels of seabed disturbance. Other activities, such as aggregate extraction, have yet to be included within the analysis, but the spatial extents of these are considerably smaller than fishing activity. For more information and detail of the analysis, read [UK MS Extent of physical damage to predominant seafloor habitats assessment](#) and [UK MS Extent of Physical Damage to Predominant and Special Habitats assessment](#).

Habitat loss

UK MS assessments on a limited range of highly sensitive habitats (seagrass beds and horse mussel reefs), suggest that a loss of areas of potential habitat has occurred up to 2016. This was based on modelled data. The main causes were not thought to be due to fishing as these impacts are generally considered reversible. Irreversible loss has been predicted to have come about from aquaculture, navigational dredging and dredge spoil disposal, recreational activity, and coastal development. For more information, read [UK MS Potential physical loss of predicted seafloor habitats assessment](#). There are instances where fishing can result in permanent habitat loss (for instance, heavy bottom towed gear over softer, rocky reef habitats), but fishing is generally considered to lead to habitat disturbance and degradation rather than loss.

Benthic habitat summary

There is widespread disturbance of seabed habitats by demersal towed gear that is contributing to the failure to achieve GES. Other impacts from non-fisheries activities may also be having an influence, but to a much lesser degree.

D4 – food webs

Food webs (D4) are the network of predator-prey relationships that occur in the marine environment, from phytoplankton to top predators such as birds or seals. Fish communities are a key component of food webs. Knowledge of food webs allow understanding of how changes at one trophic level can impact those above and below it.

To meet Good Environmental Status, the high-level objective for food webs is that 'the health of the marine food web is not significantly affected by human activities'. According to the [Marine Strategy Part One: UK updated assessment and Good Environmental Status](#), the extent to which good environmental status has been

achieved is uncertain. Plankton communities are changing, some fish communities are recovering from past overexploitation, but others are not, breeding seabirds are in decline, and grey seal numbers are increasing. It is known that the components of the marine food webs are changing but it is not always clear how they are affecting each other. For more information, read [UK MS food webs assessment](#).

A summary of the current status is shown in Table A6.

Table A6. Detail from the 2019 UK MS assessment on [D4: food webs](#). Taken from [Marine Strategy Part One: UK updated assessment and Good Environmental Status](#) and the [UK MS Marine Online Assessment Tool](#).

Target	Indicator	North Sea	Celtic Seas
The species composition and relative abundance of representative feeding guilds are indicative of a healthy marine food web.	Mean maximum length of fish	GES not achieved	GES not achieved
The species composition and relative abundance of representative feeding guilds are indicative of a healthy marine food web.	Selected plankton lifeforms pairs (for example, large vs small zooplankton)	GES status uncertain	GES status uncertain
The species composition and relative abundance of representative feeding guilds are indicative of a healthy marine food web.	Abundance and distribution of coastal bottlenose dolphins	GES achieved	GES status uncertain
The species composition and relative abundance of representative feeding guilds are indicative of a healthy marine food web.	Abundance and distribution of cetaceans other than coastal bottlenose dolphins	GES partially achieved	GES status uncertain
The species composition and relative abundance of representative feeding guilds are indicative of a healthy marine food web.	Marine bird abundance	GES not achieved	GES not achieved

The balance of abundance between representative feeding guilds is indicative of a healthy marine food web.	TBC	Not assessed	Not assessed
The size structure of fish communities is indicative of a healthy marine food web.	Size composition in fish communities	GES not achieved	GES partially achieved
Productivity of the representative feeding guilds, characterised by key species, is indicative of a healthy marine food web.	Grey seal pup production	GES achieved	GES achieved
Productivity of the representative feeding guilds, characterised by key species, is indicative of a healthy marine food web.	Marine bird breeding success/failure	GES not achieved	GES not achieved
Productivity of the representative feeding guilds, characterised by key species, is indicative of a healthy marine food web.	Kittiwake breeding success ³⁴	GES achieved (except Northern Isles)	Not assessed

34 Kittiwake breeding success has only been achieved for the English mainland colonies. GES for Kittiwake breeding success has not been achieved for the entire North Sea region due to breeding failures in Orkney and Shetland.

Current impact of fisheries on the baseline condition

Anthropogenic impacts on the marine food web are multiple and complex. As fish communities are a key component of food webs, pressure from fisheries can have a significant impact. The removal of forage fish (i.e., species at a low trophic level that contribute significantly to the diets of other fish, marine mammals, or seabirds) has the potential to impact higher trophic levels. For instance, reduction in the availability of small forage fish is likely to be contributing to the breeding success of some marine birds. Climatically driven changes in plankton will also have a strong influence on the rest of the food web. More detail is given under the individual faunal group sections. For more information, read [UK MS food webs assessment](#).

Food webs summary

Historic fishing activity has had a large impact on fish community structure which is a key component of marine food webs. With improved fisheries management focusing on stocks, some recovery is occurring. However, the management of fish stocks solely to safeguard future fisheries will not necessarily lead to all food web targets being met. Changes in plankton are likely driven by prevailing environmental conditions, but other impacts cannot be ruled out.

D10 – marine litter

To achieve Good Environmental Status for marine litter, the high-level objective is that 'the amount of litter and its degradation products on coastlines and in the marine environment is reducing and levels do not pose a significant risk to the environment and marine life.' According to the [Marine Strategy Part One: UK updated assessment and Good Environmental Status](#), GES has not been achieved for marine litter, and it remains a significant pressure on marine ecosystems. The baseline environmental condition with respect to marine litter is therefore one where improvement is required to meet GES. For more information, read [UK MS litter assessment](#). A summary of the current status is shown in Table A7.

Table A7. Detail from the 2019 UK MS assessment on [D10 Marine Litter](#) Taken from [Marine Strategy Part One: UK updated assessment and Good Environmental Status](#) and the [UK MS Marine Online Assessment Tool](#).

Target	Indicator	North Sea	Celtic Seas
A decrease in the total amount of the most common categories of litter found on surveyed beaches.	Presence of litter (beaches)	GES not achieved	GES not achieved
A decrease in the number of items of litter on the seabed.	Presence of litter (seabed)	GES status uncertain	GES status uncertain
A downward trend in the number of northern fulmars with more than 0.1g of plastic particles in their stomach.	Presence of floating litter	GES status uncertain	GES status uncertain
Develop an appropriate indicator to measure micro-litter in the marine environment.	In development	Not assessed	Not assessed

Current impact of fisheries on the baseline condition

Fishing activities can contribute to marine litter through discarded or lost fishing gear, including nets, lines, and traps. This type of litter, also known as "ghost gear", can persist in the environment, entangling marine life, smothering benthic habitats, and introducing microplastics into the marine food chain. In addition, waste generated onboard fishing vessels, such as packaging materials and food waste, can also contribute to marine litter when not disposed of properly.

Marine litter summary

Marine litter, including from fishing activities, is a significant pressure on marine ecosystems and water quality. The UK has not yet achieved its aim of GES for litter. Beach litter levels in the Celtic Seas have remained largely stable since the assessment in 2012, whilst beach litter levels in the Greater North Sea have slightly increased. Waste fishing material is a component of beach litter. Both floating litter and seafloor litter remain an issue, with plastic the predominant material. Achieving

GES for marine litter requires improved waste management practices, the reduction of lost or discarded fishing gear, and increased awareness and monitoring of the issue.

D11 – underwater noise

To achieve Good Environmental Status for underwater noise, the high-level objective is that ‘loud, low and mid frequency impulsive sounds and continuous low frequency sounds introduced into the marine environment through human activities are managed to the extent that they do not have adverse effects on marine ecosystems and animals at the population level.’ [Marine Strategy Part One: UK updated assessment and Good Environmental Status](#), indicates that data on underwater noise is limited, making it difficult to determine whether GES has been achieved. However, increasing awareness of the issue has led to further research and monitoring efforts. For more information, read [UK MS underwater noise assessment](#). A summary of the current status is shown in Table A8.

Table A8. Detail from the 2019 UK MS assessment on [D11 Underwater noise](#). Taken from [Marine Strategy Part One: UK updated assessment and Good Environmental Status](#) and the [UK MS Marine Online Assessment Tool](#).

Target 2019	Indicator	North Sea	Celtic Seas
Levels of anthropogenic impulsive sound sources do not exceed levels that adversely affect populations of marine animals.		GES status uncertain	GES status uncertain
Levels of anthropogenic continuous low-frequency sound do not exceed the levels that adversely affect populations of marine animals	Safe levels of low anthropogenic continuous low frequency sound	GES status uncertain	GES status uncertain

Current impact of fisheries on the baseline condition

Fishing activities can generate underwater noise through the use of engines, sonar, and other equipment. Although fisheries are not the primary source of anthropogenic underwater noise (shipping, construction, and energy production are major contributors), they can still contribute to the overall noise pollution in the marine environment. This noise can impact marine species that rely on sound for communication, navigation, and foraging, leading to changes in behaviour, stress, and potential displacement from preferred habitats.

Summary

Underwater noise from fisheries, while not the primary source, can still contribute to the overall noise pollution in the marine environment. Fishing vessels will contribute to underwater noise through sonar, engine noise, gear interacting with seabed and deploying and retrieving gear. The achievement of GES for underwater noise in the UK is uncertain. Research and monitoring programmes established since 2012 have provided an improved understanding of the impacts of sound on marine ecosystems. However, achieving GES for underwater noise will require better understanding and monitoring of the issue, as well as the development and implementation of strategies to manage noise pollution from various sources.

Appendix C: UK MPA designations

[Conservation of Habitats and Species Regulations 2017](#) and [The Conservation of Offshore Marine Habitats and Species Regulations 2017](#)

- Special Protection Areas (SPAs) - England, Scotland, Wales
- Special Areas of Conservation (SACs) - England, Scotland, Wales

[Conservation \(Natural Habitats, etc.\) Regulations \(Northern Ireland\) 1995 \(as amended\)](#)

- Special Protection Areas (SPAs) – Northern Ireland
- Special Areas of Conservation (SACs) – Northern Ireland

[Marine and Coastal Access Act 2009](#)

- Marine Conservation Zones (MCZs) – England, Wales
- Nature Conservation Marine Protected Areas (NCMPAs), offshore waters – Scotland

[Marine \(Scotland\) Act 2010](#)

- Nature Conservation Marine Protected Areas (NCMPAs), inshore waters – Scotland

[Marine Act \(Northern Ireland\) 2013](#)

- Marine Conservation Zones (MCZs) – Northern Ireland

[Natural Environment and Rural Communities Act 2006 \(Part 4\)](#)

- Sites of Special Scientific Interest (SSSI) – England, Scotland, Wales

[The Environment \(Northern Ireland\) Order 2002](#)

- Coastal Areas of Special Scientific Interest (ASSIs) - Northern Ireland

[Convention on Wetlands of International Importance](#)

- Ramsar Sites (Wetland of International Importance under the Convention on Wetlands of International Importance Especially as Waterfowl Habitat)

Appendix D: marine plans – specific detail within the UK

England

Marine plans put into practice the goals for the marine environment that are identified in the MPS alongside the [National Planning Policy Framework](#) (NPPF) and the [Localism Act 2011](#). The Marine Management Organisation (MMO) is responsible for preparing [marine plans in England](#), and published the [North East](#), [North West](#), [South West](#), [South East](#), [South](#) and [East](#) marine plans. The marine plans include policies to support a sustainable fishing industry and a healthy marine environment.

Appendix E: glossary

Biodiversity: The variety of all life on earth, including the diversity within and between all plant and animal species and the diversity of ecosystems.

Blue carbon: Carbon captured by the world's oceans and coastal ecosystems. Blue carbon habitats are the habitats where it is stored.

Bycatch: Defined in section 52 of the Fisheries Act 2020 means (a) fish that are caught while fishing for fish of a different description, or (b) animals other than fish that are caught in the course of fishing.

Climate change: Referring to human-induced climate change driven by greenhouse gas emissions. It includes global warming, warming oceans, greater risks of flooding, droughts, and heat waves.

Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES): CITES is an international agreement between governments. Its aim is to ensure that international trade in specimens of wild animals and plants does not threaten the survival of the species.

Convention on the Conservation of Migratory Species of Wild Animals (CMS): The Convention on the Conservation of Migratory Species of Wild Animals, also known as the Convention on Migratory Species (CMS) is an international agreement that aims to conserve migratory species throughout their ranges. The agreement was signed under the auspices of the United Nations Environment Programme and is concerned with conservation of wildlife and habitats on a global scale.

Descriptors (UK Marine Strategy): Descriptors are elements within the environment that provide the means to assess general status or condition of that environment. This can be done through the establishment of indicators or targets for each descriptor.

Ecosystem: A biological community which consists of all the organisms and the physical environment with which they interact.

Ecosystem-based approach: Defined in section 1(10) of the Fisheries Act 2020 as an approach which (a) ensures that the collective pressure of human activities is kept within levels compatible with the achievement of GES (within the meaning of the Marine Strategy Regulations 2010 (S.I. 2010/1627)), and (b) does not compromise the capacity of marine ecosystems to respond to human-induced changes.

Findspots: The place where one or more artefacts have been found. May prove to be associated with a site, other finds, natural features etc., or isolated (no apparent relationship).

Fish: Marine and estuarine finfish and shellfish, including migratory species such as European eel and salmon.

Fisheries: The commercial or recreational capture of wild marine organisms (fish and shellfish); commercial fishing can use a variety of mobile and static gear, vessels, and locations.

Fisheries Framework (Fisheries Management and Support Framework): outlines the legislation and policies for the sustainable management of fisheries and the wider seafood sector. It covers the catching, processing, and supply industries, including access to fishing opportunities, licensing, stock recovery, enforcement, data collection, aquaculture, recreational sea angling, and areas of collaboration and common principles. It includes governance structures and ways of working.

Fisheries Management Plan (FMP): A document, prepared and published under the Fisheries Act 2020, that sets out policies designed to restore one or more stocks of sea fish to, or maintain them at, sustainable levels.

Fisheries policy authorities: As defined by section 52 of the Fisheries Act 2020, “fisheries policy authorities” means (a) the Secretary of State, (b) the Scottish Ministers, (c) the Welsh Ministers, and (d) the Northern Ireland department.

Fishermen’s fasteners: Places where fishermen have snagged their fishing gear.

Food webs: The natural interconnection of food chains and a graphical representation of what-eats what in an ecological community.

Good Environmental Status (GES): A qualitative description of the state of the seas that the Marine Strategy Regulations 2010 requires authorities to achieve or maintain by the year 2020. Achieving GES is about protecting the marine environment, preventing its deterioration, and restoring it where practical, while allowing sustainable use of marine resources.

Inshore: 0 to 12 nautical miles from the UK’s territorial sea baselines.

Inshore Fisheries and Conservation Authorities (IFCAs): IFCAs are responsible for the management of fishing activities in English coastal waters out to six nautical miles from territorial sea baselines. The 10 IFCAs have a shared 'vision' to lead, champion and manage a sustainable marine environment and inshore fisheries.

International Council for the Exploration of the Sea (ICES): Coordinates and promotes marine research on oceanography, the marine environment, the marine ecosystem, and on living marine resources in the North Atlantic.

Joint Fisheries Statement (JFS): As defined by section 2(1) of the Fisheries Act 2020, a document which sets out the policies of the fisheries policy authorities for achieving, or contributing to the achievement of, the fisheries objectives in the Fisheries Act 2020.

Marine environment: Includes (a) the natural beauty or amenity of marine or coastal areas, or of inland waters or waterside areas, (b) features of archaeological or historic interest in those areas, and (c) flora and fauna which are dependent on, or associated with, a marine or coastal, or aquatic or waterside, environment.

Marine litter: Any solid material which has been deliberately discarded or unintentionally lost on beaches, on shores or at sea. It includes any persistent, manufactured or processed solid material.

Marine Management Organisation (MMO): An executive non-departmental public body in the United Kingdom established under the Marine and Coastal Access Act 2009, with responsibility for planning and licensing of activities in English waters from 0-200nm, save fisheries activities within 0-6nm which are the responsibility of the IFCAs. The MMO also has some UK responsibilities.

Marine Protected Areas (MPA): Areas of the sea protected by law for nature conservation purposes.

Marine Plans: A marine plan is a document which has been prepared and adopted for a marine plan area by the appropriate marine plan authority in accordance with Schedule 6 of the Marine and Coastal Access Act 2009, and which states the authority's policies for and in connection with the sustainable development of the area.

Maximum Sustainable Yield (MSY): Defined in the Fisheries Act 2020 as the highest theoretical equilibrium yield that can be continuously taken on average from a marine stock under existing environmental conditions without significantly affecting recruitment.

National fisheries authorities: As defined by section 25(4) of the Fisheries Act 2020, these are (a) the Secretary of State, (b) the Marine Management Organisation, (c) the Scottish Ministers, (d) the Welsh Ministers, and (e) the Northern Ireland department. The term 'national fisheries authorities' differs from 'fisheries policies authorities' in including the MMO.

Non-quota stocks (NQS): Species that are not managed through TACs (quota limits). They include some finfish, most commercial shellfish species, and various other species.

Offshore: 12 to 200 nautical miles from the UK's territorial sea baselines.

Precautionary approach to fisheries management: Defined in section 1(10) of the Fisheries Act 2020 as an approach in which the absence of sufficient scientific information is not used to justify postponing or failing to take management measures to conserve target species, associated or dependent species, non-target species or their environment.

Processing: As defined by section 52 of the Fisheries Act 2020: in relation to fish or any other aquatic organism, includes preserving or preparing the organism, or producing any substance or article from it, by any method for human or animal consumption.

RAMSAR Convention: The convention emphasises the special value of wetland, particularly as a key habitat for waterfowl. The Convention resulted in the designation of sites known as Ramsar Sites for management and conservation at an international level.

Recreational sea fishing: An umbrella term for a variety of recreational activities including recreational sea angling recreational netters and charter boats.

Regional Fisheries Management Organisation (RFMO): A multilateral international body or agreement set up to manage and conserve fish stocks in a particular region.

Remote Electronic Monitoring (REM): Integrated on-board systems that may include cameras, gear sensors, video storage, and Global Positioning System units, which capture comprehensive videos and are used to monitor fishing activity with associated sensor and positional information.

Resilience: The ability of an ecosystem, species, habitat, or industry to respond, recover or adapt to either changes or disturbances within a reasonable timeframe without permanent loss or damage.

Sensitive species: As defined in section 52 of the Fisheries Act 2020, sensitive species means: (a) any species of animal or plant listed in Annex II or IV of Directive 92/43/EEC of the Council of the European Communities on the conservation of natural habitats and of wild flora and fauna (as amended from time to time), (b) any other species of animal or plant, other than a species of fish, whose habitat, distribution, population size or population condition is adversely affected by pressures arising from fishing or other human activities, or (c) any species of bird.

Shellfish: As defined in section 52 of the Fisheries Act 2020, shellfish includes molluscs and crustaceans of any kind found in the sea or inland waters.

Statutory Nature Conservation Bodies' (SNCBs): The Statutory Nature Conservation Bodies' (SNCBs) are Natural England, Natural Resources Wales, NatureScot, the Northern Ireland Environment Agency, the Joint Nature Conservation Committee, and DAERA's statutory advisory body, the Council for Nature Conservation and the Countryside.

Sustainable Development: As defined by the Brundtland report (1987), sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs.

Sustainable fishing: Sustainable fisheries protect their stocks and the wider environment whilst delivering social and economic prosperity. Fisheries management decisions should balance environmental, economic, and social considerations to create sustainable fisheries that benefit present and future generations. It means ensuring that fish stocks can be fished commercially and recreationally, both now and in the future. Both the short-term and the long-term impacts of decisions managing fishing activity to protect stocks and on the fishing industry should be considered, while any short-term decisions to give social or economic benefit should not significantly compromise the long-term health of the marine environment. These decisions should recognise the cultural importance of fishing through maintaining and, where possible, strengthening coastal communities and livelihoods alongside the requirement for fish stocks to reach and maintain sustainable levels.

Territorial sea: The waters under the jurisdiction of a state, defined by UNCLOS as up to 12 nautical miles from the baseline or low-water line along the coast.

The Convention for the Protection of the Marine Environment of the North-East Atlantic (OSPAR): An international agreement for cooperation for the protection of the marine environment of the North-East Atlantic. Work under the Convention is managed by the OSPAR Commission, made up of representatives of the Governments of 15 Contracting Parties and the European Commission, representing the European Union. Work to implement the OSPAR Convention is taken forward through the adoption of decisions, which are legally binding on the Contracting Parties, recommendations, and other agreements.

Total Allowable Catch (TAC): The total allowable catch (TAC) is a catch limit set for a particular fishery or stock, generally for a year or a fishing season. TACs are usually expressed in tonnes of live weight equivalent but are sometimes set in terms of numbers of fish.

Trade and Cooperation Agreement (TCA): The Trade and Cooperation Agreement between the United Kingdom of Great Britain and Northern Ireland, of the one part, and the European Union and the European Atomic Energy Community of the other part. This agreement governs the relationship between the UK and the EU. It was signed in December 2020, applied from 1 January 2021, and was ratified (in a slightly amended form) in April 2021.

UK Marine Policy Statement (UKMPS): The UK policy framework for preparing marine plans and taking decisions that affect the marine environment in the UK.

UK Marine Strategy (UK MS): The UK Marine Strategy provides the framework for delivering marine policy at the UK level and sets out how we will achieve the vision of clean, healthy, safe, productive, and biologically diverse oceans and seas.

UN Convention on Biological Diversity (CBD): The international legal instrument for the conservation of biological diversity, the sustainable use of its components, and the fair and equitable sharing of the benefits arising out of the utilisation of genetic resources.

UN Convention on the Law of the Sea (UNCLOS): A multilateral international agreement that lays down a comprehensive regime of law and order in the world's oceans and seas, establishing rules governing all uses of the oceans and their resources. It was signed in 1982 and came into force in 1994.

UN Sustainable Development Goals: 17 United Nations goals 'to transform our world' and promote prosperity whilst protecting the planet. Goal 14 is to conserve and sustainably use the oceans, seas, and marine resources for sustainable development.

Water quality: A measure of the condition of water and its suitability to sustain a range of uses for both biotic and human benefits.

Appendix F: statutory consultee consultation responses

As required by the 2004 Act, we have sought the views of our statutory consultees on this SEA and associated environmental report and their responses are detailed below.

Natural England response



BY EMAIL ONLY

12th January 2024

Re: Strategic Environmental Assessment Scoping Reports – Cockle Fisheries Management Plan, Southern North Sea and Channel Skates and Rays Fisheries Management Plan, Southern North Sea Non-Quota Demersal Fisheries Management Plan, North Sea and Channel Sprat Fisheries Management Plan.

Thank you for your consultation email dated the 7th of December 2023 seeking our views on whether the proposed scope of the Strategic Environmental Assessments for the above FMPs are appropriate.

We have reviewed the reports provided. In all four documents, Natural England agrees with the outcomes of the screening exercise and welcomes the commitment to progress an environmental assessment of each FMP in line with the SEA Regulations 2004.

NE also agree that each scoping report has correctly identified the issues to be taken forward for further consideration in an Environment Report. Whilst very high-level, we also agree with the suggested assessment methodology.

FMP specific comments can be found in Annex 2. Some very minor editorial comments are included in the accompanying email. Please don't hesitate to contact me if you require any further information on our comment.

Annex 2

Southern North Sea and Channel Skates and Rays FMP SEA scoping report

In section 5.3, bullet 4 the scoping report refers to 'Defra's completed Revised Approach to fisheries management programme (inside 6nm)'. NE would suggest changing the wording to reflect the ongoing nature of this work.

How the consultation response was considered

Point	How point was considered
<p>1. In section 5.3, bullet 4 the scoping report refers to 'Defra's completed Revised Approach to fisheries management programme (inside 6nm)'. NE would suggest changing the wording to reflect the ongoing nature of this work.</p>	<p>Wording change will be actioned in Environmental report.</p>
<p>2. North Sea and Channel Sprat FMP SEA scoping report page 8, section 3.1, bullet #4 erroneously refers to demersal ray species.</p>	<p>Error will be addressed in Environmental report.</p>
<p>3. Southern North Sea Non-Quota FMP SEA scoping report page 11, section 5.2, bullet #4 erroneously refers to cockle FMP.</p>	<p>Error will be addressed in Environmental report.</p>

JNCC response



Joint Nature Conservation Committee
Inverdee House Baxter Street, Aberdeen,
AB11 9QA
<https://jncc.gov.uk/>

12th January 2024.

BY EMAIL ONLY

Subject: Fisheries Management Plan Strategic Environmental Assessments – JNCC Consultation Response

Thank you for the opportunity to consult on the SEA Scoping Reports for the Sprat, Southern North Sea Non-Quota Species, Skates and Rays, and Cockle Fisheries Management Plans (FMPs), as per your email dated 9th December 2023. Joint Nature Conservation Committee (JNCC) acknowledges the importance of these assessments and appreciates the comprehensive effort undertaken in these producing these reports which meet requirements.

Our review of the reports indicates a comprehensive approach to identifying the potential environmental effects of the fisheries and the methodologies outlined for assessing these effects. The use of UK Marine Strategy (UK MS) descriptors as a framework is particularly appropriate, offering a robust structure for ensuring the wide range of environmental pressures associated with fishing activities are considered.

In line with our commitment to continuous improvement and adding maximum value, we would like to offer some suggestions that could further enrich the scoping reports:

1. **Refinement of Environmental Baseline Information:** While the current approach using UK MS descriptors provides a strong foundation, supplementing this with more detailed data on marine environmental conditions and trends could offer additional insights, enriching the assessments.
2. **Detailing FMP Objectives and Measures:** Delving into the specific policies and measures intended to achieve the FMP objectives would enable a more detailed evaluation of their environmental impacts.
3. **Broadened Assessment of Effects:** Expanding on the predicted impacts, both positive and negative, would add clarity and depth to the understanding of potential environmental implications.

4. **In-depth Discussion on Alternatives:** We note the scoping report's intention to address alternatives in the Environmental Report. Providing an early insight into these aspects, even if preliminary, could be beneficial for a more comprehensive understanding at the scoping stage.
5. **Comprehensive Mitigation and Monitoring Strategies:** While the scoping report indicates these strategies will be detailed in the Environmental Report, enhancing the scoping report with early consideration of potential mitigation and monitoring approaches at the scoping phase would help in anticipating and planning for environmental management challenges.
6. **Exploration of Cumulative and Transboundary Effects:** Considering the FMPs' roles in a wider environmental context, particularly regarding cumulative and transboundary effects, would be a valuable addition.

We acknowledge and appreciate the efforts that have gone into meeting the statutory requirements in the current scoping reports. Our suggestions are intended to complement these efforts, ensuring a holistic and evidence-based approach to environmental assessment. We are ready to provide more detailed feedback as the SEA process progresses and look forward to our continued collaboration in refining these important assessments.

How the consultation response was considered

Point	How point was considered
1.	Additional evidence on marine condition will be considered as appropriate.
2.	Where appropriate, future Environmental Reports will assess all specific FMP policies and measures.
3.	Where appropriate, future Environmental Reports will provide additional information on predicted impact.
4.	Point noted.
5.	Point noted.
6.	Point noted.

Historic England response

Dear Sir/Madam

Historic England is pleased to offer its comments in response to Defra seeking views on the scope and level of detail of Strategic Environmental Assessment (SEA) of this third tranche of four Fisheries Management Plans (FMPs): for common cockle; for Southern North Sea and Channel skates and rays; for Southern North Sea non-quota species (SNS NQS); and for sprat.

As previously we note that one of these FMPs – for sprat – is joint with another devolved administration, in this case Scottish Government. We would welcome confirmation that the views of Historic Environment Scotland have also been sought.

Historic England (HE) is the Government's advisor on all aspects of the historic environment in England. HE's general powers under section 33 of the National Heritage Act 1983 were extended via the National Heritage Act 2002 to modify our functions to include securing the preservation of monuments in, on, or under the seabed within the seaward limits of the UK Territorial Sea adjacent to England. HE also provides advice in relation to English marine plan areas (inshore and offshore) as defined by the Marine and Coastal Access Act (MCAA) 2009.

HE is pleased to see that cultural heritage is regarded as being within the scope of all four SEAs. We note that fishing activities for cockles, skates and rays, and SNS NQS are all likely to cause physical disturbance to the seabed and, consequently, to heritage assets in and on the seabed. We agree that the interaction between fishing gear and marine heritage assets is a potentially significant impact of all four fisheries, including from pelagic gear used in fishing for sprat. In the case of sprat, although pelagic gear may not physically disturb the seabed, there is still potential for pelagic gear to snag heritage assets such as wrecks protruding up into the water column.

We also note the acknowledgement that fishing activity targeting all four fisheries has the potential to cause input of litter. As we have flagged previously, Abandoned, Lost or Discarded Fishing Gear (ALDFG) can snag and accumulates on historic wrecks, adding to the stress on their structures, obscuring them, and creating a risk to visiting divers (including archaeologists, volunteers, and recreational divers). We would ask that the contribution of these fisheries to the input of litter and the consequent impact of ALDFG on heritage assets are assessed in all four SEAs: Historic England has funded the removal of ALDFG from several designated heritage assets, which underscores the impact of fishing-derived litter on heritage.

HE is also pleased to see that landscape/seascape is regarded as being within scope of three of the SEAs and look forward to seeing it assessed. We accept that the FMP

for sprat is unlikely to have a significant effect on landscape/seascape as pelagic fishing for this species is unlikely to cause physical disturbance to the seabed.

As fishing for cockles, skates and rays, and SNS NQS are all likely to result in physical disturbance to the seabed, we concur that all three have the potential to disturb blue carbon habitats and affect seabed carbon dynamics. There is a close relation between seabed carbon and now-submerged prehistoric landsurfaces, which often comprise organic deposits (such as peat) and other former terrestrial fine-grained deposits (muds and silts) containing organic material. Archaeological records and approaches are attuned to identifying organic and other fine-grained deposits, hence there may be scope for heritage to contribute to the assessment of fishing impacts on blue carbon. We think that this aspect of the impact of fisheries on landscapes should receive particular attention as the SEAs develop.

We have underlined previously the positive interactions that arise between fishing and cultural heritage, including the importance of the cultural heritage of fishing acknowledged in the opening sentence of the Joint Fisheries Statement (JFS). We have previously suggested that FMPs be given a specific objective on developing the cultural heritage of each fishery. Unfortunately, the language of the objectives in each of the Scoping Reports in this tranche are inconsistent and partial in this regard: Objective 4 for cockles recognises their contribution to coastal communities, but this contribution is not elucidated; Objective 1.4 for skates and rays and for SNS NQS includes better understanding and optimising social benefits, but again they are not elucidated; and there appears to be no social/community objective for sprat. As a minimum – reflecting the weight placed on culture in the JFS – we would welcome express social /community objectives in each FMP that make direct reference to enhancing culture and heritage and the contribution they make to coastal places.

Turning to the methodologies proposed for developing the FMPs – including SEAs and Environmental Reports – and then implementing the FMPs, we would like to make the following observations:

We welcome the acknowledgement that harvesting within sustainable limits may not remove all potential negative impacts on the wider environment – including heritage – and agree that additional measures will be required to address risks and impacts. We look forward to discussing these with Defra.

We look forward to the Environmental Report for each FMP evaluating the potential effects, both negative and positive, on cultural heritage and landscape/seascape. In light of comments above, we would expect the Environmental Reports for each FMP to address:

- Interactions between fishing gear and marine heritage assets on the seabed and in the water column.

- Impacts on heritage arising from physical disturbance to the seabed.
- Impacts on heritage from the input of litter (ALDFG).
- Heritage and blue carbon habitats / seabed carbon dynamics.
- Social, economic and community benefits of cultural heritage.

We note that assessments will review existing evidence on the current state of the marine environment. We look forward to discussing with Defra the evidence required to achieve this with respect to cultural heritage and landscape/seascape. It would be helpful to know what evidence has already been collated on fishing, cultural heritage, and landscape/seascape through a) existing and current programmes on MPAs, b) Defra's Revised Approach to fisheries management programme, c) the MMO's Fishery Assessment programme, and d) the UK Marine Strategy (UK MS – and see below).

We are pleased to see again the acknowledgement that cultural heritage and landscape/seascape are not considered under the UK MS assessment process. We would be very pleased to discuss with Defra how they might be brought within that process, and/or how suitable indicators and monitoring measures can be developed for cultural heritage and landscape/seascape alongside UK MS.

We note that the Environmental Reports will acknowledge pressures not currently being managed, which we presume will consider pressures from fishing on cultural heritage and landscape/seascape. We look forward to each FMP proposing new measures and interventions to mitigating negative effects (and enhancing positive effects) arising from interactions between each fishery and cultural heritage and landscape/seascape. We also look forward to the proposals for future monitoring of the effects of each FMP on cultural heritage and landscape/seascape. We would, of course, be very pleased to discuss with Defra these new measures / interactions and monitoring proposals in the course of their preparation.

Thank you again for seeking HE's views on this tranche of FMP SEAs. HE would be very pleased to continue conversations with Defra about how cultural heritage can best strengthen the effectiveness of the FMPs in contributing to sustainable and well managed UK fisheries. Any queries regarding this response or further dialogue can be addressed to me via the contact details below. We are happy for this response to be made public.

How the consultation response was considered

Point	How point was considered
1. We would welcome confirmation that the views of Historic Environment Scotland have also been sought.	Scottish Government will seek views from Historic Environment Scotland.
2. We would ask that the contribution of these fisheries to the input of litter and the consequent impact of ALDFG on heritage assets are assessed in all four SEAs.	The impact of litter will be considered through UK MS descriptor D10.
3. Archaeological records and approaches are attuned to identifying organic and other fine-grained deposits, hence there may be scope for heritage to contribute to the assessment of fishing impacts on blue carbon. We think that this aspect of the impact of fisheries on landscapes should receive particular attention as the SEAs develop.	The FMPs will consider the impact the effects of fishing on blue carbon habitats.

Point	How point was considered
<p>4. Unfortunately, the language of the objectives in each of the Scoping Reports in this tranche are inconsistent and partial in this regard: Objective 4 for cockles recognises their contribution to coastal communities, but this contribution is not elucidated; Objective 1.4 for skates and rays and for SNS NQS includes better understanding and optimising social benefits, but again they are not elucidated; and there appears to be no social/community objective for sprat.</p> <p>As a minimum – reflecting the weight placed on culture in the JFS – we would welcome express social /community objectives in each FMP that make direct reference to enhancing culture and heritage and the contribution they make to coastal places.</p>	<p>Objectives addressing social issues will be include in the Environmental Reports.</p> <p>Defra will consider the suggestion for developing a specific objective for cultural heritage of each fishery, in future iterations of the FMP.</p>
<p>5. We welcome the acknowledgement that harvesting within sustainable limits may not remove all potential negative impacts on the wider environment – including heritage – and agree that additional measures will be required to address risks and impacts. We look forward to discussing these with Defra.</p>	<p>Point noted.</p>

Point	How point was considered
<p>6. We look forward to the Environmental Report for each FMP evaluating the potential effects, both negative and positive, on cultural heritage and landscape/seascape. In light of comments above, we would expect the Environmental Reports for each FMP to address:</p> <ul style="list-style-type: none"> • Interactions between fishing gear and marine heritage assets on the seabed and in the water column. • Impacts on heritage arising from physical disturbance to the seabed. • Impacts on heritage from the input of litter (ALDFG). • Heritage and blue carbon habitats / seabed carbon dynamics. • Social, economic and community benefits of cultural heritage. 	<p>The Environmental Reports focuses on how the policies and actions in the FMPs could give rise to both significant positive and negative environmental effects.</p> <p>However, the Environmental Reports also acknowledge existing environmental effects of fishing activity and set out policies and actions to address them, where appropriate.</p>
<p>7. We look forward to discussing with Defra the evidence required to achieve this with respect to cultural heritage and landscape/seascape. It would be helpful to know what evidence has already been collated on fishing, cultural heritage, and landscape/seascape through a) existing and current programmes on MPAs, b) Defra’s Revised Approach to fisheries management programme, c) the MMO’s Fishery Assessment programme, and c) the UK Marine Strategy (UK MS – and see below).</p>	<p>The Environmental Reports will set out the evidence used to for the environmental baseline.</p> <p>Defra would welcome further discussions with HE to consider this point.</p>

Point	How point was considered
<p>8. We are pleased to see again the acknowledgement that cultural heritage and landscape/seascape are not considered under the UK MS assessment process. We would be very pleased to discuss with Defra how they might be brought within that process, and/or how suitable indicators and monitoring measures can be developed for cultural heritage and landscape/seascape alongside UK MS.</p>	<p>Defra would welcome further discussions with HE to consider this point.</p>
<p>9. We note that the Environmental Reports will acknowledge pressures not currently being managed, which we presume will consider pressures from fishing on cultural heritage and landscape/seascape. We look forward to each FMP proposing new measures and interventions to mitigating negative effects (and enhancing positive effects) arising from interactions between each fishery and cultural heritage and landscape/seascape. We also look forward to the proposals for future monitoring of the effects of each FMP on cultural heritage and landscape/seascape. We would, of course, be very pleased to discuss with Defra these new measures / interactions and monitoring proposals in the course of their preparation.</p>	<p>Environmental reports will provide recommendations on how FMPs could consider fishing, cultural heritage and landscape/seascape.</p> <p>Defra would welcome further discussions with HE to consider this point.</p>

Environment Agency response

No response received.

How the consultation response was considered

Point	How point was considered
N/A	N/A