Department
for Environment,
Food & Rural Affairs

Proposed Seabream Fisheries Management Plan

Strategic Environmental Assessment Environmental Report

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Contents

Non-technical Summary

The draft Seabream Fisheries Management Plan (FMP) has been prepared to meet the requirements of the Fisheries Act 2020. It sets out the policies and proposed actions that Defra will use to manage black seabream and gilthead bream fishing activity, so stocks are harvested within sustainable levels. Alongside these actions, the draft Seabream FMP also sets out management to help support wider social, economic and environmental aspects of the fishery.

This environmental report (ER) 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 draft Seabream 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 set out in updated UK Marine Strategy (UK MS) Part 1, published in 2019. Additional sources of evidence were used to establish the status of the environment in relation to issues not covered by the UK MS, such as climatic factors and cultural heritage. 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 draft Seabream FMP.

This report sets out those plans, programmes and environmental protection objectives, both international and domestic that Defra consider relevant to the draft Seabream FMP.

This report considers and acknowledges the existing environmental effects of targeted black seabream and gilthead bream fishing using drift and fixed nets and recreational sea angling on those issues scoped into this assessment in relation to Marine Protected Areas (MPAs), the UK MS descriptors and the wider environment.

Furthermore, the report considers the environmental impacts of demersal and pelagic trawls, and demersal seines, which also record large numbers of black seabream landings. Vessels which operate demersal and pelagic trawls, as well as seines in English waters may target black seabream as part of a mixed fishery (primarily alongside gurnard, red mullet and other non-quota species) but may also land bycaught seabream in general. The potential positive and negative environmental effects of the draft Seabream FMP policies and proposed actions alone and in-combination have also been assessed.

This report concluded that current evidence shows the Seabream FMP fishery in its current state has a relatively small environmental impact. This is largely attributed to the small scale of its current commercial operations, with both black seabream and gilthead bream not largely targeted. However, the seabream fisheries in English waters are anticipated to expand in the coming years, as more seabreams migrate into our waters and the projections of other fish moving away from English waters in response to climate change. Black seabream are a popular target for recreational fishing, with survey data showing high retention rates. Beyond the impact of high retention on seabream populations, rod and line gear present minimal bycatch risk and align well with the Good Environmental Status (GES) of UK Marine Strategy (MS) descriptors due to their highly selective nature.

This SEA assesses the risk of static and drift nets, demersal and pelagic trawls, demersal seines (under towed gear), and rod and lines on the marine environment. With the exception of rod and lines, these gear types post moderate to high risks towards bycatch of MPA designated features and GES of UK MS descriptors. The impact of fishing in MPAs is managed in the 0-12 nautical miles zone in English waters, with four MPAs within the 0-6 nautical miles zone listing black seabream as designated features. Management in MPAs beyond the 12 nautical mile limit is in development. Further work is required to minimise any future impacts of targeted seabream fishing on habitats beyond MPAs to ensure GES targets are achieved. The contribution of black seabream and gilthead bream fishing to climate change related issues were also considered. The draft Seabream FMP 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 and actions. The policies and actions, will, where appropriate, be developed to avoid any potential negative effects identified by the assessment progress. The environmental effects of implementing the draft Seabream FMP policies and actions will also be monitored to identify unforeseen adverse effects at an early stage, so appropriate remedial action can be undertaken.

This assessment recommends the draft Seabream FMP should consider the following additional points:

1. Future iterations of the draft Seabream FMP should consider how to develop the cultural heritage of each fishery and 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 authorities[1] 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, 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: please read the List of FMPs.

All FMPs must contain the information set out in Section 6 of the Fisheries Act 2020. In summary, a 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 a 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 required 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 actions 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, 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 draft Seabream FMP applies to black seabream and gilthead bream fisheries in English waters. The black seabream and gilthead bream fisheries covered by this FMP occur in International Council for the Exploration of the Sea (ICES) areas 4b, 4c, 7a, 7d, 7e, 7f, 7g, 7h, 7j.

The draft Seabream FMP applies to English waters[2], covering inshore and offshore areas where fishing activity for black seabream and gilthead bream takes place.

Draft Seabream FMP Goals and Actions

The vision of the draft Seabream FMP is to introduce long term sustainable management for black seabream and gilthead bream species fisheries in English waters. The management of these fisheries in English waters will aim to achieve environmental sustainability by working towards an ecosystem-based approach to fisheries management, and to ensure the wider effects of fishing activities on the marine environment are considered and minimised. The draft Seabream FMP will consider the social and economic potential of the fisheries and aim to contribute to social and economic sustainability within fishing communities.

Goal 1: Increase or maintain stocks of seabream within English waters

Rationale

The prime focus of all FMPs is achieving the viable, long-term harvesting of the stocks within them, as outlined in the section 5.2.6 of the JFS and Section 6.3 of the Act. This policy goal and the actions within it acknowledge the management measures currently in existence for black seabream and gilthead bream but seek to build on these to ensure the long-term viability of both the stocks and their fisheries. These actions have also been developed with consideration of the international scope of the stocks, and awareness of the need to identify and protect their spawning grounds to facilitate their maintenance or restoration.

Actions to help achieve this policy goal: short term (within the next 2 years)

- the best available scientific advice to inform management actions for black seabream and gilthead bream fisheries
- consider how to engage with industry and the recreational sector to benefit the long-term sustainability of the fishery and improve its management
- introduce commercial and recreational fishery handling guidelines for seabream aimed at increasing post-release survival, for example the use of circle hooks and upgrading
- monitor the voluntary code of conduct already in place for Kingmere MCZ to assess its impact on seabream stocks
- explore working with coastal State partners and sharing data with the aim of achieving sustainable harvesting of the stock informed by the best available scientific evidence

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.

- consider the steps necessary to include black seabream and gilthead bream in existing biological data collection programs

Actions to help achieve this policy goal: medium to long term (within the next 2 years or more)

- explore conducting further research on post-release survival of seabream caught by various fishing methods and in differing environments
- on a fishery-by-fishery basis, consider a review of current and potential technical measures (for example MCRS and bag limits), as appropriate management options for black seabream
- on a fishery-by-fishery basis, consider a review of potential technical measures (for example MCRS and bag limits), as appropriate management options for gilthead bream
- evaluate stock-conservation benefits of management measures and identify environmental predictors for spawning, including the identification of important habitat areas relevant for conservation
- ensure management of black seabream and gilthead bream fisheries will be guided by the best available scientific advice, should MSY based advice not be available

Goal 2: Further our understanding of fisheries for seabream in English waters

Rationale

This policy outlines actions to obtain the scientific evidence required to assess black seabream and gilthead bream stocks at MSY, or a suitable proxy, in line with section 6.3 of the Act. The actions outline the evidence gaps to be filled and the actionable steps to take towards undertaking a stock assessment. They also reflect the strong consensus from commercial and recreational stakeholders that these are growing fisheries, meaning improved evidence is required to generate robust assessment of the stocks.

Actions to help achieve this policy goal: short term (within the next 2 years)

- use the evidence statement to prioritise where to improve the understanding of the black seabream and gilthead bream fishery in English
- consider development of a research plan to fill evidence gaps required for stock assessments, including improved understanding of stock structure and boundaries of black seabream and gilthead bream populations in English waters
- develop identification guides to support species-specific landings data for all seabream species in scope of the FMP
- review, and where required, improve internal data processing methods to support species specific analysis of SBX aggregated landings
- analyse species composition, discard survival data and differences of CPUE between gear types to help inform seabream abundance

- support participation in fishery-science partnership schemes to address evidence and knowledge gaps

Actions to help achieve this policy goal: medium to long-term (over the next 2 years or more)

- consider benefits of discussing stock assessments at an international level
- consider the steps to assess the status of black seabream and gilthead bream in English waters in relation to MSY principles

Goal 3: Identify ecosystem-based fisheries management approaches to mitigate wider ecological and environmental impacts

Rationale

The sustainability, ecosystem and bycatch objectives of the Act (Sections 1.2, 1.4 and 1.6) mandate that fisheries activities are environmentally friendly in the long term, use an ecosystem-based approach, and reduce bycatch of undersized and sensitive species. There is currently limited information on seabream ecology and the impact of seabream fisheries within English waters, therefore the actions identified in this policy goal look to fill these evidence gaps whilst simultaneously seeking to promote opportunities to positively impact the wider ecosystem.

Actions to help achieve this policy goal: short term (within the next 2 years)

- consider bringing together existing information into a report on the ecosystem role of seabreams
- support participation in fishery-science partnership schemes to address evidence and knowledge gaps
- consider data collection and trials through the continuation and expansion of existing bycatch mitigation programmes and initiatives (such as the UK Bycatch Mitigation Initiative, Bycatch Monitoring Programme and Clean Catch UK)
- consider how best to maintain collaboration and involvement across stakeholders in initiatives to reduce environmental impacts of seabream fisheries (including CO_2 emissions)

Actions to help achieve this policy goal: medium to long-term (over the next 2 years or more)

- consider how to improve monitoring distribution and abundance in light of climate change and predicted impacts and risks
- explore the potential for using remote electronic monitoring (REM) to improve estimates of bycatch within seabream fisheries, either as part of the Defra REM programme or as a standalone research project
- consider how to undertake additional targeted evidence and collection (including self-reporting and the potential for remote electronic monitoring (REM)

programmes) to improve estimates of bycatch of marine mammals, seabirds and designated fish for gear types used to target FMP species
- consider the development of policy seeking to minimise or eliminate the impact of seabream fisheries on the designated features of MPAs to contribute towards the achievement of GES
- consider identifying the impacts that fisheries for black seabream and gilthead bream have on the marine environment (including CO_2 emissions) through collaborative studies
- consider research into how an ecosystem-based approach could inform future iterations of the seabream FMP

Goal 4: Deliver a framework to support the role of the FMP in realising the social and economic benefits of seabream to coastal communities

Rationale

FMPs aim to balance sustainable management of fish stocks while also supporting the livelihoods of those dependent on them. An ecosystem-based approach to fisheries necessitates the consideration of social and economic concerns as outlined by the JFS in section 5.2.6. This policy and its actions look to understand the social and economic importance of seabream fisheries and how they may evolve in the future, with a view to supporting stakeholders in maximising the value of these stocks in the long term.

Actions to help achieve this policy goal: short term (within the next 2 years)

- support industry to explore options promoting the value, consumption and long-term sustainability of seabream fisheries
- consider engagement with the angling community to inform on the social and economic importance of the species to local communities

Actions to help achieve this policy goal: medium to long-term (over the next 2 years or more)

- consider engagement with the commercial sector and wider seafood industry stakeholders to identify any barriers to the realisation of economic viability to the coastal communities within the FMP area
- support and encourage industry participation in initiatives to reduce CO_2 emissions and adaptation to the impacts of climate change
- consider assessing the impact of potential modifications to existing technical measures both for seabream species and the communities relying on the fishery
- consider how to adapt the FMP to reflect relevant findings from an economic assessment and when new or improved measures are developed as appropriate

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 draft Seabream 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 draft Seabream FMP may have likely significant effect (either positive or negative) on a Special Area of Conservation, Special Protection Area and they are not directly connected with or necessary to the management of such sites. Therefore, Defra have carried out an SEA of the draft Seabream FMP.

The screening exercise used Defra's Magic Map Application to identify whether the geographical scope of the FMP overlaps with any Special Areas of Conservation or Special Protection Areas. Table 3, page 35 of The updated UK Marine Strategy Part 1 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 black seabream and gilthead bream has the potential to impact these sites and interest features. For example, black seabream and gilthead bream harvesting has the potential to result in the extraction of, or mortality/injury to, wild species and cause physical disturbance of benthic habitats.

The screening concluded that the proposed polices in the draft Seabream FMP have the potential to affect multiple Special Areas of Conservation or Special Protection Areas 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 authorities must seek the views of the Consultation Bodies.

A Scoping Report identifying the scope and level of detail of the assessment of the draft Seabream 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.

Environmental report section 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 objectives of the plan or programme, and of its relationship with other relevant plans and programmes

Section: 3 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, in particular, 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, community 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 and 7

- 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: 6

- 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: 7

- 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 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 proposes 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: 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 emission, blue carbon.
- cultural heritage: including the following sub-section: interactions between fishing gear and marine heritage assets
- landscape / seascape: Including the following sub-sections: interaction 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 draft Seabream 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 (see section 3), we have attributed a UK Marine Strategy (UK MS) descriptor of Good Environmental Status (GES) to the appropriate corresponding issue(s); see 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 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 with this issue heading. The assessment of benthic habitats will also be relevant when considering the impact of black seabream and gilthead bream fishing on seabed formations and submerged prehistoric land surfaces (often comprising of organic deposits and other former terrestrial fine-grained deposits). 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 draft Seabream FMP and thus scoped into the SEA[3]

Environmental issues with the potential to be impacted by the FMP

3 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.

- **biodiversity, fauna and flora (UK MS descriptors D1, D3, D4, D6)** - As black seabream and gilthead bream are demersal fish. The gear types primarily used to target seabream are demersal nets and rod/line (recreational). However, there is indication that some vessels that operate demersal trawls and seines may target smaller black seabream as part of a mixed fishery (primarily alongside gurnard, red mullet and other non-quota species). Such fishing activity has the potential to cause the extraction of/the 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)** - As black seabream and gilthead bream are demersal fish, fishing activity for these species has the potential to result in physical disturbance to the seabed and substrates. These issues are within the scope of this SEA
- **water (UK MS descriptors D10, D11)** - Fishing activity has the potential to input litter (solid waste matter, including micro-sized litter) and anthropogenic sound into the marine environment. The 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 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 seabream has the potential to interact with marine heritage assets. While the 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 effect on safeguarding cultural heritage features. This issue is within the scope of this SEA
- **landscape seascape** - Black seabream and gilthead bream 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 FMP is not likely to result in significant increases or decreases in human population numbers, or changes to in-migration or out-migration
- **human health** - The FMP would not result in any significant human health issues. Whilst fishing remains a dangerous vocation and the 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 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 FMP will not intrinsically 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 type of fishing covered by the FMP. It considers the goals of the draft Seabream FMP and the actions (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 draft Seabream FMP (including its policies and actions) 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 Offshore MPA Fishery Assessment programme (outside 12 nautical miles) in England

Future delivery of the goals, actions and measures specified in the FMP programme may give rise to management changes such as new legislation to regulate black seabream and gilthead bream 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 ER acknowledges the likely significant effects associated with fishing activity being managed through the draft Seabream FMP and sets out in broad terms how the FMP will seek to avoid, reduce, or at least mitigate significant negative effects.

During the development of the draft Seabream 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 FMP, and how the proposed policies and actions could change the baseline.

It is important to note the draft Seabream 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 actions of the FMP at the present time.

This assessment acknowledges the draft Seabream FMP sets out goals to develop the evidence base around the black seabream and gilthead bream fisheries. Our assessment used the best available evidence at the present time to reach a judgement on the environmental effects of the draft Seabream 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 actions.

It is likely that without the FMP, those issues which are contributing to the current state of the marine environment will likely continue to have an influence. The FMP seeks to promote the management of black seabream and gilthead bream fisheries in a more coherent and coordinated manner that considers wider environmental issues. The FMP 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 considers how the implementation of the FMP's proposed policies and actions could change the baseline.

The primary source of information on the current state of the UK marine environment came from the UK Marine Strategy 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 Marine Strategy 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 Marine Strategy descriptors see Appendix B.

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 seals populations and productivity continues 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

Seabirds 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 were used to provide baseline information in relation to this issue. Statistics from the Department for Energy Security and Net Zero (DESNZ), 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 CO_2e) would have represented 0.18% of the UK's total territorial emissions (455 Mt CO_2e)[4], or 0.66% of the UK's domestic transport emissions (122 Mt CO_2e)[5]. 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).

There are relatively few targeted commercial seabream fisheries currently operating in English waters, however they are often considered welcomed bycatch. The commercial gear types primarily used to target seabream are gillnets (3.2% of commercial landings). There are indications that some vessels using seines and trawls in English waters may be catching black seabream as part of a mixed fishery. MMO commercial landings data suggest that across all vessels in English waters, demersal seines contribute to 14.9% seabream landings, demersal trawls represent 64.2% and pelagic trawls 16.1%. Towed gear has much higher emissions and respective climatic impacts.

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 <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.

Seabreams are a very popular recreational fish amongst sea anglers, with many targeting them via charter and private vessels. Further research into the vessel emissions of the charter fleet should also be explored to understand its contributions.

Goal 3 of the draft Seabream FMP looks to develop an ecological and environmental evidence base for seabream populations and fisheries to support effective management. Whilst this includes collecting data on the impacts of climate change on these fisheries, the Evidence Statement also identified an evidence gap in

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

5 DfT (Department for Transport) (2021) Statistical Release: Transport and Environment Statistics 2021 Annual Report, 11 May 2021.

understanding the fleet emissions on an FMP level. Opportunities for greening English fisheries must be done as part of wider UK net-zero commitments, as in many cases commercial and recreational vessels that target or catch seabream as bycatch, are also engaged in other fisheries.

Blue Carbon

Certain marine habitats including seagrass, kelp and muddy sediments are able to capture and store carbon and therefore these are known as blue carbon habitats. Currently there is no comprehensive assessment of the impact of black seabream and gilthead bream fishing 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 black seabream and gilthead bream stocks and fisheries

Under future climate change, modification of temperature and salinity are expected to result in shifts to distributions of marine organisms, including commercial fish species[6]. In an analysis of 50 abundant species in the waters around the United Kingdom and Ireland, 72% of the fish species were shown to have responded to warming in the region already, by changing distribution and abundance[7]. Specifically, warm-water species have increased in abundance while cold-water species have decreased, with these trends expected to continue in the future[8].

Black seabream stocks could present increased opportunities for both commercial and recreational fisheries in the future given that the species' distributional limit is moving northwards with increasing temperatures. moving northwards with increasing water temperatures. Indeed, stakeholders and scientific studies have noted their increasing abundance and widened distribution, with black seabream remaining inshore much

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6 Townhill, B., Couce, E., Rutterford., L., & Pinnegar, J. (2018). Future projections of commercial fish distribution and habitat suitability around the British Isles. Report of BX006 work package: Long-term distribution shifts and zonal attachment. CEFAS, Lowestoft.

7 Simpson, S.D., Jennings, S., Johnson, M.P., Blanchard, J.L., Schön, P.J., Sims, D.W. and Genner, M.J., 2011. Continental shelf-wide response of a fish assemblage to rapid warming of the sea. *Current Biology*, *21*(18), pp.1565-1570.

8 Poloczanska, E.S., Burrows, M.T., Brown, C.J., García Molinos, J., Halpern, B.S., Hoegh-Guldberg, O., Kappel, C.V., Moore, P.J., Richardson, A.J., Schoeman, D.S. and Sydeman, W.J., 2016. Responses of marine organisms to climate change across oceans. Frontiers in Marine Science, p.62.

longer throughout the year than existing literature previously suggested. A CEFAS study has listed black seabream as a "winner of climate change", noting that the species will gain more suitable habitats in northeastern European waters in the coming decades. Models suggest that black seabream will move further east and northwards in English waters. While only a few fishers currently target black seabream across England, more are considering exploring this untapped market, recognising its potential value. Additionally, gilthead bream, historically less recorded in English catch landings, are also increasing in prevalence, particularly around estuaries, which serve as their preferred nursing grounds. More gilthead bream are being caught and sold at higher values, with catch records indicating that their distribution is also increasing in an eastward trend along the south coast.

Other stakeholders in the Southwest have also observed other seabream species, such as Couch's bream (Pagrus pagrus) and Pandora's bream (Pagellus erythrinus) suggesting that, as currently exploited stocks move into higher latitudes, new fishing opportunities may become available. Further research on the impact of climate change will be necessary, and fisheries will also need to adapt to a dynamic marine environment. The FMP must be flexible in considering the inclusion of more seabream species as they gain a more national distribution.

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 occur[9]:

- interactions with drift nets and pelagic long lines have a low significance resulting from entanglement and snagging on marine heritage assets

9 Information derived from Fishing and the Historic Environment, page 44.

- 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
- there is a moderate risk of rod and line gear causing marine litter, which may interact with cultural heritage features
- 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 findspots[10] is moderate because of both positive and negative impacts
- pelagic towed gear, mid-water trawls and purse seines are unlikely to encounter marine heritage assets and therefore interactions are not anticipated, except for incidental gear loss

The report identifies several potential and evidenced interactions between commercial fishing and marine heritage assets. However, given the anecdotal nature 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. AONB, Heritage Coast, National Scenic Area), however the ELC and MPS (and most recently seascape assessments covering the English Marine Plan regions) define landscape

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).

and how they are to be considered in more general terms, acknowledging the value of all landscapes whether or not they are subject to designation[11].

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, 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 features[13]. Fishing therefore is an important component of the overall landscape and seascape character.

Fishing activity using demersal towed gear has been identified to damage submerged peaty deposits known as moorlog[14]. 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 black seabream and gilthead bream fishing

FMPs are subject to legal and environmental obligations arising from legislation such as Habitats Regulations, UK Marine Strategy, and the UK Marine Policy Statement, the Environment Act 2021, Marine and Coastal Access Act 2009, and the Environmental Principles Policy Statement. These policies are aimed at ensuring the health of our seas for future generations, and our ambitions to restore biodiversity and address climate change.

The draft Seabream FMP aims to ensure the sustainable harvesting of black seabream and gilthead bream stocks, with the potential to add more seabream species to the FMP in future iterations. Although seabream populations are anecdotally considered to be in good condition and increasing in abundance, the plan focuses on minimising the

11 UK Offshore Energy Strategic Environmental Assessment – scoping.

12 Figure 1, Page 9. seascape-character-assessment.pdf

13 Figure 2, Page 10. seascape-character-assessment.pdf

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.

environmental risks associated with the fishing gear used. Additionally, the FMP seeks to enhance its ecological and environmental evidence base on seabream to better understand populations in English waters and the broader environmental impacts of these fisheries.

Advice provided by the Statutory Nature Conservation Bodies (SNCB) used the range of current monitoring and evidence programmes gather data to inform about the risks of fishing activity to both MPAs and good environmental status (GES) descriptors relevant to this FMP. As described in Section 2, this Environmental Report focuses on assessing how the policies and actions in the draft Seabream 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:

- 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 Offshore MPA Fishery Assessment programme (outside 12 nautical miles) in England

Data from the UK bycatch monitoring programme (BMP) suggests that drift and fixed nets have been identified as presenting a significant bycatch risk. 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). Fishing using demersal trawls and seines are considered to be one of the main drivers of physical disturbance of the seabed in UK waters. It has been identified to have 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). The ER will investigate whether gear types that incidentally catch seabream, but do not specifically target them, are best addressed through this FMP or other plans.

Nevertheless, fishing within sustainable limits for the target stocks (MSY or appropriate proxies) may reduce but will not eliminate the negative impacts of that fishing activity on the wider marine environment. These impacts are identified in the sections below. This ER acknowledges the potential significant effects associated with fishing activity being managed through the draft Seabream FMP and sets out in broad terms how the FMP will seek to avoid, reduce, or at least mitigate significant negative effects.

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 black seabream and gilthead bream fishing in relation to the designated features of MPAs in English waters.

In England the assessments of the impact of black seabream and gilthead bream fishing activities inside MPAs are undertaken by the IFCAs within 6 nautical miles and the MMO outside 6 nautical miles. Figure 1 shows the distribution of English MPAs relevant to the draft Seabream FMP. Stakeholders have worked closely with regulators to help develop measures to mitigate impacts within inshore and offshore MPAs. Appropriate management is 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 IFCAs websites.

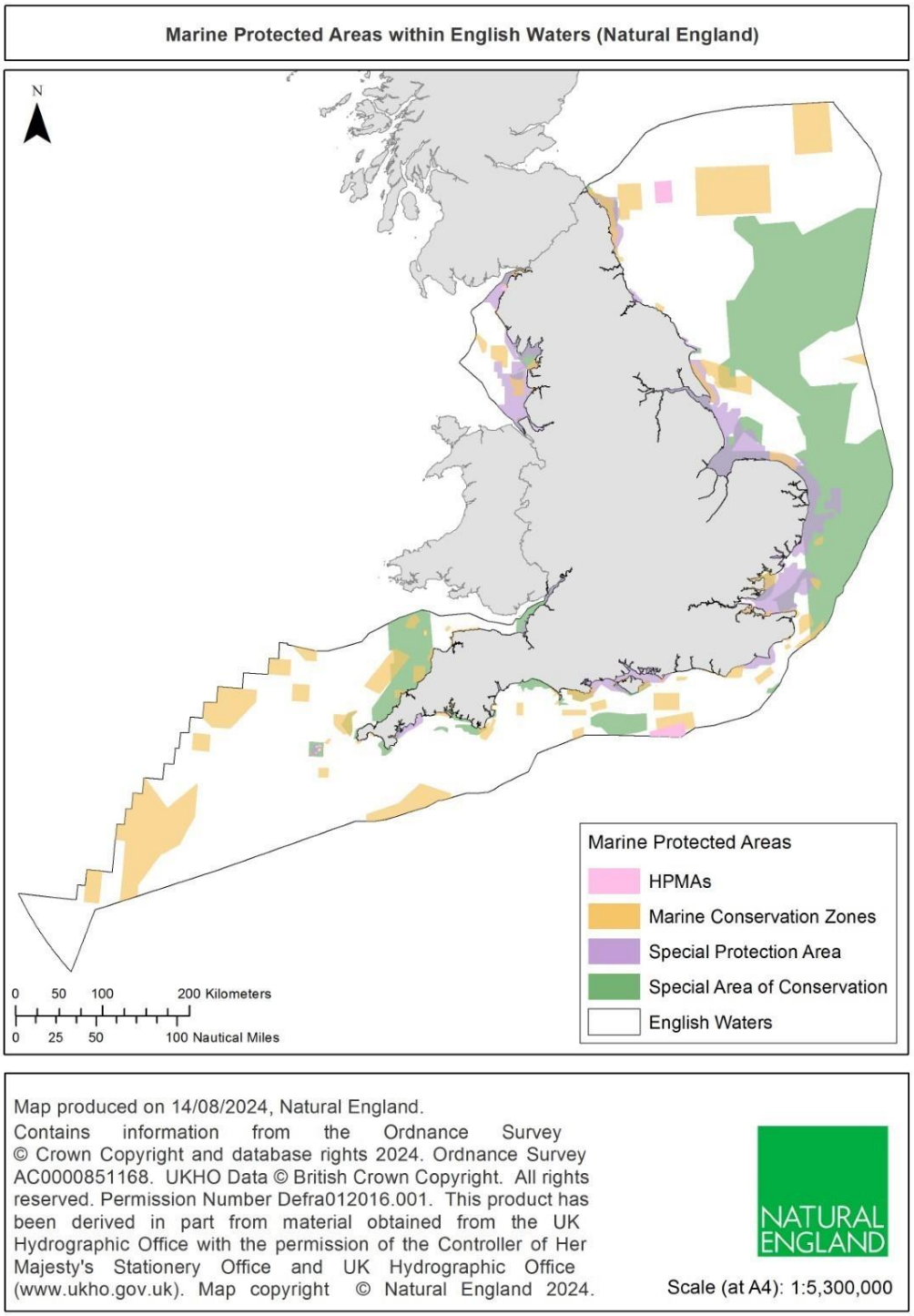

Figure 1. England's MPA network

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.

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 (e.g. noise) or when the feature of an MPA is mobile and travels outside the site.

Black seabream are currently designated features of four MCZs. This includes the Kingmere MCZ in Sussex IFCAs, and the Purbeck Coast MCZ, Southbourne Rough MCZ and Poole Rocks MCZ in the Southern IFC District. Black seabream was identified as an exceptional candidate for spatial protection measures because of the habitat specificity and recurring time/place of their benthic spawning behaviour, which has the potential to make them acutely vulnerable to anthropogenic impacts. The Kingmere MCZ has zonal management in place for regulating fishing activity around black seabream nesting sites, while Southern IFCA is currently going through a consultation process to implement management in their three MCZs.

The conservation objectives for black seabream in MCZs ensure protection of their spawning habitat and require that black seabream individuals inside MCZs are free of disturbance of a kind likely to significantly affect the survival of its members or their ability to aggregate, nest, or lay, fertilise or guard eggs during breeding. These black seabream MCZs are atypical of the rest of the protected sites network with conservation objectives focussing on preventing disturbance, rather than maintaining or recovering population abundance which is a more typical aim of mobile species which are designated features of MPAs.

Advice provided to Defra by the SNCBs on the impact of fishing activity outside the boundary of MPAs on MPA features concluded that:

Risks of fixed and drift netting gear to MPA destinated features: Although black seabream and gilthead bream are currently small commercial fisheries in the UK, those that are operating mostly target them with gillnets. Gillnets can be both drift and fixed. On a UK-wide fisheries level, the SNCBs consider drift and fixed nets to have a much higher bycatch risk associated with it on certain mobile fish species, birds and marine mammals that are features of MPAs. Better data is required on levels of bycatch associated specifically with seabream fisheries in order to understand what or where mitigation may be required through the FMP.

Risks of rod and line gear to MPA designated features: Generally, rod and line fisheries are considered to be a very selective and bycatch is thought to be relatively rare. Currently, bycatch in handline fisheries is not thought to pose a risk to MPA designated features.

Risks of bottom towed gear to MPA destinated feature: It should be noted that bottom towed gear is not typically used by English vessels to target black seabream or gilthead bream, however there is some indication that EU vessels target smaller black seabream as part of a mixed fishery.

Fisheries that use bottom towed gear risks impacting shad species that are designated features of several Special Areas of Conservation (SACs). The current data are not sufficient to understand the scale or the spatial resolution of bycatch and the impact that this may be having on the conservation objectives of the SAC. Improving reporting pathways (for both fishermen and fisheries managers) and bycatch monitoring programmes will further improve our understanding.

The bycatch of certain Special Protection Area bird species by bottom towed gear outside of sites may be occurring. Despite problems with data inadequacies preventing firm conclusions, it is not thought that the use of bottom towed gear in this fishery presents a high bycatch risk or is having a significant impact. An improved monitoring regime may be needed to fill current data gaps to reduce uncertainties. This could potentially be done by adapting or expanding existing observer programmes, or through the use of Remote Electronic Monitoring (REM).

Bycatch of harbour porpoise (or other marine mammal) may occur, but current understanding is that bycatch from towed demersal gear outside of site boundaries it is unlikely to be at a level that could hinder MPA conservation objectives.

The SNCBs have assessed pelagic and demersal trawls as a moderate risk to marine mammals, birds and fish that are designated features of MPAs.

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 black seabream and gilthead bream fishing and their likely impact on achieving Good Environmental Status (GES) (See appendix A).

Pressures on UK MS D1, D4 Cetaceans, Seals and Seabirds: 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 D1 biological diversity, D3 commercial fish and D4 food webs.

The risk to cetaceans, seals, and seabirds from demersal and pelagic trawls is considered moderate. Improved data collection is necessary to increase confidence in this assessment. Collaborative action through the Bycatch Mitigation Initiative and the appropriate use of Remote Electronic Monitoring (REM) are needed to enhance data collection and mitigate bycatch.

Static nets pose a high risk to cetaceans and seabirds, but a moderate risk to seals. Although high numbers of grey seals have been recorded as bycatch in static netting fisheries, current levels are not believed to threaten UK seal GES targets, according to UK MS reports. Targeted evidence collection, such as enhanced reporting

requirements and REM, along with coordinated mitigation efforts through the Bycatch Mitigation Initiative, are likely needed.

Drift nets present a moderate risk to seals and cetaceans, with a precautionary assessment due to substantial data gaps. Further evidence collection and analysis may reveal a lower actual risk level. However, drift nets are considered high risk for seabirds due to the variety of netting configurations and mesh sizes used, increasing the likelihood of unwanted bycatch. SNCBs suggest a high risk to birds unless further evidence justifies a medium risk. Targeted evidence collection, especially on large pelagic gear vessels, and collaborative action through the Bycatch Mitigation Initiative are required.

Most data come from the UK Bycatch Monitoring Programme, the OSPAR Quality Status Report, and other studies, which are not specific to seabream fisheries but cover all UK fisheries using these gear types. The bycatch risk of black seabream and gilthead bream fisheries to both other fish, birds and mammals, and its relation to food webs is currently unclear. A better understanding of the actual risk posed by this fishery will require a closer look at the bycatch associated with this activity.

Pressures on UK MS D1, D6 seafloor integrity: Black seabream and gilthead bream are currently targeted on a small scale through net and rod/line fisheries. According to the SNCB assessment, drift nets, static nets and rod/line gear types pose a low risk to the GES of seafloor integrity. Therefore, no action is currently necessary through this FMP.

There is indication that some EU vessels operation demersal trawls and seines in English waters may target smaller black seabream as part of a mixed fishery (primarily alongside gurnard, red mullet and other non-quota species). Demersal trawls pose a high risk to seafloor integrity as they reduce benthic biodiversity primarily through the reduction of biomass.[15] This will also have associated impacts on D1 biodiversity and D4 food webs. This requires a collaborative response from Defra and ALBs, potentially through the Benthic Impacts Working Group to consider the detail for scale of action required and potential mitigation actions. The FMP needs to gather more evidence to understand the extent to which seabreams are targeted by demersal towed gear.

Although mid-water and other pelagic/semi-pelagic may make contact with the seafloor at times, it not currently thought that this will produce pressures on a scale that is contributing to failure to reach GES for this descriptor. Therefore, no action currently thought to be required for this gear descriptor combination.

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

Pressures on UK MS D10 marine litter: Fishing litter is likely a relatively small component of overall marine litter; thus, fishing measures alone are unlikely to significantly contribute to achieving GES. The risk from abandoned, lost, or discarded drift and static nets, and demersal trawls, pose a moderate risk on the GES marine litter, however this depends on the scale of loss and the catching efficiency of the gear.

Whilst posing a significantly lower risk than losing static gear (i.e., gillnets, pots and fisher traps), demersal and pelagic trawls still pose a moderate risk to this descriptor. The greatest harm is likely associated with entanglement and ghost fishing from abandoned, lost, or discarded gear. Consideration of how best to avoid or minimise loss and achieve sustainable end of life disposal is important. More robust estimates of ALDFG rates are needed for all gear types.

Climatic Factors

Vessels fishing for black seabream and gilthead bream 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 the 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 black seabream and gilthead bream on organic carbon stocks. Goal 3 of the draft Seabream FMP aims to establish a robust ecological and environmental evidence base for seabream populations and fisheries to ensure effective management. This involves gathering data on the effects of climate change on these fisheries and vice-versa. As static and drift netting gear pose a low risk to seafloor integrity, there is little concern about the impacts on blue carbon compared to other gear types, such as towed gears.

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 conserve them for their enjoyment by future generations.

Towed benthic 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 black seabream and gilthead bream fishing 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 region[16].

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 draft Seabream 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 sections below set out those plans, programmes, and environmental protection objectives that Defra considers relevant to the implementation of the draft Seabream FMP. This FMP could interact with other relevant plans and projects. Any cumulative

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

impacts will also be considered in any future assessments ahead of implementing measures.

International

The draft Seabream FMP has had regard to the commitments the UK has made under the following international agreements and declarations during its preparation:

- Convention for the Protection of the Marine Environment of the North East Atlantic (OSPAR): is the legal framework for international cooperation to protect the marine environment of the North-East Atlantic, of which the UK is a party.
    - The OSPAR Quality Status Report is a key resource when looking at the environmental impact of fisheries in the Northeast Atlantic.

- Ramsar Convention: An international treaty for the conservation and sustainable use of wetlands, of which the UK is a party.

- UN Convention on Biological Diversity (CBD): An international legal instrument for the conservation of biological diversity, sustainable use of its components, and fair and equitable sharing of benefits arising from genetic resources. Particularly relevant is Target 10 (including the sustainable management of fisheries and aquaculture) of the Kunming-Montreal Global Biodiversity Framework.

- UN Convention on the Law of the Sea (UNCLOS): An international treaty that establishes a legal framework for all marine and maritime activities.

- UN Sustainable Development Goals: The UK has committed to working towards the 17 SDGs by 2030. Relevant goals include SDG 14 protecting life in the oceans, as well as SDG 8 decent work and economic growth, SDG 12 sustainable consumption and production and SDG 13 climate action.

- European Convention on the Protection of the Archaeological Heritage: aims to safeguard the archaeological heritage as a source of European collective memory and a resource for historical and scientific study.

- Council of Europe Landscape Convention: promotes the protection, management, and planning of European landscapes to enhance their quality and ensure sustainable development.

- 2003 UNESCO Convention for Safeguarding of the Intangible Cultural Heritage: fishing is a rich source of intangible cultural heritage that could actively contribute to delivering FMPs, as well as FMPs having a role in safeguarding the intangible heritage of each fishery.

The draft Seabream FMP has had regard to the commitments the UK has made under the following bilateral agreements and declarations during its preparation:

- Trade and Cooperation Agreement (TCA) between the EU and the UK: sets out the conditions in which EU and UK vessels can access each other's waters.
- UK-Faroe Islands Framework Agreement: sets conditions for the exchange of fishing quotas and includes provisions for control and enforcement to ensure sustainable fisheries management across UK and Faroese waters.
- UK-Norway Framework Agreement: sets conditions for the exchange of fishing quotas and includes provisions for control and enforcement to ensure sustainable fisheries management across UK and Norwegian waters, negotiated on an annual basis.

Domestic

The draft Seabream 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 and The Conservation of Offshore Marine Habitats and Species Regulations 2017, known as the Habitats Regulations. Marine Conservation Zones (MCZs) are protected under 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 draft Seabream FMP will support the management of fishing activity in MPAs. When implementing any actions arising from the FMP that overlap with SACs, 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 HPMA designations in English waters came into force on 5 July 2023.

The three sites are:

- Allonby Bay
- Northeast of Farnes Deep
- Dolphin Head

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

UK Fisheries Legislation (including retained EU legislation)

Since the UK's exit from the European Union, the foundation of UK fisheries legislation has been established through several key pieces of legislation. The Fisheries Act 2020 has replaced the Common Fisheries Policy, granting the UK full control over its fishing waters and enabling the regulation of access and the promotion of sustainable fishing practices.

The UK has retained certain EU laws, including Council Regulation (EC) No 1224/2009, which establishes a system for control, inspection, and enforcement to ensure compliance with fisheries rules, and Regulation (EU) 2019/1241 of the European Parliament and of the Council, which sets out rules for the conservation of fisheries resources and the protection of marine ecosystems through technical measures.

The draft Seabream FMP will comply with these legislative frameworks to ensure effective management and conservation of seabream populations and fisheries.

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 draft Seabream 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 draft Seabream FMP will 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 Good Environmental Status (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 draft Seabream 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 draft Seabream FMP will have due regard to these principles. Further details of the environmental principles can be found at Environmental Principles Gov.uk page.

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 draft Seabream 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 draft Seabream FMP will comply with the biodiversity duty.

The Environmental Targets (Marine Protected Areas) Regulations 2023 and The Environmental Targets (Biodiversity) (England) 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 marine protected areas. 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 Environmental Targets (Biodiversity) (England) 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 draft Seabream 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 draft Seabream FMP 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 draft Seabream 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 and 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 draft Seabream 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 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 Status[17]. The draft Seabream FMP will support the objectives in the relevant RBMPs to meet Good Ecological Status.

IFCA byelaws and voluntary guidelines

The following IFCA byelaws and voluntary guidelines directly apply to black seabream fisheries within their inshore remits (0-6 nautical miles):

Cornwall IFCA

- Minimum Conservation Reference Size Byelaw

Kent and Essex IFCA

- Area B Byelaws – Fishing Instrument Byelaw

Northwestern IFCA

- Minimum Conservation Reference Size Byelaw

Southern IFCA

- Minimum Conservation Reference Size Byelaw

Sussex IFCA

- Fishing Instrument Byelaw
- Marine Protected Area Byelaw – Kingmere MCZ Schedule
- Nearshore Trawling Byelaw (2019)

17 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 FMPs

Defra, as well as our delivery partners considered the interaction between the current tranche of published plans whilst drafting the FMP. We will review interactions again as the final versions are prepared and adjust the FMP as appropriate. The following FMPs have been identified as being most relevant to the draft Seabream FMP:

- **Bass FMP** is relevant to the Seabream FMP, as the gilthead bream niche is comparable to that of the native seabass. It is believed that bream migrations are similar to that of seabass

- **Celtic Sea and Western Channel Demersal FMP** is relevant as current black seabream and gilthead bream are concentrated in the English Channel and southwest coast. As both are demersal FMPs, there is a risk of seabream bycatch in the demersal gear scoped into the Celtic Sea and Western Channel Demersal FMP

- **Fisheries management plan for Channel demersal non-quota species** is due to the spatial overlap in the highest concentration of black seabream and gilthead bream fishing activities (ICES 7d and 7e). While not included in the Channel Demersal NQS FMP species, black seabream and gilthead bream are also non-quota demersal species

- **Southern North Sea demersal non-quota species FMP** may have further relevance in future, due to projected north-eastwards distribution of black seabream along the coast in ICES 4c, following warming sea surface temperatures

- **Wrasses Complex FMP** is relevant due to the large overlap in commercial and recreational stakeholders, as well as the spatial overlap where these respective fisheries are located (southwest and the English Channel)

The interaction between FMPs will be 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.

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 draft Seabream 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.

Other relevant plans, programmes and environmental objectives, including those at local level

- **Defra flyseining consultation in 2022:** A consultation by Defra to gather evidence and manage the impact of flyseining on demersal non-quota fish stocks in English waters
- **ongoing Remote Electronic Monitoring (REM) consultations**: Defra continues to work to expand the REM programme to five priority fisheries over the next five years, refining its approach with each phase. Once fully implemented, REM systems will be mandatory for vessels in these fisheries, including non-UK vessels

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 draft Seabream 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, Actions and Measures of the draft Seabream FMP

The potential positive and negative environmental effects of implementing goals (considering the actions that sit under them) and measures of the draft Seabream FMP have been identified in below.

Policy Goal 1: Restore or maintain stocks of seabream within English waters at sustainable levels.

Positive Effects: Actions under this goal include producing handling guidelines aimed at reducing post-release mortality and seeking to improve the robustness of commercial and recreational fisheries data. Although this action may have limited immediate positive effects on the environment, a reduction in post-release mortality will benefit the overall health and abundance of the stock, and engaging with stakeholders will, in the longer term, improve our understanding of the stocks and promote their numbers.

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

Negative Effects: No negative effects are anticipated; therefore, this goal is considered to pose a low risk.

Policy Goal 2: Further our understanding of fisheries for seabream in English waters.

Positive Effects: This goal involves developing identification guides and improving internal data processing methods to help inform and extend our knowledge of the stocks. This in turn will support our ability to undertake a stock assessment, which would strongly contribute to the sustainable management of seabream stocks.
Relevant SEA Issues: Biodiversity, fauna, flora (UK MS - D1, D3, D4, D6); Water (UK MS descriptors D10, D11).

Negative Effects: No negative effects are anticipated; therefore, this goal is considered to pose a low risk.

Policy Goal 3: Identify ecosystem-based fisheries management approaches to mitigate wider ecological and environmental impacts.

Positive Effects: Actions under this goal include monitoring and mitigating any bycatch of MPA designated features or the impact on the GES of UK MS descriptors, developing an evidence base on seabream and researching the impact of climate change on seabream. A better understanding of bycatch will enable the design of appropriate mitigation measures, where necessary. If implemented, these measures will have a positive impact on biodiversity and potentially improve MPA conditions. Furthermore, advancing our understanding of seabream ecology and identifying important areas will guide management decisions to protect these sites, as needed, to best inform regional management. This, in turn, supports the sustainability of the fishery and the wider reef ecosystem.

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

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.

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

Policy Goal 4: Deliver a framework to support the role of the FMP in realising the social and economic benefits of seabream to coastal communities.

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. Supporting industry to explore options for promoting seabream fisheries aims to leverage their consumer value could contribute to the long-term sustainability of the fishery, increasing opportunities and supporting communities.

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

Negative Effects: The market for catching seabream in English waters is expected to increase in the coming years, due to their increasing prevalence and distribution in English waters. The FMP seeks to support the future economic opportunities of these fisheries in a sustainable manner, acknowledging that increased demand will lead to increased fishing pressure on these stocks. If social, economic and cultural importance are considered in isolation, fisheries management approaches may have negative environmental consequences.

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

Overview of Potential Positive Environmental Effects of the FMP

Biodiversity, Flora, Fauna, Geology and Sediments, Water quality, Climatic factors, Cultural heritage, Landscape and Seascape

The overarching aim of the draft Seabream FMP is to deliver long-term sustainable management of seabream fisheries in the International Council for the Exploration of the Sea (ICES) areas 4b, 4c, 7a, 7d, 7e, 7g and 7h in English waters over the long-term.

The FMP includes policies seeking to better assess the interactions and impacts between the marine environment and black seabream and gilthead bream fisheries, as well as develop an action plan to reduce damaging impacts. The FMP has considered advice from SNCBs on the risks posed by various gear types associated with black seabream and gilthead bream landings when developing and implementing its goals and actions. As black seabream and gilthead bream fisheries in English waters are relatively data deficient, the first iteration of the FMP focusses on building a robust evidence base to make sure that any necessary management interventions are rooted in the best available evidence. This includes gathering data on:

- fisheries-dependent data (improved identification in MMO landings data and uptake in voluntary recreational data)
- biological data on sexual maturity, growth rates and post-release survival
- ecological data on distribution, spawning periods and locations, ecosystem roles / trophic cascades
- fisheries impacts on bycatch and marine litter

These policies support the GES for Commercial Fish (Descriptor D3) and Biodiversity, fauna, flora (UK MS - D1, D3, D4, D6) of the UK Marine Strategy. By improving the robustness of data, the plan supports the health of not only black seabream and gilthead bream, but wider biodiversity.

Section 6 of the Fisheries Act 2020 states that FMPs must specify whether available scientific evidence is sufficient to assess the stock's maximum sustainable yield. The Seabream FMP aims to improve the identification and recording of black seabream and gilthead bream species to develop methodologies for stock assessments in the long-term. Securing the sustainable harvesting of black seabream and gilthead bream stocks, with the long-term aim of fishing within sustainable limits (MSY or appropriate proxies) could:

- help reduce the risk of black seabream and gilthead bream stocks being overexploited
- reduce fishing-related mortality which may help black seabream and gilthead bream populations become more resilient to environmental change which could benefit marine ecosystem function and biodiversity
- help control species removal from food webs

The FMP also proposes several measures, including the introduction of national bag limits for recreational sea anglers to manage the retention rate of black seabream. Additionally, increasing the Minimum Conservation Reference Size (MCRS), a measure unanimously supported by both inshore commercial and recreational fishers, would allow juveniles to reach maturity, thereby enhancing recruitment. In future, once enough research is gathered, the FMP may consider the implementation of slot sizes, in order to also protect larger breeding individuals.

The draft Seabream FMP adopts 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.

Climatic factors

The draft FMP signposts existing national programmes that collect data on the effects of climate change and the contribution of fisheries activities, contributing the climate change objective in Fisheries Act 2020. Such policies will help identify opportunities to decarbonise the fleet and move towards net zero, making vessels more fuel efficient and generally less polluting. This FMP specifically seeks to build an improved understanding of how climate change is influencing seabream biological and ecological characteristics. Combining this with research into the trophic role of seabream and identifying key important ecological areas, supports the long-term sustainability of their stocks.

Cultural Heritage, Landscapes and Seascapes

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

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 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 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

Biodiversity, Flora, Fauna, Geology and Sediments, Water quality, Climatic factors, Cultural heritage, Landscape and Seascape

Recognising that the proposed policies and actions are in their early stages, the assessment identified a low risk of significant adverse effects on biodiversity, flora, fauna, water quality, and cultural heritage from their implementation.

However, there remains uncertainty of the impacts of implementing a combination of actions. Nevertheless, the fisheries objectives which will guide our actions should deliver improved environmental protection. 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. The FMP acknowledges that any management interventions brought in through FMPs may solve one issue, but unintended and unpredictable issues could arise because of the measures being implemented.

The targeted fisheries for black seabream and gilthead bream in English waters currently have small spatial and effort footprints. Only a small number of inshore vessels specifically target these species, and they are often caught as welcomed bycatch while targeting other fish. The majority of smaller seabream landings are from larger offshore EU demersal and pelagic trawls, as well as demersal seines, as part of targeted mixed fisheries (primarily alongside gurnard, red mullet and other non-quota species). Demersal trawls pose a moderate risk to D1, D4 cetaceans, seals and seabirds, and D10 marine litter. They pose a high risk to damaging the seafloor and benthic biodiversity. Pelagic trawls pose a moderate risk to D1, D4 cetaceans, seals and seabirds, and D10 marine litter. The environmental impacts should be considered holistically alongside other mixed fisheries FMPs.

Black seabream are popular among recreational sea anglers, whether fishing from the shore, private boats, or charter vessels. Voluntary survey data from the Sea Angling Diary indicates a high retention rate for these fish. Some IFCAs have already implemented or are consulting on management measures to ensure the sustainability of both commercial and recreational seabream fishing within their black seabream MCZs and districts.

The market and fisheries for black seabream and gilthead bream are expected to grow due to their rising prevalence and distribution, increasing pressure on the stocks. The FMP aims to support the future economic opportunities of these fisheries sustainably. If social, economic, and cultural factors are considered in isolation, fisheries management approaches may have adverse environmental consequences.

The FMP must remain adaptable in implementing measures to ensure the sustainability of these fish stocks. This may involve enhancing resilience to climate and fisheries pressures by potentially protecting important seabream habitats. However, further research is needed to inform these decisions. If management measures reduce fishing opportunities, this could lead to spatial shifts in fishing effort, potentially increasing pressure elsewhere.

Any changes to fishing activity resulting from the implementation of the FMP goals and actions should be monitored as part of the process of evaluating the effectiveness of FMPs. Tools such as 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. Mitigating action could then be considered where any significant negative effects are identified, that are related to those issues scoped into this assessment.

In-combination Effects

The draft Seabream FMP could potentially have positive (or negative) in-combination effects with other programmes to deliver sustainable fisheries (see 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 actions being at an early stage of development. The assessment of the likely negative effects of the individual policies 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 effect 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 in this SEA, 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 draft Seabream 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 polices and actions 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 (see section 8).

Conclusions

Black seabream and gilthead bream fishing poses some risks to the quality status of the marine environment, which may increase in future. The draft Seabream FMP focuses on achieving the sustainable harvesting of black seabream and gilthead bream stocks and therefore will reduce the risks to the future status of black seabream and gilthead bream stocks in the long-term giving positive benefits to the environment. Nevertheless, we acknowledge that fishing for black seabream and gilthead bream within sustainable limits may not remove all the associated negative effects of that fishing on the wider marine environment.

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 positive contribution to the sustainability objective. The draft Seabream FMP takes a precautionary approach to fisheries management and adopts a balanced and proportionate approach towards delivering the fisheries objectives.

The draft Seabream 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. It aims to establish a robust biological and ecological evidence base while enhancing existing fisheries-dependent data channels to better inform future actions through the FMP. The FMP also considers short-term actions such as handling guidelines to support seabream populations while they are currently in a healthy state, rather than waiting to intervene only when population concerns arise.

The draft Seabream FMP does not specifically consider the impacts of fishing on marine heritage assets. However, fisheries management aimed at reducing wider environmental effects could indirectly help to conserve both known and unknown marine heritage assets. The draft Seabream FMP also 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 actions to achieve sustainable harvesting of black seabream and gilthead bream stocks but there is scope for future iterations of the FMP to address these wider issues.

6. Proposed Measures to Reduce Significant Negative Effects

Existing Negative Effects of Black Seabream and Gilthead Bream Fisheries

This ER 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.

Due to the currently smaller spatial and effort footprint of commercial fisheries targeting seabream, there are no significant known negative environmental impacts in English waters directly linked to them. The Statutory Nature Conservation Bodies (SNCBs) assessed the potential for demersal drift and static nets to pose moderate to high risks to various MPA designated features and UK Marine Strategy (MS) descriptors. However, this assessment was based on the use of such gear types across all UK commercial fisheries, not specifically for seabream. Therefore, studies specific to these fisheries should be conducted in order to understand their direct environmental impacts.

Recreational fisheries, which use low-risk rod and line gear, have shown to retain high numbers of seabream, potentially impacting seabream populations. Currently, both commercial and recreational fisheries are managed to protect black seabream in some IFCA districts, while there are no measures in place for gilthead bream. Furthermore,

neither black seabream nor gilthead bream are managed in English waters beyond 6 nautical miles.

As these fisheries are expected to expand in the future, it will be crucial to anticipate and mitigate any environmental risks while the fisheries are still in a good state.

Biodiversity, Flora, Fauna, Geology and Sediments (soil), Water quality

Measures currently being implemented to manage black seabream can be found in the draft Seabream FMP under the Current Fishery Management section. The Technical Conservation Regulation (EU) 2019/1241 mandates several conservation measures to control bycatch and mitigate wider environmental impacts. These measures include distinct mesh sizes for static and drift nets, as well as towed gear in certain ICES areas of northwestern waters, along with depth restrictions, codend specifications, and a prohibition on nearshore beam trawling within 12 nautical miles of the UK coast. Only certain Inshore Fisheries and Conservation Authorities (IFCAs) within 0-6 nautical miles have byelaws specifically protecting black seabream.

These byelaws include a minimum Conservation Reference Size (CRS) of 23 cm in the Northwestern, Cornwall, Southern, and Sussex IFCAs. There are no mandatory maximum CRS for black seabream, and no measures in place for gilthead bream. The minimum CRS aims to protect juvenile black seabream, allowing them time to grow and reach maturity. However, inshore stakeholders, both recreational and commercial, have noted that they typically return black seabream of this size and slightly larger, as fish below 300g hold no value to them.

Sussex and Kent & Essex IFCAs have additional byelaws to protect seabream. For example, there are restrictions on demersal pair trawling between April 1st and June 30th within the district west of a line drawn due south from the landward end of the Western Breakwater of Shoreham Harbour. The codend must consist of at least 40 rows of meshes with a minimum size of 110 mm to protect stocks of juvenile black seabream and bass present during these times.

Furthermore, Sussex has a nearshore trawling ban. Certain areas within the Sussex IFCA prohibit nearshore trawling, including a large area extending up to 4 km between Selsey and Shoreham-by-Sea, which until the late 1980s, held extensive kelp forests supporting abundant marine wildlife, including important commercial fish species such as black seabream. These measures are part of the overall management strategy and contribute to the conservation of stocks and the wider environment.

Regarding gilthead bream, there is evidence that their spawning sites are typically located in estuaries. Few commercial or recreational fishers target gilthead bream in these areas. More research through the FMP is needed to gain a better spatial

understanding of gilthead bream distribution, habitat suitability, and important ecological sites. The Southern and Sussex IFCAs have identified significant black seabream nesting sites, which have been designated and managed through MCZs. These will be explored in more detail in the future.

While seabream appear to be in a good state and well-managed within the IFCA districts where they are abundant, there is no management for seabream beyond 6 nautical miles. This is because seabream has not been a primary focus in the UK, and when targeted, it is usually inshore. However, the majority of commercial landings of seabream come from demersal trawls, pelagic trawls, and demersal seines as part of other mixed fisheries. Anecdotal evidence from compliance teams suggests that most seabream caught in these trawls and seines are juveniles. While seabream populations seem to be increasing, specific monitoring is needed to assess the impact of this bycatch on the seabream population structure.

The FMP proposes steps towards a stock assessment for black seabream, with the ambition of conducting one for gilthead bream in the longer term. There will need to be further discussions on whether there is interest for doing this on a regional level or whether it remains on a domestic level. Both black seabream and gilthead bream are data deficient and do not have existing stock assessments or benchmarks for their current population states. The draft Seabream FMP proposes a series of short- and long-term technical measures to achieve MSY. This plan brings together all existing management measures for black seabream along with all available science and evidence, and highlights where gaps exist and what is required to fill those gaps to enable the necessary protection for stocks now and in the long term. This approach aims to achieve sustainable harvesting of black seabream and gilthead bream stocks, which will benefit the wider marine environment.

The draft Seabream FMP has considered advice from SNCBs with respect to the impacts from black seabream and gilthead bream fishing activity on MPA features and the wider marine environment in relation to UK MS descriptors. The draft Seabream FMP has set out the following proposed measures to reduce those known negative effects in the next section.

Impacts within MPAs

Both Sussex and Southern IFCAs have MCZs which list black seabream as a designated feature, due to the location of nesting sites within them and the role that black seabream males play in guarding them.

Sussex IFCA is the first district to have implemented management to an MCZ with black seabream as a designated feature. In 2014 and 2015, Sussex IFCA collaborated with Cefas and Fugro-Emu to map seabed habitats and black seabream nests using side scan sonar and underwater video cameras. The features identified in these surveys helped define the spatial extent of the management zones.

The Kingmere MCZ protects one of the most important nesting and breeding areas for the black seabream in the UK. The MCZ split into four zones that have restrictions for each gear type, with these being more restrictive during the breeding/spawning season April to June. Read Kingmere MCZ summary of measures for further details of zones and seasonal restrictions.

In addition, it is prohibited to possess any parts of seabream other than whole or gutted fish, retain any live seabream in any container, keep net, or receptacle, transfer any seabream, dead or alive, between vessels, or return any dead seabream to the fishery. Additionally, the vessel master is not allowed to retain on a vessel a number of seabreams exceeding four times the number of persons fishing on the vessel. It is also prohibited to use any seabream as bait.

The measures implemented within the Kingmere MCZ have been well received by fishers. Additionally, Sussex IFCA is actively engaged in various monitoring efforts to track the status of black seabream within their district and evaluate the effectiveness of their management strategies. From 2014 to 2016, Sussex IFCA partnered with local charter angling skippers to attach external identification tags to seabream. The positions and details of each tagged fish were recorded at the time of release. When tagged seabream were recaptured, their details were recorded again, providing insights into seabream migration patterns and site fidelity.

Furthermore, alongside routine compliance duties, black seabream-focused patrols are conducted from April to June to gather catch per unit effort and biological information from recreational and commercial fishers. Sussex IFCA also supports partner organizations in conducting small fish surveys along their coast, focusing on juveniles of larger species and small fish adapted to specific nearshore conditions. Juvenile black seabream is often caught inshore as they use these sheltered areas during the first few years of their lives.

Black seabream is also a feature three MCZs located within the Southern IFCA District, including Southbourne Rough MCZ, Poole Rocks MCZ, and Purbeck Coast MCZ. At the time of writing, Southern IFCA is consulting on the management of these sites.

The MPA network (see 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 IFCAs and the MMO to make byelaws. IFCAs and the 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 draft Seabream FMP, those interventions will be screened for likely significant effects on any Special Areas of Conservation or Special Protection Areas that overlap with the geographical scope of the measure and, where necessary, a further appropriate

assessment 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, a Marine Conservation Zone (MCZ) assessments 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 black seabream and gilthead bream fishing activity and the FMP's policies and actions 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

The marine environment outside of Marine Protected Areas (MPAs) but within the spatial boundaries of this FMP may potentially be negatively impacted by fishing activities.

The Statutory Nature Conservation Bodies (SNCBs) have highlighted the risk of bycatch of mobile species, such as birds, mammals (e.g., harbour porpoise), and fish (e.g., shad), which are designated features of MPAs when they occur outside these sites. According to SNCB advice, on a UK-wide fisheries basis:

- there is a moderate risk of bycatch of mobile species (marine mammals, birds and fish) that are designated features of MPAs in demersal trawls and pelagic trawls
- there is a high risk of bycatch of marine mammals, seabirds and fish that are designated features of MPAs from static nets
- there is a high risk of bycatch of seabirds and fish that are designated features of MPAs from drift nets
- there remains a moderate risk of bycatch of marine mammal species that are designated features of MPAs from drift nets
- there is a low risk of bycatch of mobile species (marine mammals, birds and fish) that are designated features of MPAs in rod and line fisheries

The advice acknowledged the lack of high-quality bycatch data, which severely restricted both the ability to draw firm conclusions on mobile bycatch risks MPA features beyond site boundaries and the ability to identify specific mitigation. The draft Seabream FMP links specific data collection initiatives to wider bycatch monitoring and mitigation programmes such as Clean Catch UK, which has the potential to appropriately mitigate risks associated with highly mobile MPA features.

UK MS Descriptors Impacts

Litter: The FMP will collate, and review evidence generated by the existing national policy and monitoring schemes before the next iteration of this FMP. We will encourage the participation in initiatives which will assist in recording gear losses to better understand the levels of risk and establish baselines. In future iterations the FMP will consider the evidence collated and assess the scale of the impact generated by black seabream and gilthead bream fisheries.

Bycatch: Reducing bycatch of sensitive and/or non-target species is complex and requires solutions that are tailored to the different fisheries. To assist in the understanding and mitigations of the bycatch risks highlighted in the SNCB advice the following steps will be taken.

Further data would help establish the locations and scale of bycatch. Developing existing programmes such as the UK bycatch monitoring programme will contribute to resolving the issue. Additional data through REM, self-reporting and encouraging participation in existing observer programmes, will increase our understanding and thereby allow better decision-making regarding mitigations on what and where mitigation may be required. Improving reporting pathways (for both fishermen and fisheries managers) and bycatch monitoring programmes will help improve understanding and our ability to determine whether any mitigatory action is necessary.

There is also ongoing work focusing on understanding and mitigating the impact of bycatch on the wider population being progressed through Defra's Marine wildlife bycatch mitigation initiative (BMI) and the Clean Catch UK programme. Further development of these programmes to ensure coverage of risks identified through this FMP are the most suitable route to mitigation.

Seabed Integrity: On a national level, the UK is committed to reducing the impact of current fishing gear on the seabed and is taking a multi-faceted approach to assess where measures can be best placed to mitigate impacts. In the update to the UK Marine Strategy Part One (2019) we made a commitment to assess the feasibility of setting up a partnership working group with key stakeholders to identify solutions for potential fishing impacts on seabed integrity. We are currently considering how this could work in practice.

Collaborative working between Defra, ALBs and regulators to provide more detailed advice on contributions of different mobile demersal gears within the geographic context of FMPs is required. Detailed consideration of mitigation options should draw on a wide range of stakeholder expertise.

Climate Change

Vessel Emissions

When new evidence around climate change impacts is developed that require any adaptation of the fishery, this will be integrated into the FMP. In the meantime, there are existing government schemes which are open to support the fishing sector in the transition to Net Zero and support businesses to adapt. Defra are currently in the process of investigating existing carbon mitigating solutions and is collaborating across government and with stakeholders to support the development of pathways to Net Zero.

Blue Carbon

Healthy coastal and marine environments can provide nature-based solutions to help tackle climate change. For example, certain marine habitats that are home to these Black seabream and gilthead bream species, such as muddy sediments are able to store carbon and therefore these are known as blue carbon habitats. If left undisturbed, these habitats can contribute to GHG emissions reductions. Habitat disturbance through fishing practices may affect seabed carbon dynamics. Evidence is beginning to suggest that overfishing reduces the carbon storage potential of the ocean not only through removal of biomass, but by reducing the mean size of individuals in the population, the quantity of faecal pellets excreted and the number of large carcasses sinking to the seabed. Evidence is emerging that indicates that fisheries management could play a positive role in the marine carbon cycle through preserving the largest fish within populations, maintaining sustainable stocks beyond MSY limits, and adopting Ecosystem Based Fisheries Management. Defra continue to develop an evidence base on blue cardon habitats in the UK, further evidence is required to understand the trade-offs and wider consequences of decisions. The Blue Carbon Evidence Partnership is working to increase the blue cardon carbon evidence base, and as further research develops in this area, it will be considered for future iterations of the FMP.

Climate Change Impacts on Black Seabream and Gilthead Bream Stocks and Fisheries

Over the next three to five years, the draft Seabream FMP will work to understand and address impacts of changing climate conditions as highlighted in the climate change committee’s climate risk independent assessment, through mechanisms such as the Marine Climate Change Impacts Partnership. Another component of the FMP will be to support the industry's adaptation to the impacts of climate change in addition to encouraging industry participation in initiatives to reduce CO2 emissions. Future iterations of the FMP will be adapted as research into climate change develops and new methods to address climatic challenges arise.

Cultural Heritage

The draft Seabream FMP does not explicitly consider the potential impacts of black seabream and gilthead bream 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 draft Seabream FMP does not explicitly consider the potential impacts of black seabream and gilthead bream fishing activity on submerged prehistoric landscapes or seascapes.

The SNCBs have assessed demersal trawls as posing a high risk to seafloor integrity, indicating that further research is needed to fully understand the impacts of various gear types on achieving GES. Although this risk has been acknowledged in the draft Seabream FMP, no specific actions are currently being proposed. Fisheries authorities will need to decide whether these issues are more appropriately addressed through mixed fishery FMPs or through a broader management programme.

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 black seabream and gilthead bream species 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 and actions in section 5 identified a low risk of significant adverse effects on the environment from implementing individual policies and actions. Therefore, no changes to the proposed

goals, policies and actions are needed ahead of publishing the FMP. Where appropriate, the policies 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 (see section 8), to ensure that any negative effects of the of the FMP's policies and actions individually or combined can be further reduced. Given the uncertainty as to the negative effects of implementing the individual policies 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 impact of fishing on the marine environment to comply with its international and domestic obligations. The draft Seabream FMP seeks to support these commitments by providing the tools (FMP policies and actions) to deliver the sustainable harvesting of black seabream and gilthead bream stocks.

The range of environmental issues identified through this assessment have been considered by the draft Seabream 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 actions as new evidence on potential impacts of black seabream and gilthead bream fishing emerge, particularly in relation to climate change.

This ER 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 and actions. This ER 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 draft Seabream 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'[18].

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 draft Seabream FMP. This listing creates a legal requirement to prepare and publish the draft Seabream 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)[19] of the Fisheries Act applies; we are not aware of any information that would invoke these circumstances.

The draft Seabream FMP, alongside the other 43 FMPs was agreed by the fisheries policy authorities through the JFS publication process. 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 FMPs, which included an FMP for Seabream, was part of the public consultation on the Joint Fisheries Statement in early 2022. There were no comments on the inclusion of an FMP for Seabream.

The black seabream and gilthead bream fishery is an ongoing activity and management for the former 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 draft Seabream 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.

The draft Seabream FMP policies and actions were developed to specifically address those fisheries management issues identified within the black seabream and gilthead bream 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

18 Reasonable alternatives definition

19 Fisheries Act 2020 (legislation.gov.uk)

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 actions 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 polices and actions. 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 to the proposed draft Seabream FMP goals (considering the actions that sit under them) and measures is provided below.

Assessment of alternatives to proposed black seabream and gilthead bream goals

Policy Goal 1: Increase or maintain stocks of seabream within English waters at sustainable levels.

Alternatives: There are no negative environmental impacts associated with this goal, as it is centred around data collection and to helping to maintain or increase the levels of seabream at sustainable levels. Engagement across recreational and commercial sectors is designed to ensure that all stakeholders and their exploitation of the fisheries are taken into consideration, ensuring a robust understanding of the stocks. No alternatives have been identified as necessary under this goal.

Policy Goal 2: Further our understanding of fisheries for seabream in English waters.

Alternatives:
There are no negative environmental impacts associated with this goal and its actions, as it is centred around obtaining the scientific evidence required to assess black seabream and gilthead bream stocks at MSY. The introduction of measures such as identification guides and improvement of internal data processing methods will enhance the quality of data held on these stocks, elevating our understanding of stock structure. No alternatives have been identified as necessary under this goal.

Policy Goal 3: Identify ecosystem-based fisheries management approaches to mitigate wider ecological and environmental impacts.

Alternatives: There are no negative environmental impacts associated with this goal, as it is centred around data collection. Better information is required to understand the detailed nature of bycatch, climate change and seabream fisheries

to adequately mitigate or adapt to its impacts. Without this, it is not possible to design effective measures. No alternatives have been identified as necessary under this goal.

Policy Goal 4: Deliver a framework to support the role of the FMP in realising the social and economic benefits of seabream to coastal communities.

Alternatives: Any increase in social and economic opportunities within a fishery may lead to increased efforts in targeting these fish. While no immediate environmental impact is anticipated, consistent monitoring through the FMP will help us understand the state of seabream populations. The FMP aims to implement effective measures while the stocks are currently in a healthy state, ensuring they remain sustainable and preventing the need for intervention only when it is too late. Therefore, if necessary, further appropriate management measures will be implemented to alleviate unsustainable pressures.

The policies and actions set out in the FMP are therefore considered to be the most appropriate for this stage in the FMP's development. The draft Seabream 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 draft Seabream FMP, alongside the consultation of this ER. These consultations will provide stakeholders with the opportunity to review proposed actions 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 draft Seabream FMP policies and actions 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 actions
- 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 draft Seabream FMP.

Delivery of the actions and measures in this FMP will be monitored. There is insufficient evidence to determine MSY or a proxy for MSY for black seabream and gilthead bream. 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. A prioritisation exercise will be carried out to focus research efforts across the FMP stocks and plans to increase data collection which will be reviewed over time.

Other indicators to measure the effectiveness of the policies for restoring, or maintaining these stocks at sustainable levels are:

- a baseline of black seabream and gilthead bream data gathered to identify evidence gaps and support future assessment of stocks
- increased available evidence to improve understanding of the ecological and biological aspects of FMP seabream species
- identification guides produced for all FMP species to increase species-specific reporting in English waters
- an introduction of commercial and recreational fishery guidelines for seabream to increase post-release survival
- increased available evidence on the social and economic importance of black seabream to both the commercial and recreational sector, as well as coastal communities within the FMP area
- increased evidence under existing programmes indicating that black seabream and gilthead bream fisheries do not impede the achievement of GES for UKMS descriptors
- management of black seabream and gilthead bream do not interfere with the conservation objectives of the features designated of MPAs with which they interact

Further reviews may also be required if new opportunities present themselves to improve the effectiveness of the plan. The FMP will take advantage of future social datasets to be developed as set out in section 3.2.10 of the JFS, which outlines that a range information will be gathered, including scientific, technical, economic, and social data. The monitoring and evaluation framework for the FMP will continue to be developed and supported by the independent programme evaluation of the FMP programme, which will produce a framework for evaluation of individual FMPs.

In addition to the monitoring set out in the FMP, monitoring of the environmental effects of implementing the FMP’s policies and actions will be undertaken by fisheries

managers (UK fisheries policy authorities, Defra, MMO, and IFCAs). These actions may include.

- monitoring changes in fishing activity e.g. changes in effort or the spatial and/or temporal patterns of fishing, resulting from the implementation of the FMP
- monitoring of potential environmental effects could be built into the wider FMP process
- if any negative impacts are identified, fisheries managers should consider adjusting seabream fishery management

Details of the monitoring activity will be developed as part of the FMP's implementation process. Any monitoring data will be shared with those reporting on the achievement of good environmental status as required by Marine Strategy Regulations or other relevant assessment programmes.

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 2009. 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 actions to reduce or avoid these risks or impacts. Findings from these monitoring activities could also be used to indicate where FMP policies and actions are having a positive effect.

UK MS

The UK MS monitors and assesses the state of the marine environment against 11 descriptors. See 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, as well as the devolved administrations, 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 black seabream and gilthead bream 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 draft Seabream 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 black seabream and gilthead bream fishery harvesting within sustainable limits and the Fisheries Act objectives.

The results of monitoring the effectiveness of the draft Seabream 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 draft Seabream FMP. As part of the reporting and wider review processes, alternatives to management can be identified to ensure the draft Seabream FMP delivers on its objectives and wider environmental obligations.

The SEA Environmental Report will be periodically updated to reflect how the implementation of 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: Eleven 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'. However, according to the 2019 updated Marine Strategy Part One: UK updated assessment and Good Environmental Status, the overall status of cetaceans in the North Sea and Celtic Seas is currently uncertain. 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 achieved	GES status uncertain

Target	Indicator	North Sea	Celtic Seas
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.

More recent analysis for the 2023 OSPAR quality status report (which uses the same indicator as the UK MS) 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)[20], it is specifically 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 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.

Without this information, it is difficult to understand the potential impact fisheries could currently be having (alongside impacts from other industries or factors such as pollution) and if fisheries impacts are a scale of concern. 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.

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

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.

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	Not applicable	Not applicable
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 report[21] 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 2019[22].

The most recent OSPAR quality status reports assessment on marine mammal bycatch[23] (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 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.

21 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).

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

23 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 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).

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

Target	Indicator	North Sea	Celtic Seas
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 partially 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 success[24]	GES not achieved	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

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

24 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.

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.

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 al[25] (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 2020[26] and Miles et al 2020[27]). However, these estimates have high

25 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.

26 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

27 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).

uncertainty in part because sample sizes are low and possibly unrepresentative of the fleet.

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.

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 indictors 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 achieved

Target	Indicator	North Sea	Celtic Seas
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

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.2023[28]). 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.

28 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 UK fisheries policy authorities and Defra.

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).

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	Extent of Physical damage indicator	GES not achieved	GES not achieved

Target	Indicator	North Sea	Celtic Seas
physical disturbance caused by human activity should be minimised.	to predominant and special habitats		
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

Target	Indicator	North Sea	Celtic Seas
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 reversable. 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

Target	Indicator	North Sea	Celtic Seas
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 partially achieved
Productivity of the representative feeding guilds, characterised by key species, is indicative of a healthy marine food web.	Kittiwake breeding success[29]	GES achieved	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

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 tropic 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	Presence of litter (beaches)	GES not achieved	GES not achieved

Target	Indicator	North Sea	Celtic Seas
litter found on surveyed beaches.			
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

1. 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
2. Marine and Coastal Access Act 2009
    - Marine Conservation Zones (MCZs) – England, Wales
3. Natural Environment and Rural Communities Act 2006 (Part 4)
    - Sites of Special Scientific Interest (SSSI) – England, Scotland, Wales
4. 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 objectives for the marine environment that are identified in the MPS alongside the National Planning Policy Framework (NPPF) and the Localism Act 2011. The 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 good environmental status (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 0-200 nautical miles, 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 the Department of Agriculture, Environment and Rural Affairs (DAERA) 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 ER and their responses are detailed below.

Natural England Response

Ref	Document section	Comment
1	Entire Document.	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 Regulations.
2	Entire Document.	Natural England also agrees that each scoping report has correctly identified the issues to be taken forward for further consideration in an Environment Report.
3	Relevant Plans, Programmes and Environmental Protection Objectives	In the Wrasse and Bream FMP scoping reports the grouping of the legislation doesn't accurately reflect protections for MPAs. We would suggest either including MaCAA 2009 and the habitat regulations (and offshore regs) in this section as well or simply merging sections 4.3 and 4.4.

How the consultation response was considered

Point #	How point was considered
1	Point noted
2	Point noted
3	The issue will be addressed in the Seabream FMP Environmental Report.

JNCC Response

Ref	Document section	Comment
1	Entire Document.	JNCC supports the comprehensive approach taken in the scoping reports, particularly the detailed consideration of the environmental baseline and the identification of relevant plans, programmes, and environmental protection objectives.

How the consultation response was considered

Point #	How point was considered
1	Point noted.

Historic England Response

Ref	Document section	Comment
1	Relevant Plans, Programmes and Environmental Protection Objectives	We note that the Celtic Sea and Western Channel Pelagic FMP acknowledges the Convention for the Protection of the Archaeological Heritage of Europe among the international obligations relevant to the FMP SEA, as have Scoping Reports for previous FMPs. However, we are puzzled as to why this instrument has been omitted from the other three Tranche 4 Scoping Reports.
2	Relevant Plans, Programmes and Environmental Protection Objectives	Furthermore, the acknowledgement of the European Landscape Convention appears to have slipped from all four Tranche 4 SMPs and should be reinstated.
3	Relevant Plans, Programmes and Environmental Protection Objectives	We would also like to draw attention to the UK's ratification in April 2024 of the 2003 UNESCO Convention for Safeguarding of the Intangible Cultural Heritage: fishing is a rich source of intangible cultural heritage that could actively contribute to delivering FMPs, as well as FMPs having a role in safeguarding the intangible heritage of each fishery.
4	Scoping	We would also like to underline the potential of fishing activity targeting these fisheries to cause input of litter. The impact of fishing activity on the environment through marine litter is less clearly acknowledged in the Tranche 4 FMP Scoping Reports than in previous FMP Scoping Reports.
5	Scoping	The Tranche 4 Scoping Reports variously refer to features such as seagrass beds, eelgrass beds and rocky reefs as warranting particular consideration: to these, the SEAs should add submerged prehistoric land surfaces that often comprise organic deposits (such as peat) and other former terrestrial fine-grained deposits (muds and silts) containing organic material.

Ref	Document section	Comment
6	Draft Seabream FMP Goals and Actions	We would strongly encourage the inclusion of equivalent objectives on the cultural importance of fishing in the other three Tranche 4 FMPs. These three FMPs have objectives on better understanding, optimising and realising economic and social benefits, which we would expect to encompass cultural benefits: but express objectives on culture would provide greater stimulus to delivery. We would also like to underline the role that greater recognition of the proud history and heritage of fishing would play in delivering objectives on partnerships and collaborative working relationships. We would welcome conversations with Defra about how greater attention to the cultural heritage of fishing could contribute to sustainable fisheries and strengthened coastal communities.
7	Assessment of Environmental Effects	We look forward to the Environmental Reports evaluating the potential effects (negative and positive) of all four Tranche 4 fisheries on cultural heritage and landscape/seascape. In light of comments above, we would expect each Environmental Report to address: • Interactions between fishing gear and marine heritage assets on the seabed. • Impacts on heritage arising from physical disturbance to the seabed. • Impacts on heritage from the input of litter (ALDFG). • Impacts on landscape/seascape including prehistoric seabed formations, blue carbon habitats, and seabed carbon dynamics. • Potential to enhance the cultural heritage of these fisheries and the contribution it makes to coastal communities and places.
8	Landscape and Seascape	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

Ref	Document section	Comment
		MMO's Fishery Assessment programme, and d) the UK Marine Strategy (UK MS – and see below).
9	Landscape and Seascape	We appreciate 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.
10	Environmental Impacts	We look forward to the FMPs proposing new measures and interventions to mitigate negative effects (and enhance positive effects) arising from interactions between the Tranche 4 fisheries and cultural heritage and landscape/seascape. We also look forward to proposals for future monitoring of the effects of the Tranche 4 FMPs on cultural heritage and landscape/seascape. We would, of course, be very pleased to discuss with Defra these new measures, interventions, and monitoring proposals in the course of their development.
11	Relevant Plans, Programmes and Environmental Protection Objectives	Accordingly, we think it would be appropriate to involve Historic England in the Benthic Impacts Working Group currently in development as part of other FMPs, as noted in the Tranche 4 Scoping Reports.
12	Environmental Baseline – Cultural Heritage	We would also suggest that prior to formal consultation, Defra goes beyond the SNCBs in seeking and considering advice on the impacts of fishing activity, including ALBs such as Historic England that can provide relevant advice on such impacts. Framing advice from statutory consultees in terms of MPAs and UK MS descriptors – which are acknowledged in the Scoping Reports as not encompassing the full scope of SEA – will clearly allow only partial assessments.

How the consultation response was considered

Point #	How point was considered
1.	Reference to the Convention for the Protection of the Archaeological Heritage of Europe will be included in the Environmental Reports for the following FMPs; • Wrasse Complex • Seabream • Celtic Sea and Western Channel Demersal
2.	Reference to the European Landscape Convention will be made in three Environmental Reports. • Wrasse Complex • Seabream • Celtic Sea and Western Channel Demersal
3.	Reference to the 2003 UNESCO Convention for Safeguarding of the Intangible Cultural Heritage will be made in all four Environmental Reports.
4.	SNCB advice provided to Defra indicated that there is a moderate risk to UK MS D10 marine litter for all fishing gears used in fisheries covering the T4 FMPs. Marine litter will be assessed in the Environmental Reports.
5.	Environmental Reports (expect the Celtic Sea and Western Channel Pelagic FMP) will reference submerged prehistoric land surfaces that often comprise organic deposits (such as peat) and other former terrestrial fine-grained deposits (muds and silts) containing organic material.
6.	Defra will consider the inclusion of equivalent objectives on the cultural importance of fishing in the other three Tranche 4 FMPs.
7.	Defra will consider in the Environmental reports the points raised by HE.
8.	Noted. Defra would welcome further discussions with HE to consider this point.
9.	Noted. Defra would welcome further discussions with HE to consider this point.

Point #	How point was considered
10.	Noted. Defra would welcome further discussions with HE to consider this point.
11.	Point noted. Defra/DAs will consider HE's involvement in the Benthic Impacts Working Group.
12.	The Environmental Reports will include reference to the Fishing and the Historic Environment report produced by Historic England, which will be used as the primary source of information on the interactions between commercial fishing and the marine historic environment in English waters. Defra would welcome discussions with HE to further consider the impacts of fishing activity on the marine historic environment.

Environment Agency Response

No response received.

How the consultation response was considered

Point #	How point was considered
N/A	N/A