



Department
for Environment
Food & Rural Affairs



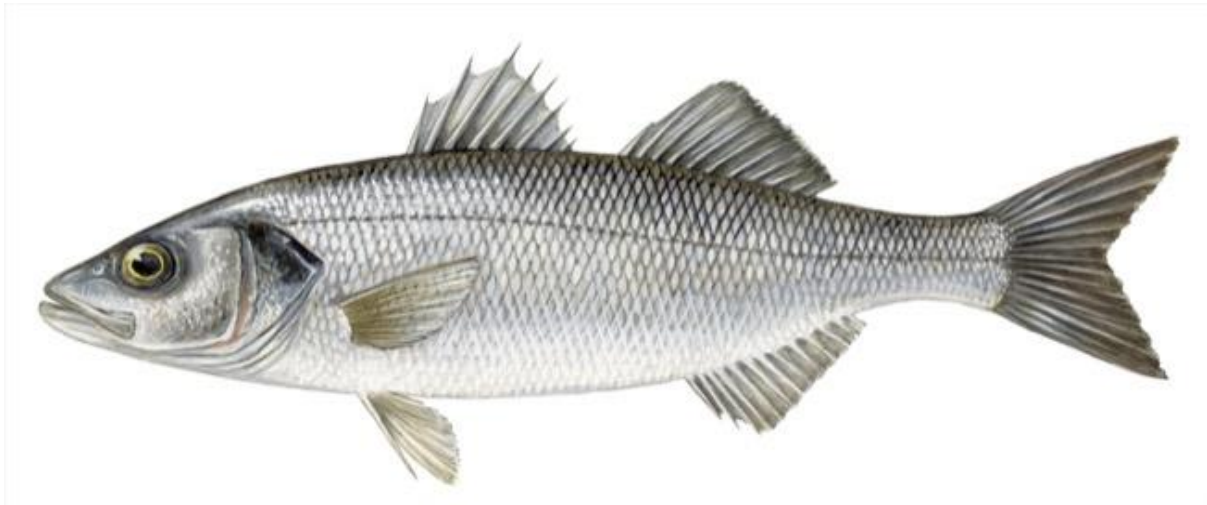
Llywodraeth Cymru
Welsh Government

Proposed Fisheries Management Plan for Sea bass in English and Welsh Waters

Strategic Environmental Assessment: Environmental Report

Date: July 2023

Version: public consultation





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Non-technical Summary

The draft Seabass Fisheries Management Plan (FMP) has been prepared to meet the requirements of the Fisheries Act 2020. It sets out the policies and proposed measures Defra and the Welsh Government will use to manage seabass fishing activity in their waters, so stocks are harvested within sustainable levels. Alongside these measures, the draft Seabass FMP also sets out management approaches 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, and cultural heritage. This report assesses the likely significant effects of the draft Seabass FMP on these issues.

The assessment was conducted against a baseline that primarily used existing evidence on the state of the marine environment set out in [The updated UK Marine Strategy Part 1](#) published in 2019. Additional sources of evidence were used to establish the current status of environment in relation to issues, such as climatic factors and cultural heritage that are not covered by the UK Marine Strategy (UK MS). The historical impact of fishing activity on the marine environment has been considered as part of the baseline. The assessment has been undertaken using the best available evidence to reach a suitable judgement on the environmental effects of the draft Seabass FMP.

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

This report considers and acknowledges the existing environmental effects of seabass fishing using nets, towed gear and hook and line on those issues scoped into this assessment, in relation to Marine Protected Areas (MPAs), the UK MS descriptors of Good Environmental Status (GES) for the wider marine environment and climatic factors. The potential positive and negative environmental effects of the draft Seabass FMP's policies and proposed measures alone and in-combination have also been assessed.

This Strategic Environmental Assessment (SEA) concluded that current evidence shows the seabass fishery has an impact on the marine environment primarily through bycatch of marine mammals, seabirds and fish. The impact of seabass fishing in MPAs is managed in the 0-12nm zone in English waters. Management in MPAs beyond the 12nm limit is being developed in England. Interactions between seabass fishing activity and relevant MPA features in Wales are currently being assessed and appropriate management measures will be considered and implemented where necessary. Further work is required to reduce the impact of

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seabass fishing beyond MPAs to ensure GES targets for seabed integrity (D6) can be achieved. The contribution of seabass fishing to climate change related issues and cultural heritage through net and line entanglement, for example, was also identified as a potential impact.

The draft Seabass FMP has considered these impacts and sets out proposals for the FMP to monitor, and where required, introduce mitigation to address these impacts.

The environmental effects of implementing the Seabass FMP policies and measures will be part of the FMP monitoring to identify unforeseen adverse effects at an early stage, ensuring appropriate remedial action can be undertaken.

This assessment recommends the draft Seabass FMP should consider the following additional points.

- Future iterations of the Seabass FMP should consider how it can develop the cultural heritage of each fishery and how fisheries management can contribute to reducing potential negative interactions with marine heritage assets.
- The draft Seabass FMP would benefit from providing more specific detail on how the FMP will interact with Marine Plans. Noting how the FMP could positively or negatively interact with this programme, would improve the in-combination assessment.

1. Introduction

Fisheries Management Plans – context and background

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

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

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

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

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

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

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.

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

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

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

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

Delivering Sustainable Management of Fisheries and FMPs

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

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

Available fishery data and advice will help determine the targets and catch limits applied to each stock. Where possible, these limits would include the MSY for data-

rich stocks where biomass fluctuations can be tracked. Alternative proxies for harvest limits, the precautionary approach or a combination of both are required for more data-limited stocks, where it is only possible to detect biomass fluctuations.

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

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

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

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

Scope of the FMP

This FMP applies to seabass (*Dicentrarchus labrax*, hereafter 'bass') only in the Northern Stock that occur in English and Welsh waters (central and southern North Sea, Irish Sea, English Channel, Bristol Channel and Celtic Sea; International Council for the Exploration of the Sea (ICES) divisions 4.b-c, 7.a and 7.d-h).

The draft Bass FMP applies to English waters² and Welsh waters³, covering inshore and offshore areas where fishing activity for bass takes place

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](#).

³ Welsh waters refer to the Welsh inshore and Welsh offshore regions as set out in Section 322 of the [Marine and Coastal Access Act 2009](#).

Draft Bass FMP Goals

The Bass FMP seeks to create a roadmap for the effective management of bass stocks in English and Welsh waters over the next six years, to allow this valuable natural resource to benefit a diverse range of environmental, commercial, recreational and social interests whilst ensuring stocks remain sustainable. Bass management should aim to be flexible, adaptive, and ecosystem based. To achieve the vision of the bass FMP the plan hinges around nine goals focussing primarily on domestic management priorities. Each goal is set out with a rationale, evidence and stakeholder views, alongside short (one-two years) and medium-long (three-five years) term actions needed to deliver the goals. Table 1 sets out the draft bass FMP goals.

Table 1. Summary of the draft Bass FMP Fisheries Management Goals

Goal theme	Goal
Stock level	Sustainable harvesting of the bass stock in line with scientific advice
	Protecting juvenile and spawning bass
Social and economic	Maximise the benefits of bass fishing for local coastal communities
Wider environment	Minimise the impact of bass fishing on the wider marine ecosystem
	Mitigate against and adapt to the impact of climate change on bass fishing
Management Approach	Inclusive stakeholder engagement structures to inform management of the bass fishery
	Minimise discarding of bass bycatch where survival rates are low
	Encourage and facilitate full compliance with bass regulations
	Equitable access to the bass fishery, while prioritising stock sustainability

Draft Bass FMP Fisheries Management Goals

Goal 1: Inclusive stakeholder engagement structures to inform management of the bass fishery

How this can be achieved

Short term

Defra and Welsh government to establish a formal bass management group or groups with balanced representation, an effective code of conduct and an independent chair to provide advice and support a collaborative approach to bass management. Participation should include, for example, commercial fishers, recreational anglers, representatives of the wider supply chain and industry, scientists, policymakers and regulators.

Consider establishing an evidence sub-group of the bass management group to:

- Seek consensus between sectors by placing science and evidence at the heart of decision-making
- Build relationships and trust between fishers/scientists/government bodies
- Build understanding of the scientific process, including how stock assessments are undertaken, through effective science communication and collaboration
- Utilise qualitative (and quantitative if possible) data from fishers, including experiential knowledge, for inclusion in formal stock assessments
- Develop a monitoring and evaluation strategy for the Bass FMP

Medium-long term

Continue to work collaboratively to build capacity as a forum for discussing matters of wider importance to the bass fishery, for example, longer-term management and evidence needs, marine spatial use, identifying areas of particular importance to bass fishing.

Goal 2: Equitable access to the bass fishery, while prioritising stock sustainability

How this can be achieved

Short term

Bass management group(s) to commence a review of the current domestic authorisation system (designed to help manage fishing pressure on the bass stock). Any alternative system should seek to:

- Reduce latent capacity within the fleet
- Maintain access to the fishery (within sustainable limits)

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- Align with other Bass FMP goals (for example, minimising damage to the wider environment, minimising discards, maximising benefits to local coastal communities and ensuring sustainable harvesting of the stock)

Medium-long term

Depending on the outcome of the review, implement an alternative system managing access to the fishery.

Goal 3: Minimise discarding of bass bycatch where survival rates are low

How this can be achieved

Short term

Consider incentivising domestic participation in scientific trials to improve data collection on discards, such as providing derogations to land bass discards. For example, consider allowing authorised <10m trawling vessels to apply for a derogation to >5% bass per trip, while remaining within annual bycatch allowances on the condition that fishers record details of their bass discards. Closely monitor the impact this has on landings, discards and stock sustainability and review annually.

Explore the use of the Catch App to record discard data.

Support continuation of the Remote Electronic Monitoring (REM) Celtic Sea programme to increase data collection.

Medium-long term

Consider adopting an alternative bass authorisation system if agreed (see Goal 2), designed to help minimise discarding

Review the efficacy of management approach in light of improved data collection.

Consider how to incentivise participation in REM early adopter programmes where appropriate to improve data collection on discards.

Consider potential gear developments to reduce discards from nets and trawls.

Propose that the bass management group investigate the feasibility of implementing a model whereby all bass caught are landed (where survival rates are low), but above existing catch limits profits upon sale are not retained by fishers.

Propose the bass management group consider the pros and cons of moving towards a catch limit or quota approach (instead of a bycatch approach), which could come with a landing obligation.

Goal 4: Encourage and facilitate full compliance with bass regulations

How this can be achieved

Short term

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Continue with the existing overarching framework for bass management shared between England and Wales, with scope for regional variation between Welsh and English (Inshore Fisheries and Conservation Association - IFCA) districts.

Improve communication and understanding of bass regulations, including Registered Buyers and Sellers (RBS) through clearer Marine Management Organisation (MMO) guidance on GOV.UK and communication with existing licence holders and Bass management group to help with disseminating information to the commercial and recreational fishing community.

Collation of relevant IFCA and Welsh byelaws as part of this FMP (see Annex 11).

Improve communication of regulations to buyers of bass to improve compliance, for example, through bass management group, wider supply chain and MMO coastal engagement.

Investigate how to improve signage of existing regulations at popular fishing destinations and local hospitality venues.

Medium-long term

Consider commissioning research to better understand current levels of compliance with bass regulations

Consider how to improve collaboration between MMO/IFCAs on targeted enforcement and consider alignment of powers to ensure consistency in how both regulators enforce RBS legislation

Consider implementing a requirement that vessels must immediately discard unwanted bass to facilitate effective enforcement of bass regulations at sea rather than only upon landing

Seek to review the 'Prohibitions' under The Bass (Specified Areas) (Prohibition of Fishing) (Variation) Order 1999 to consider: the relevance across all sectors, whether there is a need to expand the prohibitions beyond its current scope, for example, fishing from a boat, and whether there is a need to consider the addition of a carriage/deeming clause.

Work towards sector equality in ensuring bass regulations are applicable to all those fishing for bass. This could include consideration of how non-powered vessels should be managed.

Consider reviewing the implications of re-defining bass 'bycatch' for netting by introducing a % catch composition limit (for example, <50% total catch). Any new headroom for the stock generated as a result of this measure could be used to allow other individuals fishing using nets the ability to land their bass bycatch, for example, in combination with a review of the authorisation system outlined in Goal 2.

Goal 5: Maximise the benefits of bass fishing for local coastal communities

How this can be achieved

Short term

Consider moving annually set catch limits from secondary legislation into licence conditions to deliver flexible management of fisheries and allow fishers to benefit from changes more quickly and in line with evolving evidence.

Increase research on the social, economic and cultural importance of bass fisheries to show the benefits for local coastal communities and how they could be maximised and measured.

Medium-long term

Seek to review benefits and reconsider management approach in light of new evidence, including allocating fishing opportunities according to benefits generated (if deemed appropriate). The review of alternative authorisation systems outlined in Goal 2 should also be joined up.

Consider application of the International Council for the Exploration of the Sea (ICES) bass catch allocation tool (once it is amended as part of the 2023-24 benchmarking exercise) to ensure fair allocation of bass catches

Consider how to ensure compliance with bass regulations for buyers and sellers of bass as well as fishers to help local coastal communities better maximise the benefits from bass fishing (see Goal 4).

Goal 6: Sustainable harvesting of the bass stock in line with scientific advice

How this can be achieved

Short term

Continue allocating catch in accordance with ICES scientific advice which does not exceed an MSY approach (within 95% confidence intervals).

Consider how to fill evidence gaps required for improved stock assessments, including additional data on levels of discarding in the commercial sector and on recreational removals (Annex 2).

Work with scientists, regulators and the recreational sector to improve data collection on recreational catches, including options for other approaches, for example, applications, registration & reporting, onsite approaches.

See Goal 3 for discarding.

Medium-long term

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Consider outcomes from the ICES benchmarking exercise in 2023-2024 and implications for future stock management/harvest strategies.

Following the conclusion of the ICES benchmarking exercise, seek to review and carry out new research to assess alternative harvest strategies for bass that prioritise societal and ecosystem benefits (for example, Maximum Economic Yield (MEY), Large Stock Strategy, Maximum Societal Benefits) with a view to maximising the efficiency, profitability and sustainability of bass harvesting in line with other FMP goals.

Goal 7: Ongoing protection of the juvenile and spawning bass stock

How this can be achieved

Short term

Seek to gather evidence on the most suitable timing and duration of the closed seasons to optimise the protection of spawning bass stocks (see Annex 3) - including investigating the possibility of regional variation and an assessment of the potential impacts on fishers.

Medium-long term

Consider a prohibition of fixed netting in bass nursery areas, and the application of Bass Nursery Areas (BNA) rules to shore fishing as well as fishing from vessels.

Review the most appropriate size limits for the bass stock, for example, a Minimum Conservation Reference Size (MCRS) or slot sizes whereby fish above and below a certain size are returned to the breeding stock.

Review the possibility of local spatio-temporal closures to protect spawning bass as evidence evolves/allows.

Develop best-practice handling guidance to improve fish survival from commercial and recreational fisheries

Consider developing gear modifications to reduce bycatch of juvenile bass.

Increase research to better understand the relationship between environmental factors, in particular the impact of climate change, on the recruitment of juveniles to the bass stock.

Goal 8: Minimise the impact of bass fishing on the wider marine ecosystem

Goal 8.1: Reduce bycatch of Endangered, Threatened and Protected species in bass fisheries

How this can be achieved

Short-term

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Consider allowing fishers with relevant authorisations the option to switch from using fixed nets to hook and line gears associated with a lower risk of Protected, Endangered and Threatened (PET) species bycatch.

Improve monitoring to better understand PET species bycatch in bass fisheries, such as how to promote fishers' uptake of validated (observer/REM) monitoring on boats.

Utilise communications channels to highlight and promote:

- Existing bycatch self-reporting requirements
- Participation in bycatch reduction trials
- Appropriate incentivisation schemes
- Gear modifications and activities to reduce bycatch (for example, as publicised on the Clean Catch Bycatch Mitigation Hub)
- Relevant materials (for example, seabird bycatch toolkits) to allow fishers to make informed decisions to reduce their sensitive species bycatch risk

Medium-long term

Review the practice of shallow inshore and shore-based netting to determine whether additional regional or national protections are needed to prevent migratory fish bycatch. Note links to special consideration of netting in nursery areas (Goal 7).

Consider how and where to incentivise and encourage participation in early adopter REM programmes where appropriate to improve data collection on PET species bycatch associated with bass fishing activity.

Consider research into what an ecosystem-based approach to bass management would look like for future iterations of the Bass FMP to incorporate.

Goal 8.2 Reduce impacts of gear on seabed integrity

How this can be achieved

Maintain current restrictions on targeted trawling and netting of bass as part of a continued shift towards lower impact gears (for example, hook and line). This is also relevant for Goal 8.1 to reduce the incidental bycatch of sensitive species.

Working with stakeholders, Defra and Welsh government will consider the evidence and then develop further recommendations on the potential effects of fishing activities (alongside other activities) on seafloor integrity and the state of benthic habitats, including contributing to the implementation and coordination of the Benthic Impact Working Group⁴. This work will consider the issues at a strategic level and within the context of ongoing changes in marine spatial use and environmental protection to achieve the objective of GES under the UK MS.

⁴ A cross UK Government group, that is being developed by the UK Administrations and Government agencies to provide evidence-based advice to reduce the impacts of fishing activity on benthic habitats to achieve Good Environmental Status.

Goal 8.3 Reduce contribution of bass fishing to marine litter

How this can be achieved

Implement the second 'Regional Action Plan on Marine Litter', including actions to tackle marine litter from fishing.

Implement a multiyear 'End of Life Fishing gear Recycling Scheme' (Wales), a nationwide scheme for the collection and recycling of end-of-life fishing gear.

Continue monitoring programmes to assess seafloor litter, surface litter and beach litter - and ongoing research initiatives to support the reuse and repurpose of end-of-life fishing gear back into the fishing industry.

Goal 9: Mitigate against and adapt to the impact of climate change on bass fishing

How this can be achieved

National level actions outside this FMP

Building the evidence base on the impacts of climate change on fish and shellfish stocks and fisheries through the existing research and development projects, for example, the Marine Climate Change Impact Partnership (MCCIP).

Building the evidence base on blue carbon habitats in the UK through existing partnerships, for example, the Blue Carbon Evidence Partnership.

Collaboration across government, industry and academic organisations to understand the current evidence gaps and latest innovations to support the development of pathways towards Net Zero for the UK fishing fleet.

FMP level

Short term

Consider increasing research on the impact of climate change on bass distribution, abundance, and recruitment including exploring the use of citizen science and experiential knowledge to map species range shifts.

Consider increasing research to understand the carbon footprint of the bass fishery and how it could be reduced.

Medium-long term

Start to integrate new evidence into future management decisions and iterations of the Bass FMP.

Consider how to support industry to adapt to the environmental impacts of climate change, including changing distributions of the bass stock in response to warming ocean temperatures.

Consider how to support industry to decarbonise (for example, aligned with a Net Zero by 2050 target).

An alternative harvest strategy (for example, a large stock strategy or MEY, as determined by the review associated with Goal 6) could increase bass biomass and contribute to improved blue carbon ocean storage.

Note: The draft Bass FMP's goals may change following the public consultation on the Bass FMP.

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 definition in regulation 2 of the SEA Regulations 2004.

Defra and the Welsh Government consider that Regulation 3(2)(b) of the SEA Regulations 2004 applies to the draft Bass FMP as the plan relates to England and Wales.

In accordance with the SEA Regulations 2004 Defra and Welsh Government carried out a screening exercise which determined that the proposed policies in the draft Bass FMP may have a likely significant effect (either positive or negative) on a European site or a European offshore site and they are not directly connected with or necessary to the management of such sites.

The screening exercise used [Defra's Magic Map Application](#) to identify whether the geographical scope of the FMP overlaps with any European sites or European offshore marine sites. Table 3, page 35 of [The updated UK Marine Strategy Part 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 bass has the potential to impact these sites and interest features. For example, depending on the method of capture, bass 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 also judged that proposed policies in the draft Bass FMP have the potential to affect multiple European marine sites and the wider marine environment.

Based on the outcome of the screening, Defra and Welsh Government concluded that 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).

Scoping

Defra and the Welsh Government 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 bass FMP was provided to the following Consultation Bodies:

- Historic England
- Natural England
- Environment Agency
- Natural Resources Wales (NRW)
- Cadw (Welsh Historic Monuments)
- 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 ER shall include the information referred to in [Schedule 2](#), in so far as it is reasonably required. Table 3 sets out which section of this report corresponds to the relevant paragraphs of Schedule 2.

Table 3. Section of this report and the corresponding paragraph of Schedule 2 of the SEA Regulations 2004.

Section(s) of this Report	Corresponding paragraph in Schedule 2
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.
Sections: 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(s) of this Report	Corresponding paragraph in Schedule 2
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, European Union] or national level, which are relevant to the plan or programme and the way those objectives and any environmental considerations have been taken into account during its preparation.
Section: 5	Paragraph 6: The likely significant effects on the environment, including short, medium and long-term effects, permanent and temporary effects, positive and negative effects, and secondary, cumulative and synergistic effects, on issues such as– (a) biodiversity; (b) population; (c) human health; (d) fauna; (e) flora; (f) soil; (g) water; (h) air; (i) climatic factors; (j) material assets; (k) cultural heritage, including architectural and archaeological heritage; (l) landscape; and (m) the inter-relationship between the issues referred to in subparagraphs (a) to (l).
Section: 6	Paragraph 7: The measures envisaged to prevent, reduce and as fully as possible offset any significant adverse effects on the environment of implementing the plan or programme.
Section: 7	Paragraph 8: An outline of the reasons for selecting the alternatives dealt with, and a description of how the assessment was undertaken including any difficulties (such as technical deficiencies or lack of know-how) encountered in compiling the required information.

Section(s) of this Report	Corresponding paragraph in Schedule 2
Section: 8	Paragraph 9: A description of the measures envisaged concerning monitoring in accordance with regulation 17.
Non-technical summary	Paragraph 10: A non-technical summary of the information provided under paragraphs 1 to 9.

Scope of the Assessment

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

Defra and the Welsh Government propose that the ER will address the effects on the following issues:

- **Biodiversity, fauna and flora** including the following sub-sections: cetaceans, seals, birds, fish, benthic habitats, commercially exploited fish and shellfish, food webs.
- **Geology and sediments (soil)** including the following sub-section: benthic habitats.
- **Water** including the following sub-sections: marine litter and underwater noise.
- **Climatic factors** including the following sub-sections: vessel emission, blue carbon.
- **Cultural Heritage** including the following sub-section: interactions between fishing gear and marine heritage assets.

Defra and the Welsh Government 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
- Landscape/seascape

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

Proposed Seabass FMP Environmental Report

be significantly affected by the draft bass FMP. Issues such as Population, Human Health, Air, Material Assets and Landscape/Seascape were scoped out of this assessment as it was considered that they would not be significantly affected by the draft bass FMP. Table 4 provides the justification behind this decision. Additional rationale behind why sub-sections were considered is set out below.

To link the issues (from Schedule 2 paragraph 6) that will be addressed by this ER with the environmental baseline (see section 3), we have attributed a UK MS descriptor of 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.

Table 4 shows the results of the scoping exercise on the draft bass FMP.

Table 4. Results of the scoping exercise to determine those environmental issues likely to be significantly affected by the draft bass FMP and thus scoped into the SEA. 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](#).

Proposed Seabass FMP Environmental Report

Issue	Potential to cause impacts	Justification
Biodiversity, fauna and flora (UK MS descriptors D1, D3, D4, D6)	Yes	<p>Fishing activity for bass particularly using hook and line, and nets has the potential to result in the extraction of, or mortality/injury to/disturbance to, wild species both target and non-target species and cause physical disturbance of benthic habitats.</p> <p>These issues are within the scope of this SEA.</p>
Population (Human)	No	<p>The FMP is not likely to result in significant increases or decreases in human population numbers, or changes to in-migration or out-migration.</p> <p>This issue is beyond the scope of this SEA.</p>
Human health	No	<p>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.</p> <p>This issue is beyond the scope of this SEA.</p>
Geology and sediments (soil) (UK MS descriptor D6)	Yes	<p>Fishing activity for bass particularly using hook and line, and nets has the potential to result in physical disturbance to the seabed and substrates.</p> <p>This issue is within the scope of this SEA.</p>
Water (UK MS descriptors D10, D11)	Yes	<p>The FMP aims to make fishing practices more environmentally sustainable so there is scope to reduce the impact of fisheries on water quality.</p>

Proposed Seabass FMP Environmental Report

Issue	Potential to cause impacts	Justification
		This issue is within the scope of this SEA.
Air	No	<p>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.</p> <p>This issue is beyond the scope of this SEA.</p>
Climatic factors	Yes	<p>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.</p> <p>This issue is within the scope of this SEA.</p>
Material assets	No	<p>The FMP will not impact material assets related to; ports and shipping; fisheries and aquaculture; leisure or recreation; tourism; marine manufacturing; defence; aggregate extraction; energy generation and infrastructure development; seabed assets.</p> <p>This issue is beyond the scope of this SEA.</p>
Cultural heritage	Yes	<p>Fishing activity for bass particularly using hook and line, and nets 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</p>

Issue	Potential to cause impacts	Justification
		positive effect on safeguarding cultural heritage features. This issue is within the scope of this SEA.
Landscape Seascape	No	Fishing activity for bass is considered unlikely to have likely significant effects on landscape/seascape as mobile gear is currently not allowed to target bass. In addition, while gears such as hook and line, and fixed nets could result in some physical disturbance to the seabed and substrates, any interaction is considered to be limited and therefore not at a scale to affect landscape / seascape features. This issue is not within the scope of this SEA.

Assessment Methodology

This SEA reflects the geographical scope (section 1) and fishing activity covered by the FMP. It considers the goals of the draft Bass FMP and the actions (section 1) it sets out to achieve these objectives.

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 Bass FMP (including its policies and measures) on those environmental issues scoped into the assessment and where applicable their associated UK MS descriptors identified in Table 4.

The assessment focuses on assessing how the policies and actions in the draft Bass FMP are likely to give rise to both significant positive and negative environmental effects. This assessment does not consider all the risks and impacts of fishing activity per se. Such assessments have already been conducted or are being conducted as part of the UK's obligations under legislation relating to MPAs, which includes Defra's Revised Approach to fisheries management programme (inside 6nm) the MMO's ongoing Fishery Assessment programme (outside 6nm) in England and the Assessing Welsh Fishing Activities Project in Wales; and b) the wider marine environment (UK MS). It is the draft Bass FMP, as a plan of management that has been assessed, rather than the fishing activities themselves.

Nevertheless, this ER acknowledges the likely significant effects associated with fishing activity being managed through the draft Bass 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 Bass FMP, advice from Statutory Nature Conservation Bodies (SNCBs) (Natural England, Joint Nature Conservation Committee (JNCC) and Natural Resources Wales (NRW) 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 Bass FMP contains a range of policies and fisheries management measures that vary in their stage of development depending upon the evidence available to support their implementation. The level of detail possible for our environmental assessment depends upon the stage of development of the policies and measures of the FMP at the present time.

This assessment acknowledges the draft Bass FMP sets out objectives to develop the evidence base around the bass fishery. Our assessment used the best available evidence at the present time to reach a judgement on the environmental effects of the draft Bass 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 (Table 4). 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 the fishery in a more coherent and coordinated manner that considers wider environmental issues. The FMP therefore has the potential to improve the current state of environment set out below, both where no improvement has been observed, and where positive trends have been identified. The SEA has been conducted against the environmental baseline set out in these sources of existing information. Section 6 and 7 considers how the implementation of the FMP's proposed policies and actions could change the baseline.

Biodiversity, Flora, Fauna and Geodiversity⁵ (Geology and sediments)⁶

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

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.

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.

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

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

D1 and D4 – [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.

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.

D1 and 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.

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 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.

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.

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.

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 Business, Energy and Industrial Strategy (BEIS), Department for Transport (DFT) and Engelhard et al (2022) report on carbon emissions in UK fisheries, were used to identify the contribution UK fishing fleets have to the total carbon emissions at sea each year.

Vessel Emissions

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

Bass are primarily caught by the <10m fishing fleet, with approximately two thirds (60-66%) of all landings liveweight caught with hook and lines. Static nets have accounted for 29-32% of landings, followed by a small percentage of otter trawls and beam trawls.

Recent analysis has shown that the total <10m UK fishing fleet segment using hooks (including long line fisheries as well as handlines), which comprises of 188 vessels, produced approximately <0.5% (3221t CO₂e) of the total carbon emissions at sea each year across the UK's fishing fleets. Less than 10m drift and fixed net fisheries (209 vessels), produced approximately <1% (5400t CO₂e), and <10m demersal trawls and seines (176 vessels) produced approximately 1.3% (10947kt 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 footprint⁹

Blue Carbon

Certain marine habitats including seagrass, kelp and muddy sediments, can capture and store carbon and therefore these are known as blue carbon habitats. Currently there is no comprehensive assessment of the impact of bass 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.

7 BEIS (Department for Business, Energy & Industrial Strategy) (2021b) 2019 UK Greenhouse Gas Emissions: Final Figures – Statistical Summary. <https://www.gov.uk/government/statistics/final-uk-greenhouse-gas-emissions-national-statistics-1990-to-2019>

8 DfT (Department for Transport) (2021) Statistical Release: Transport and Environment Statistics 2021 Annual Report, 11 May 2021. <https://www.gov.uk/government/statistics/transport-and-environment-statistics-2021>

9 Engelhard, G.H., Harrod, O.L. & Pinnegar, J.K. (2022) Carbon emissions in UK fisheries: recent trends, current levels, and pathways to Net Zero Final report for Defra project C8118. Centre for Environment, Fisheries & Aquaculture Science (Cefas), Lowestoft, UK

Climate change impacts on bass stocks and fisheries

The influence of climate change on the marine environment is relatively complex, where marine fauna must respond to changes involving the interactions of, for example, warming temperatures, increasing ocean acidification, and altered salinity patterns, along with sea level rises in inshore and especially estuarine areas, including during episodic storm surges¹⁰.

The bass lifecycle is strongly temperature dependent, especially their early life-stages¹¹. Consequently, it can be assumed that climate warming would strongly influence aspects of their biology and physiology, distribution, and abundance. Temperature is an important driver of recruitment and growth¹² and a positive relationship has been found between summer sea temperature and recruitment strength¹³ with increased summer growth subsequently enhancing overwinter survival¹⁴. However, a combination of ocean acidification and warming are suggested as potentially decreasing the recruitment of bass larvae to nursery areas, but once in nursery areas, juveniles might then benefit from increased performance under elevated temperatures¹⁵. However, prolonged periods of extreme heat could have negative effects on bass biology and metabolic ecology in estuarine nurseries¹⁶.

Under future climate change, modification of temperature and salinity are expected to result in shifts to distributions of marine organisms, including commercial fish

10 Gissi E., Manea E., Mazaris A.D., Frascchetti S., Almpandou V., Bevilacqua S., Coll M., Guarnieri G., Lloret-Lloret E., Pascual M. & Petza D. (2021) A review of the combined effects of climate change and other local human stressors on the marine environment. *Science of the Total Environment* 755, p.142564

11 Bento, E.G., Grilo, T.F., Nyitrai, D., Dolbeth, M., Pardal, M.Â. & Martinho, F. (2016). Climate influence on juvenile European sea bass (*Dicentrarchus labrax*, L.) populations in an estuarine nursery: a decadal overview. *Marine environmental research*, 122, pp.93-104

12 Pinto, M., Monteiro, J.N., Crespo, D., Costa, F., Rosa, J., Primo, A.L., Pardal, M.A. & Martinho, F. (2021). Influence of oceanic and climate conditions on the early life history of European seabass *Dicentrarchus labrax*. *Marine Environmental Research*, 169, p.105362.

13 Kennedy, M. & Fitzmaurice, P. (1972). The biology of the bass, *Dicentrarchus labrax*, in Irish waters. *Journal of the Marine Biological Association of the United Kingdom*, 52(3), pp.557-597

14 Pickett, G.D., & Pawson, M.G. (1994). *Sea Bass Biology, Exploitation and Conservation*. Fish and Fisheries Series 12, Chapman & Hall, London UK. 342 pp.

15 Howald, S., Moyano, M., Crespel, A., Kuchenmüller, L.L., Cominassi, L., Claireaux, G., Peck, M.A. & Mark, F.C. (2022). Effects of Ocean Acidification over successive generations decrease larval resilience to Ocean Acidification & Warming but juvenile European sea bass could benefit from higher temperatures in the NE Atlantic. *Journal of Experimental Biology*, 225

16 Vinagre, C., Madeira, D., Narciso, L., Cabral, H.N. & Diniz, M., (2012). Effect of temperature on oxidative stress in fish: Lipid peroxidation and catalase activity in the muscle of juvenile seabass, *Dicentrarchus labrax*. *Ecological indicators*, 23, pp.274-279

species¹⁷. Predicted future habitat suitability for bass increases northwards by 27-51% within the UK EEZ by 2040, and 25-100% by 2060, depending on the climate prediction model used. However, the responses (and thus measurements of resilience) of bass to aspects of climate change have been assessed on a wide range of biological and physiological metrics, with many responses suggesting bass populations have some inherent resilience to changing climatic conditions.

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.

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 occur¹⁸:

- 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
- Interactions with demersal seine netting may have a low to moderate significance resulting from limited interaction with the seabed by the ropes used to haul the seine net
- Interactions with static/passive demersal nets and long lines may have a low to moderate significance resulting from a higher likelihood of entanglement and snagging, and anchoring impacts

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

17 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.

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

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

A comprehensive assessment of the extent of interactions and their impacts, is currently not available for Welsh waters.

Existing Environmental Effects of Bass Fishing

The draft Bass FMP focuses on achieving the sustainable harvesting of bass stocks. This focus seeks to reduce the environmental risks linked to over-fishing these stocks, thereby resulting in a net positive benefit to environmental status.

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

This ER focuses on assessing how the policies, measures and actions in the draft Bass FMP are likely to give rise to both significant positive and negative environmental effects. This assessment does not consider all the risks and impacts of fishing activity per se. Such assessments have already been conducted as part of the UK's obligations under legislation relating to a) MPAs, which includes Defra's Revised Approach to fisheries management programme (inside 6nm) and the MMO's ongoing Fishery Assessment programme (outside 6nm) in England; the Assessing of Welsh Fishing Activities Project; and b) the wider marine environment (UK MS). It is the draft policies, measures and actions of the Bass FMP, as a plan of management that has been assessed, rather than the fishing activities themselves.

Nevertheless, this ER acknowledges the likely significant effects associated with fishing activity being managed through the draft Bass FMP and sets out in broad terms how the FMP will seek to avoid, reduce, or at least mitigate significant negative effects.

Bass can be caught using a variety of gears and each gear will be associated with different environmental effects. The summary below, to some extent, is based on the gears that are currently used to land bass. As landings by gear type changes, the environmental effects of the fishery may need to be reviewed. However, the goals within the FMP which seek to minimise the environmental impacts of bass fisheries, are likely to mitigate any potential risks.

Biodiversity, Flora, Fauna and Geodiversity, Water quality

Environmental Effects Associated with MPAs

Advice provided to Defra and Welsh Government by our SNCBs¹⁹ gives more detail on the pressures²⁰ bass fishing could have on the marine environment in relation to MPAs.

In England the assessments of the impact of bass fishing activities inside MPAs are undertaken by the IFCAs within 6nm and the MMO outside 6nm. Figure 1 shows the distribution of English MPAs relevant to the draft Bass 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 related to the use of bottom towed gear is detailed on the [MMO](#) and [Association of IFCAs](#) websites.

In Wales, the interactions between Welsh European Marine Site features and bass fishing activities are currently being assessed.

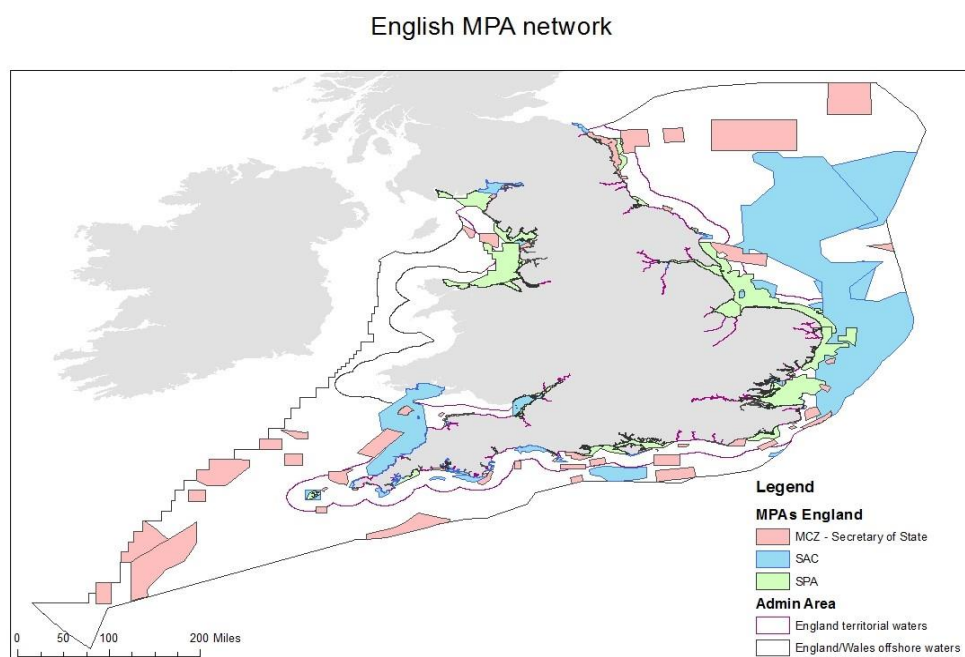


Figure 1. England's MPA network

19 Natural England, the Joint Nature Conservation Committee (JNCC) and Natural Resources Wales

20A pressure is the mechanism through which an activity has an effect on any part of the ecosystem. The nature of the pressure is determined by activity type, intensity and duration. For more information, see [MarLIN - The Marine Life Information Network - Marine Evidence based Sensitivity Assessment \(MarESA\)](#)

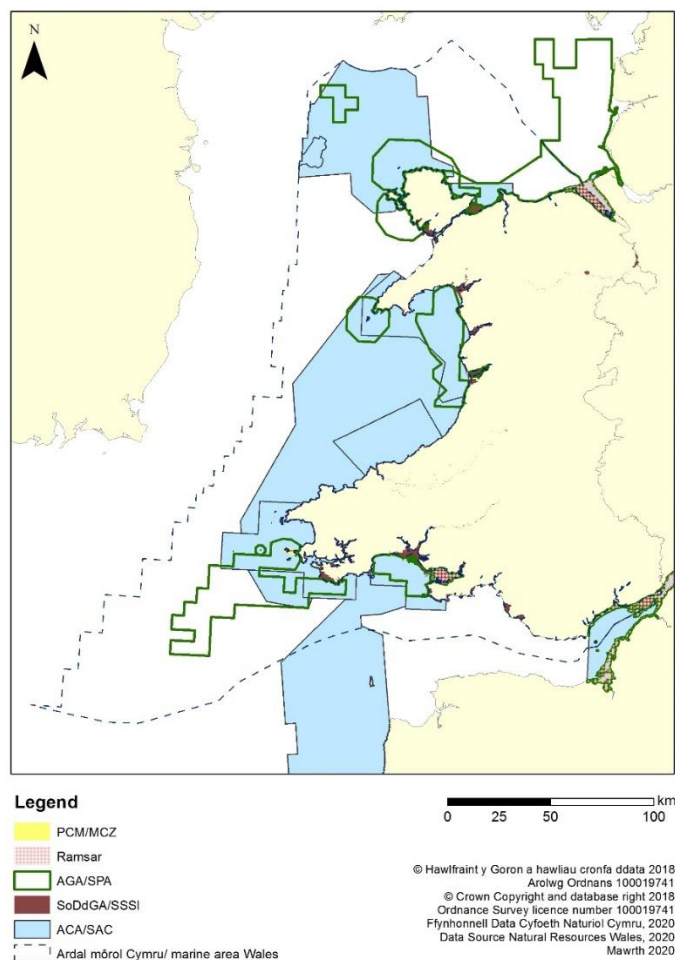


Figure 2. Wales’s MPA network

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

Advice provided to Defra and the Welsh Government by SNCBs on outside MPA boundary impacts of bass fishing activities concluded that there is a high risk of bycatch of mobile species (birds, mammals and fish) that are designated features of MPAs. Netting can result in entanglement and bycatch of a range of species. This could include seabirds, marine mammals (for example, harbour porpoise) and fish (for example, salmon, twaite shad and allis shad) that are features of MPAs or, in the case of salmon, terrestrial Special Areas of Conservation (SACs). This may be of a scale to have population level effects. Some entanglement may occur from lost gear. Other fishing methods for bass may also pose a bycatch risk, but the risk will be considerably reduced.

Spearfishing, which is also used to target bass, is considered low risk to MPA features because of its high selectivity for target species and because it poses negligible risk to surrounding habitats.

Environmental effects associated with UK MS Descriptors

Advice provided to Defra and the Welsh Government by SNCBs gives more detail on how the key issues²¹ identified by [The updated UK Marine Strategy Part 1](#), apply to bass fishing and their likely impact on achieving GES ([Appendix A](#)).

The following potential issues and their associated risk level²² have been identified for bass fishing on UK MS descriptors.

The impact of bass removal on bass stocks. Developing and implementing measures to achieve sustainable harvesting of bass stocks reduces the risks associated with achieving targets for D3 Commercial fish. Spearfishing for bass is currently subject to same restrictions as other recreational catches of bass. The impact of bass removal on bass stocks using spearfishing will be managed through these existing measures.

Benthic disturbance and the contribution to current failure to meet targets for D6 seafloor integrity. This will also have associated impacts on D1 biodiversity and D4 food webs. The impacts of any demersal mobile gear on seafloor integrity, biodiversity and food webs will need to be considered by the Bass FMP working group. However, given that only a relatively small proportion of the bass landings are taken by demersal mobile gears as a bycatch when targeting other species, this is considered a moderate risk. Whilst the anchors of nets do have the ability to cause localised impacts, it is not currently thought to be at a scale likely to affect achievement of GES for this descriptor.

The impact of bycatch of species on D1 biodiversity. As well as presenting a risk to species associated with MPAs (considered earlier in this document), netting in particular poses a bycatch risk to other sensitive species. The risk to sensitive fish/bird/mammal species is high. This will require consideration. Note that as well as

21 Key issues: impact of the removal of targeted species on the status of fish stocks; benthic disturbance related pressures associated with towed demersal gear; impact of the removal of targeted fish stocks on other species / wider environment; impact of bycatch (bird / mammal / fish) on biodiversity, food webs or stocks; fishing related sources contributing to marine litter; noise from pingers / acoustic deterrents contributing to marine noise.

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

being relevant to GES, the Fisheries Act 2020 Ecosystem Objective requires that 'incidental catches of sensitive species are minimised and, where possible, eliminated'. The bycatch risk to commercial fish species under D3 commercial fish and D4 food webs is unclear, and more work is needed to understand the potential impacts on relevant GES descriptors. These risks are also relevant to the bycatch objective of the Fisheries Act 2020, and management brought in to meet this objective should contribute to achieving GES targets for D3 commercial fish and D4 food webs.

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

The use of pingers and acoustic deterrents while fishing will contribute to D11 underwater noise. Use of acoustic deterrent devices are included in a list of activities that should be recorded within a marine noise registry⁷. However, it is unclear what, if any, further action is required. The risk is considered low.

Subsequent, detailed advice from SNCBs confirmed that the main outstanding risks to UK MS descriptors arising from gears used in bass fisheries were Bycatch impacts on D1 and D4 for marine mammals, seabirds and designated fish, especially from netting; impacts to D1, D6 seafloor integrity; impacts relating to D10 marine litter.

Environmental effects associated with the wider marine environment

Additional environmental considerations related to Welsh waters have been provided by NRW.

- The potential effect of bass fishing on the Favourable Conservation Status of Annex 1 habitats outside of sites at a national level should also be considered in relation to Regulation 9 of the Conservation of Habitats and Species Regulations 2017.
- Sites of Special Scientific Interest (SSSIs) are intertidal and could be affected by bass fishing activity if it occurs intertidally or from shore.
- Water Framework Directive (WFD) transitional and coastal waterbodies could be affected by bass fishing.
- Skomer is the only Marine Conservation Zone (MCZ) in Wales. Bass fishing could impact the features of the MCZ and should be assessed by Welsh Government.
- Welsh Government have recently announced an MCZ pre-consultation engagement process to select and designate new MCZs in Wales. At some point new MCZ sites may become protected and require assessment and management from potentially damaging activities such as bass fishing.

Climatic Factors

Vessels fishing for bass 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 bass fishing on organic carbon stocks and the impacts will depend on the gears used to target bass now and in the future.

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 (for example 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](#)). While bass are not targeted using towed gear, bass are taken by demersal mobile gears as a bycatch when targeting other species, and therefore should be considered by fisheries.

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.

4. Relevant Plans, Programmes and Environmental Protection Objectives

The draft Bass FMP has broad application since it covers an activity that occurs across English and Welsh 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 draft Bass FMP applies to English and Welsh waters, therefore, when preparing FMPs, the relevant fisheries policy authorities are required to have regard to this existing regulatory structure.

The sections below set out those plans, programmes and environmental protection objectives that Defra and Welsh Government consider relevant to the implementation of the draft Bass FMP.

International

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

- [Trade and Cooperation Agreement \(TCA\) between the EU and the UK](#)
- [UN Fish Stocks Agreement 1995](#)
- [EU Western Waters Multi-Annual Plan - REGULATION \(EU\) 2019/472 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL](#)
- [UN Convention on the Law of the Sea \(UNCLOS\)](#)
- [UN Sustainable Development Goals](#)
- [UN Convention on Biological Diversity \(CBD\)](#)
- [Convention on the Conservation of Migratory Species of Wild Animals \(CMS\)](#)
- [RAMSAR Convention](#)
- [Convention on International Trade in Endangered Species of Wild Fauna and Flora \(CITES\)](#)
- [Convention for the Protection of the Marine Environment of the Northeast Atlantic \(OSPAR\)](#)
- Regional Fisheries Management Organisations (RFMOs): The UK is an independent Contracting Party to the following RFMOs relevant to stocks being managed through the FMP:
 - [NEAFC – Northeast Atlantic Fisheries Commission](#)
 - [North Atlantic Salmon Conservation Organisation \(NASCO\)](#)
- [Convention for the Protection of the Archaeological Heritage of Europe](#)

Domestic

The draft Bass 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 MPAs. Special Areas of Conservation (SACs) and Special Protection Areas (SPAs) are protected under the Conservation of Habitats and Species Regulations 2017, known as the Habitats Regulations. Marine Conservation Zones (MCZs) are protected by the Marine and Coastal Access Act 2009 (MCAA). 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 SNCBs and introduce management where required. The draft Bass FMP will support the management of fishing activity in MPAs. When implementing any actions arising from the FMP that overlap with European Marine Sites 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 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 Special Areas of Conservation and Special Protection Areas. [Appendix C](#) lists the different types of MPA and relevant designations in the UK.

Conservation of Habitats and Species Regulations 2017

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 draft Bass FMP will seek to 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 Bass FMP will seek to support the protection of offshore marine habitats and species.

Marine Strategy Regulations 2010 – UK wide

The [Marine Strategy Regulations 2010](#) requires Administrations in the UK to take action to achieve or maintain GES in UK waters. The UK 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).

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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 other the delivery of GES for other descriptors.

Marine Plans – UK wide

The [Marine and Coastal Access Act 2009](#) makes provision for the [UK Marine Policy Statement \(MPS\)](#), published 2011, and requires (together with the [Marine Act \(Northern Ireland\) 2013](#)) 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 Bass 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 and Wales 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 Bass 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 \(EIP\)](#) for England. The EIP published in 2023 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 Bass 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 MPAs will relate to FMPs.

[The Environmental Targets \(Biodiversity\) \(England\) Regulations 2023](#)

These Regulations set long-term targets in respect of three matters within the priority area of biodiversity under section 1 of the [Environment Act 2021 \(c. 30\)](#). These Regulations also set a target in relation to the abundance of species in accordance with section 3 of the Environment Act 2021. The Regulations specify the standard to be achieved in respect of each target and the date by which it must be achieved. The draft Bass FMP will support achieving the targets set out in the regulations as appropriate.

[The Environmental Targets \(Marine Protected Areas\) Regulations 2022 – England](#)

These Regulations set a long-term environmental target under section 1 of the [Environment Act 2021 \(c. 30\)](#). The target set by regulation 3 is in respect of the condition of protected features in MPAs. These Regulations specify the standard to be achieved in respect of the target and the date by which it must be achieved. The draft Bass 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. This Act also establishes the framework to deliver on these requirements. The draft Bass 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 Bass 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 Bass FMP will support achieving the targets for water quality set out in the regulations.

Well-being of Future Generations (Wales) Act 2015

This Act sets out the principles of the 'sustainable management of natural resources' in Wales. The draft Bass FMP will support the policies set out in the Act to manage natural resources sustainably, considering the effect of the draft Bass FMP on ecosystem services and ecosystem resilience.

All activities undertaken as part of the development of the draft Bass FMP will be in line with the Environment (Wales) Act 2016. The Environment (Wales) Act 2016 requires that public authorities must seek to maintain and enhance biodiversity so far as consistent with the proper exercise of their functions and in so doing promote the resilience of ecosystems. The draft Bass FMP will support the requirements of the Act.

Environment (Wales) Act 2016

The Act sets out the principles of the 'sustainable management of natural resources' in Wales. The draft Bass FMP will support the policies set out in the Act to manage natural resources sustainably, considering the effect of the draft Bass FMP on ecosystem services and ecosystem resilience.

All activities undertaken as part of the development of the draft Bass FMP are intended to be in line with the Environment (Wales) Act 2016. The Environment (Wales) Act 2016 requires that public authorities must seek to maintain and enhance biodiversity so far as consistent with the proper exercise of their functions and in so doing promote the resilience of ecosystems. The draft Bass FMP will seek to support the requirements of this Act.

Welsh National Marine plan 2019

Welsh National Marine plan 2019 provides a statutory policy framework to help guide the development of the Welsh Marine area includes cross-cutting socio-economic environmental policies under specific areas of the Marine and Coastal Access Act.

Assessing Welsh Fishing Activities (AWFA) - Evaluation of fishing activity interactions with features of Welsh MPAs.

Assessing Welsh Fishing Activities (AWFA) - Welsh Government are working in partnership with NRW, its statutory nature conservation advisor, to undertake a structured evaluation of fishing activity interactions with features of Welsh MPAs.

Other FMPs

There are no other FMPs published at the present time so we are unable to make any formal assessment of how the Bass FMP will interact with other plans. Defra, the Welsh Government and our delivery partners considered the interaction between the current tranche of plans whilst drafting the FMP. We will review interactions again as the final versions are prepared and adjust the FMP as appropriate. 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.

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 Bass FMP in relation to the environmental issues screened into this SEA, and where applicable their associated UK MS descriptors (Table 4).

Overview of the Potential Positive and Negative Environmental Effects of the Goals and Actions of the Draft Bass FMP

The potential positive and negative environmental effects of implementing the Bass FMP goals, as set out in section 1 of this ER, have been identified in Tables 5 and 6.

Table 5. High-level assessment of the positive and negative environmental effects of the Bass FMP goals

Goal	Actions to achieve goals	Positive effects	Negative effects
Goal 1: Inclusive stakeholder engagement structures to inform management of the bass fishery	Defra and Welsh Government will establish formal bass management groups with balanced representation, an effective code of conduct and an independent chair. Participation should include, for example, commercial fishers, recreational anglers, representatives of the wider supply chain and industry, scientists, policymakers and regulators.	Governance that includes a participatory approach is consistent with ecosystem-based approaches and can lead to improved governance and environmental outcomes.	Stakeholder priorities may result in the wider environment not given due consideration in decision making.
	Consider establishing an evidence sub-group of the bass management group to: <ul style="list-style-type: none"> • Seek consensus between sectors by placing science and evidence at the heart of decision-making • Build relationships and trust 	The use of all forms of local knowledge and information in fisheries management is consistent with ecosystem-based approaches and can lead to improved	Stakeholder priorities may result in the wider environment not given due consideration in decision making.

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Goal	Actions to achieve goals	Positive effects	Negative effects
	<p>between fishers/scientists/government bodies</p> <ul style="list-style-type: none"> • Build understanding of the scientific process, including how stock assessments are undertaken, through effective science communication and collaboration • Utilise qualitative (and quantitative if possible) data from fishers, including experiential knowledge, for inclusion in formal stock assessments • Develop a monitoring and evaluation strategy for the Bass FMP 	<p>governance and environmental outcomes.</p>	
	<p>Continue to work collaboratively to build capacity as a forum for discussing matters of wider importance to the bass fishery, for example, longer-term management and evidence needs, marine spatial use, identifying areas of</p>	<p>The use of all forms of local knowledge and information in fisheries management is consistent with ecosystem-based approaches and can lead to improved governance and environmental outcomes.</p>	<p>Stakeholder priorities may result in the wider environment not given due consideration in decision making.</p>

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Goal	Actions to achieve goals	Positive effects	Negative effects
	particular importance to bass fishing.		
Goal 2: Equitable access to the commercial bass fishery, while prioritising stock sustainability	<p>Bass management group(s) to commence a review of the current domestic authorisation system (designed to help manage fishing pressure on the bass stock). Any alternative system should seek to:</p> <ul style="list-style-type: none"> • Reduce latent capacity within the fleet; • Maintain access to the fishery (within sustainable limits); and • Align with other Bass FMP goals (for example, minimising damage to the wider environment, minimising discards, maximising benefits to local coastal communities and ensuring sustainable harvesting of the stock). 	<p>Consideration of alternative management approaches may contribute to improved stock sustainability if new or improved approaches are implemented in future iterations of the FMP.</p>	<p>Changes to the domestic authorisation system may change fishing behaviour which may result in changes to the distribution and magnitude of environmental impacts.</p>
	Depending on the outcome of the review, implement an alternative system managing access to the fishery	Consideration of alternative management approaches may contribute to improved stock sustainability if new or improved	Changes to the domestic authorisation system may change fishing behaviour which may result in changes to

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Goal	Actions to achieve goals	Positive effects	Negative effects
		approaches are implemented in future iterations of the FMP.	the distribution and magnitude of environmental impacts.
Goal 3: Minimise discarding of bass bycatch where survival rates are low	Consider incentivising domestic participation in scientific trials to improve data collection on discards, such as providing derogations to land bass discards. For example, consider allowing authorised <10m trawling vessels to apply for a derogation to >5% bass per trip, while remaining within annual bycatch allowances on the condition that fishers record details of their bass discards. Closely monitor the impact this has on landings, discards and stock sustainability and review annually.	An improved understanding of discards may contribute to improved stock sustainability and improved food web structure if that information results in new or improved mitigations measures being implemented in future iterations of the FMP.	No negative impacts anticipated.
	Explore use of the Catch App to record discard data.	An improved understanding of discards may contribute to improved stock sustainability and improved food web structure if that information results in new or improved mitigations measures	No negative impacts anticipated.

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Goal	Actions to achieve goals	Positive effects	Negative effects
		being implemented in future iterations of the FMP.	
	Continuation of the REM Celtic Sea programme to increase data collection.	An improved understanding of discards may contribute to improved stock sustainability and improved food web structure if that information results in new or improved mitigations measures being implemented in future iterations of the FMP.	No negative impacts anticipated.
	Consider adopting an alternative bass authorisation system if agreed (see Goal 2), designed to help minimise discarding	Reduced bycatch of juvenile bass is likely to contribute to improved stock sustainability and may have benefits for food webs and the wider environment.	Changes brought in to reduce discarding change fishing behaviour which may result in changes to the distribution and magnitude of environmental impacts.
	Review the efficacy of management approach in light of improved data collection	Flexible, adaptive management is a key component of sustainable fisheries management and ecosystem-based approaches.	No negative impacts anticipated.
	Consider how to incentivise participation in REM early adopter	An improved understanding of discards may contribute to improved stock sustainability and	No negative impacts anticipated.

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Goal	Actions to achieve goals	Positive effects	Negative effects
	programmes where appropriate to improve data collection on discards	improved food web structure if that information results in new or improved mitigations measures being implemented in future iterations of the FMP.	
	Consider potential gear developments to reduce discards from nets and trawls.	Gear adaptation (if implemented) and innovations are a key component of sustainable fisheries management and ecosystem-based approaches.	No negative impacts anticipated.
	Propose that the bass management group investigate the feasibility of implementing a model whereby all bass caught are landed (where survival rates are low), but above existing catch limits profits upon sale are not retained by fishers	An improved understanding of discards may contribute to improved stock sustainability and improved food web structure if that information results in new or improved mitigations measures being implemented in future iterations of the FMP.	No negative impacts anticipated.
	Propose the bass management group consider the pros and cons of moving towards a catch limit or quota approach (instead of a	Consideration of alternative management approaches may contribute to improved stock sustainability if new or improved	Changes to catch allocations may change fishing behaviour which may result in changes to the distribution and magnitude of environmental impacts.

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Goal	Actions to achieve goals	Positive effects	Negative effects
	bycatch approach), which could come with a landing obligation	approaches are implemented in future iterations of the FMP.	
Goal 4: Encourage and facilitate full compliance with bass regulations	Continue with the existing overarching framework for bass management shared between England and Wales, with scope for regional variation between Welsh waters and English (IFCA) districts.	Management at the correct spatial scale from an ecological, social, economic and cultural perspective is consistent with ecosystem-based approaches and is likely to contribute to improved environmental outcomes.	Competing demands for alignment vs local management result in the incorrect spatial scale of management.
	Improve communication and understanding of bass regulations, including Registered buyers and Sellers (RBS) through: <ul style="list-style-type: none"> •Clearer MMO guidance on GOV.UK and communication with existing licence holders •Bass management group to help with disseminating information to the commercial and recreational fishing community •Collation of relevant IFCA and Welsh byelaws as part of this FMP (see Annex 11) •Improve communication of regulations to buyers of bass to 	Measures which promote compliance may significantly contribute to improved stock sustainability.	No negative impacts anticipated.

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Goal	Actions to achieve goals	Positive effects	Negative effects
	improve compliance, for example, through bass management group, wider supply chain and MMO coastal engagement •Investigate how to improve signage of existing regulations at popular fishing destinations and local hospitality venues.		
	Consider commissioning research to better understand current levels of compliance with bass regulations	Research to better understand compliance may contribute to improved stock sustainability where actions are identified and implemented to improve current compliance approaches and communication.	No negative impacts anticipated.
	Consider how to improve collaboration between regulators on targeted enforcement and alignment of powers to ensure consistency in how regulators enforce RBS legislation	Improved collaboration between regulators may contribute to improved stock sustainability where actions are identified and implemented to improve current compliance approaches and communication.	No negative impacts anticipated.
	Consider implementing a requirement that vessels must	Discarding unwanted bass may incentivise fishers to improve	Depending on the circumstances of the catch, it

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Goal	Actions to achieve goals	Positive effects	Negative effects
	immediately discard unwanted bass to facilitate effective enforcement of bass regulations at sea rather than only upon landing.	selectivity of fishing practices to avoid catching bass in the first place. This may contribute to better compliance and improved stock sustainability.	may not be possible to return bass alive.
	Seek to review the ‘Prohibitions’ under The Bass (Specified Areas) (Prohibition of Fishing) (Variation) Order 1999 to consider: the relevance across all sectors, whether there is a need to expand the prohibitions beyond its current scope, for example, fishing from a boat, and whether there is a need to consider the addition of a carriage/deeming clause	Consideration of alternative management approaches may contribute to improved stock sustainability if new or improved approaches are implemented in future iterations of the FMP.	No negative impacts anticipated.
	Work towards sector equality in ensuring bass regulations are applicable to all those fishing for bass. This could include consideration of how non-powered vessels should be managed.	Ensuring all fishing methods are captured in fisheries management approaches is likely to contribute to stock sustainability.	No negative impacts anticipated.
	Consider reviewing the implications of re-defining bass	Consideration of alternative management approaches may	Changes to bycatch allowances may change fishing

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Goal	Actions to achieve goals	Positive effects	Negative effects
	<p>'bycatch' for netting by introducing a percentage catch composition limit (for example, <50% total catch). Any new headroom for the stock generated as a result could be used to allow other individuals fishing using nets the ability to land their bass bycatch, for example, in combination with a review of the authorisation system outlined in Goal 2.</p>	<p>contribute to improved stock sustainability if new or improved approaches are implemented in future iterations of the FMP.</p>	<p>behaviour which may result in changes to the distribution and magnitude of environmental impacts.</p>
<p>Goal 5: Maximise the benefits of bass fishing for local coastal communities</p>	<p>Increase research on the social, economic and cultural importance of bass fisheries to show the benefits for local coastal communities and how they could be maximised and measured.</p>	<p>Including social, economic and cultural importance in bass fisheries management is consistent with ecosystem-based approaches and can lead to improved governance and environmental outcomes.</p>	<p>If social, economic and cultural importance are considered in isolation, fisheries management approaches may have negative environmental consequences.</p>
	<p>Consider moving annually set catch limits from secondary legislation into licence conditions to deliver flexible management of fisheries and allow fishers to</p>	<p>Flexible, adaptive management is a key component of sustainable fisheries management and ecosystem-based approaches.</p>	<p>No negative effects anticipated if flexible management is set within wider ecosystem context.</p>

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Goal	Actions to achieve goals	Positive effects	Negative effects
	benefit from changes more quickly and in line with evolving evidence.		
	Seek to review benefits and reconsider management approach in light of new evidence, including allocating fishing opportunities according to benefits generated (if deemed appropriate). The review of alternative authorisation systems outlined in Goal 2 should also be joined up.	Including social, economic and cultural importance in bass fisheries management is consistent with ecosystem-based approaches and can lead to improved governance and environmental outcomes.	If social, economic and cultural importance are considered in isolation, fisheries management approaches may have negative environmental consequences.
	Consider application of the ICES bass catch allocation tool (once it is amended as part of the 2023-24 benchmarking exercise) to ensure fair allocation of bass catches.	Equitable, evidence-based allocation of catches are consistent with ecosystem-based approaches, where wider sustainability and environment goals are considered in parallel.	Changes to catch allocations may lead to spatial and/or temporal changes in effort which could introduce a different set of pressures that may have negative effects.
	Consider how to ensure compliance with bass regulations for buyers and sellers of bass as well as fishers to help local coastal communities better maximise the	Improved compliance with existing and new regulations will contribute to stock sustainability.	No negative impacts anticipated.

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Goal	Actions to achieve goals	Positive effects	Negative effects
	benefits from bass fishing (see Goal 4).		
Goal 6: Sustainable harvesting of the bass stock in line with scientific advice	Continue allocating catch in accordance with ICES scientific advice which does not exceed an MSY approach (within 95% confidence intervals).	These actions will ensure that bass stocks are fished within sustainable limits, allowing the bass stock to continue its recovery. Improvements to the stock assessment data and process will reduce uncertainty and inherent risks associated with setting sustainable catch limits.	Over time fishing effort will fluctuate in line with catch limits. Increasing stocks may result in increased catch limits and associated effort and therefore additional impacts on the wider environment
	Consider how to fill evidence gaps required for improved stock assessments, including additional data on levels of discarding in the commercial sector and on recreational removals (Annex 2): Work with scientists, regulators and the recreational sector to improve data collection on recreational catches - including options for other approaches, for example, applications, registration & reporting, onsite approaches. See Goal 3 for discarding.		
	Consider outcomes from the ICES benchmarking exercise in 2023-24		

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Goal	Actions to achieve goals	Positive effects	Negative effects
	<p>and implications for future stock management/harvest strategies.</p> <p>Following the conclusion of the ICES benchmarking exercise, seek to review and carry out new research to assess alternative harvest strategies for bass that prioritise societal and ecosystem benefits (for example, MEY, Large Stock Strategy, Maximum Societal Benefits) with a view to maximising the efficiency, profitability and sustainability of bass harvesting in line with other FMP goals.</p>	<p>Alternative harvest strategies which prioritise ecosystem benefits have the potential to contribute to many aspects of GES, especially when carried out in line with other FMP goals which aim to reduce the overall impacts of bass fisheries on the environment. The type and scale of positive effect will depend on the harvest strategy chosen and the wider ecosystem and food web context.</p>	<p>Changes to harvest strategies are likely to change fishing behaviour which may result in changes to the distribution and magnitude of environmental impacts.</p>
<p>Goal 7: Ongoing protection of the juvenile and spawning bass stock.</p>	<p>Seek to gather evidence on the most suitable timing and duration of the closed seasons to optimise the protection of spawning bass stocks (See Annex 3) - including investigating the possibility of regional variation and an assessment of the potential impacts on fishers.</p>	<p>Actions which investigate improvements to spawning stock protections may lead to improved stock sustainability where that research results in new or improved mitigation being implemented in future iterations of the FMP.</p>	<p>If new or improved mitigation this could lead to changes to fishing opportunities could lead to spatial and/or temporal changes in effort which could introduce a different set of pressures that may have negative effects.</p>

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Goal	Actions to achieve goals	Positive effects	Negative effects
	<p>Consider a prohibition of fixed netting in bass nursery areas, and the application of BNA rules to shore fishing as well as fishing from vessels.</p>	<p>New or improved measures to protect juvenile fish may lead to improved stock sustainability and may have benefits for food webs and the wider environment.</p>	<p>If new or improved mitigation is brought in, this could lead to spatial and/or temporal changes in effort which could introduce a different set of pressures that may have negative effects.</p>
	<p>Review the most appropriate size limits for the bass stock, for example, a MCRS or slot sizes whereby fish above and below a certain size are returned to the breeding stock.</p>	<p>Actions which review changes to size-based measures may lead to improved stock sustainability and may have benefits for food webs, biodiversity and ecosystems where those reviews result in new or improved mitigation being implemented in future iterations of the FMP.</p>	<p>Changes in MCRS or the introduction of a slot size could change fishing behaviour and patterns of bycatch and discards. Such measures could also lead to spatial and/or temporal changes in effort which could introduce a different set of pressures that may have negative effects.</p>
	<p>Review the possibility of local spatio-temporal closures to protect spawning bass as evidence evolves/allows.</p>	<p>Measures which investigate improvements to spawning stock protections may lead to improved stock sustainability where that research results in new or improved mitigation being</p>	<p>If new or improved mitigation is brought in, this could lead to spatial and/or temporal changes in effort which could introduce a different set of pressures that may have negative effects.</p>

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Goal	Actions to achieve goals	Positive effects	Negative effects
		implemented in future iterations of the FMP.	
	Develop best-practice handling guidance to improve fish survival from commercial and recreational fisheries.	Improved survival of released fish is likely to contribute to improved stock sustainability.	No negative effects anticipated.
	Consider developing gear modifications to reduce bycatch of juvenile bass.	Reduced bycatch of juvenile bass is likely to contribute to improved stock sustainability and may have benefits for food webs and the wider environment.	Negative impacts will be specific to the modifications identified.
	Increase research to better understand the relationship between environmental factors, in particular the impact of climate change, on the recruitment of juveniles to the bass stock.	A better understanding of the role of environmental factors and climate change on bass recruitment may allow us to improve our long-term sustainable management of the stock.	No negative effects anticipated.
Goal 8.1: Minimise the impact of bass fishing on the wider marine ecosystem -	Consider allowing fishers with relevant authorisations the option to switch from using fixed nets to hook and line gears associated with a lower risk of PET species bycatch.	Reducing levels of netting is likely to significantly contribute to reduced bycatch of protected fish, marine mammals and seabirds.	Changes to catch allocations may lead to spatial and/or temporal changes in effort which could introduce a different set of pressures that may have negative effects.

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Goal	Actions to achieve goals	Positive effects	Negative effects
<p>Bycatch of Endangered, Threatened and Protected species in bass fisheries</p>	<p>Improve monitoring to better understand PET species bycatch in bass fisheries, such as how to promote fishers' uptake of validated (observer/REM) monitoring on boats.</p>	<p>Measures which investigate bycatch may significantly contribute to reduced bycatch of protected fish, marine mammals and seabirds where that research results in new or improved mitigation being implemented in future iterations of the FMP.</p>	<p>No negative impacts anticipated.</p>
	<p>Utilise communications channels to highlight and promote:</p> <ul style="list-style-type: none"> •Existing bycatch self-reporting requirements •Participation in bycatch reduction trials •Appropriate incentivisation schemes •Gear modifications and activities to reduce bycatch (for example, as publicised on the Clean Catch Bycatch Mitigation Hub) •Relevant materials (for example, seabird bycatch toolkits) to allow fishers to make informed decisions to reduce their sensitive species bycatch risk 	<p>Measures which promote awareness of bycatch may significantly contribute to reduced bycatch of protected fish, marine mammals and seabirds where such communications result in new or improved data or mitigation.</p>	<p>No negative impacts anticipated.</p>

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Goal	Actions to achieve goals	Positive effects	Negative effects
	<p>Review the practice of shallow inshore and shore-based netting to determine whether additional regional or national protections are needed to prevent migratory fish bycatch. Note links to special consideration of netting in nursery areas (Goal 7).</p>	<p>Measures which investigate bycatch in netting may significantly contribute to reduced bycatch of protected fish, marine mammals and seabirds where that research results in new or improved mitigation being implemented in future iterations of the FMP.</p>	<p>Changes to spatial and temporal netting restrictions may result in spatial and/or temporal changes in effort which could introduce a different set of pressures that may have negative effects.</p>
	<p>Consider how and where to incentivise and encourage participation in early adopter REM programmes where appropriate to improve data collection on PET species bycatch associated with bass fishing activity.</p>	<p>Measures which investigate bycatch may significantly contribute to reduced bycatch of protected fish, marine mammals and seabirds where that research results in new or improved mitigation being implemented in future iterations of the FMP.</p>	<p>No negative impacts anticipated.</p>
	<p>Consider research into what an ecosystem-based approach to bass management would look like for future iterations of the Bass FMP to incorporate.</p>	<p>A review of the additional elements of an ecosystem-based approach to bass management may contribute to improvements in stock sustainability, food webs and ecosystem resilience where that research results in the adoption of</p>	<p>No negative impacts anticipated.</p>

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Goal	Actions to achieve goals	Positive effects	Negative effects
		ecosystem-based management principles and actions.	
<p>Goal 8.2: Minimise the impact of bass fishing on the wider marine ecosystem - Impact of gear on seabed integrity</p>	<p>Maintain current restrictions on targeted trawling and netting of bass as part of a continued shift towards lower impact gears.</p> <p>Working with stakeholders, Defra and Welsh government will consider the evidence and then develop further recommendations on the potential effects of fishing activities (alongside other activities) on seafloor integrity and the state of benthic habitats, including contributing to the implementation and coordination of the Benthic Impact Working Group. This work will consider the issues at a strategic level and within the context of ongoing changes in marine spatial use and environmental protection to achieve the objective of GES under the UK MS.</p>	<p>Landings of bass by trawlers has decreased significantly following the introduction of new management measures to improve stock sustainability. Through time this may contribute to improvements in seabed integrity and benthic biodiversity where fishers switch gears, or new entrants choose alternative lower impact gears.</p>	<p>Changes to lower impact gears may result in changes to the distribution and magnitude of environmental impacts.</p>

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Goal	Actions to achieve goals	Positive effects	Negative effects
<p>Goal 8.3: Minimise the impact of bass fishing on the wider marine ecosystem - Marine Litter</p>	<p>Implementation of the second 'Regional Action Plan on Marine Litter', including actions to tackle marine litter from fishing.</p>	<p>This action will contribute to reductions in marine litter which may have positive impacts on other elements of marine biodiversity and food webs.</p>	<p>No negative impacts anticipated.</p>
	<p>Implement a multiyear 'End of Life Fishing gear Recycling Scheme' (Wales), a nationwide scheme for the collection and recycling of end-of-life fishing gear.</p>	<p>This action will contribute to reductions in marine litter which may have positive impacts on other elements of marine biodiversity and food webs.</p>	<p>No negative impacts anticipated.</p>
	<p>Continuation of monitoring programmes to assess seafloor litter, surface litter and beach litter- and ongoing research initiatives to support the reuse and repurpose of end-of-life fishing gear back into the fishing industry.</p>	<p>This action will contribute to a better understanding of the sources of marine litter which may result in mitigations which have positive impacts on other elements of marine biodiversity and food webs.</p>	<p>No negative impacts anticipated.</p>
<p>Goal 9: Mitigate against and adapt to the impact of climate change on bass fishing</p>	<p>Building the evidence base on the impacts of climate change on fish and shellfish stocks and fisheries through the existing research and development projects, for example,</p>	<p>A better understanding of the role of climate change on bass, other fish and food webs may allow us to improve our long-term sustainable management of fish stocks and the wider environment.</p>	<p>No negative impacts anticipated.</p>

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Goal	Actions to achieve goals	Positive effects	Negative effects
	the Marine Climate Change Impact Partnership (MCCIP).		
	Building the evidence base on blue carbon habitats in the UK through existing partnerships, for example, the Blue Carbon Evidence Partnership.	A better understanding of the role climate change on bass, other fish and food webs may allow us to improve our long-term sustainable management of fish stocks and the wider environment.	No negative impacts anticipated.
	Collaboration across government, industry and academic organisations to understand the current evidence gaps and latest innovations to support the development of pathways towards Net Zero for the UK fishing fleet.	Collaborative approaches to identify pathways to Net Zero are imperative for ensuring a healthy and resilient marine environment.	Changes to structure of the UK fishing fleet as it transitions towards Net Zero may result in changes to the distribution and magnitude of environmental impacts.
	Consider increasing research on the impact of climate change on bass distribution, abundance, and recruitment - including exploring the use of citizen science and experiential knowledge to map species range shifts.	A better understanding of the role of environmental factors and climate change on bass distribution, abundance and recruitment may allow us to improve our long-term sustainable management of the stock.	No negative impacts anticipated.

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Goal	Actions to achieve goals	Positive effects	Negative effects
	Consider increasing research to understand the carbon footprint of the bass fishery and how it could be reduced.	Research on the carbon footprint of the bass fishery could contribute to ensuring a healthy and resilient marine environment, where mitigation measures are identified and implemented.	No negative impacts anticipated.
	Start to integrate new evidence into future management decisions and iterations of the Bass FMP.	Flexible, adaptive management is a key component of sustainable fisheries management and ecosystem-based approaches.	No negative impacts anticipated.
	Consider how to support industry to adapt to the environmental impacts of climate change, including changing distributions of the bass stock in response to warming ocean temperatures.	Flexible, adaptive management is a key component of sustainable fisheries management and ecosystem-based approaches.	Changes to structure of the UK fishing fleet as it transitions towards Net Zero may result in changes to the distribution and magnitude of environmental impacts.
	Consider how to support industry to decarbonise (for example, aligned with a Net Zero by 2050 target).	Collaborative approaches to identify pathways to Net Zero are imperative for ensuring a healthy and resilient marine environment.	Changes to structure of the UK fishing fleet as it transitions towards Net Zero may result in changes to the distribution and magnitude of environmental impacts.

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Goal	Actions to achieve goals	Positive effects	Negative effects
	<p>An alternative harvest strategy (for example, a large stock strategy or MEY, as determined by the review associated with Goal 6) could increase bass biomass and contribute to improved blue carbon ocean storage.</p>	<p>Alternative harvest strategies which prioritise ecosystem benefits, including blue carbon, have the potential to have a positive impact on the wider environment, especially when carried out in line with other FMP goals which aim to reduce the overall impacts of bass fisheries on the environment. The type and scale of positive effect will depend on the harvest strategy chosen and the wider ecosystem and food web context.</p>	<p>Changes to harvest strategies are likely to change fishing behaviour which may result in changes to the distribution and magnitude of environmental impacts.</p>

Overview of Potential Positive Environmental Effects of the FMP

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

The overarching aim of the draft Bass FMP is to benefit a diverse range of environmental, commercial, recreational and social interests whilst ensuring stocks remain sustainable. The draft Bass FMP has nine goals to help achieve this aim:

- Sustainable harvesting of the bass stock in line with scientific advice.
- Protecting juvenile and spawning bass.
- Maximise the benefits of bass fishing for local coastal communities.
- Minimise the impact of bass fishing on the wider marine ecosystem.
- Mitigate against, and adapt to, the impact of climate change on bass fishing.
- Inclusive stakeholder engagement structures to inform management of the bass fishery.
- Minimise discarding of bass bycatch where survival rates are low.
- Encourage, incentivise and facilitate full compliance with bass regulations.
- Equitable access to the commercial bass fishery, while prioritising stock sustainability.

The draft Bass FMP includes measures to continue existing management. These already contribute to limiting the impact of bass fishing on bass stocks and the wider environment. It also contains a number of actions to collect data or consider alternative approaches which will allow the further development of management with lower environmental impacts over time.

There is already a stock assessment in place for bass, so the FMP sets a short-term commitment to continue setting catch limits in-line with scientific advice. A number of actions are identified to improve the knowledge base which will contribute to long-term stock sustainability, including (but not limited to) further consideration of the role of nursery areas and spawning areas, reductions in discards, and the consideration of alternative harvest strategies. Where such consideration results in changes in management, they aim to ensure bass fisheries consistently contribute to GES for D3.

The draft Bass FMP acknowledges the impact bass fisheries have on achieving UK MS descriptors D1 and D4 for seabirds and marine mammals and to designated highly mobile species such (for example, harbour porpoise, twaite shad and salmon) primarily through bycatch in nets. The FMP makes a number of short-term and long-term commitments to improve data collection, for example through the REM early adopter programme. It also links the FMP to existing initiatives such as Clean Catch UK. Ultimately, the FMP looks to promote a shift to lower-impact gears which could significantly contribute to these GES descriptors.

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It also acknowledges the potential impact of bass fisheries on benthic habitats and seafloor integrity (D1, D6) despite the current catch allocations resulting in bycatch only of bass in towed gear fisheries. The FMP seeks to continue the current restrictions on targeted trawling of bass, which could contribute to GES for these descriptors.

Actions identified to ensure progress towards GES for D10 are primarily engagement with collaborative initiatives, which is in line with SNCB advice.

The draft Bass FMP outlines a number of additional actions to consider changes which would be considered consistent with an ecosystem-based approach, including looking at adopting more flexible adaptive management mechanisms, developing a participatory approach to governance, and undertaking additional research on what else an ecosystem-based approach to bass fisheries management could consider. Importantly, social, economic and cultural goals are generally framed within the wider context of stock sustainability, to remove conflict between FMP goals.

Climatic Factors

The draft Bass FMP supports policy development to reduce the contribution of fisheries activities to climate change, contributing to achieving the climate change objective in the 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.

The draft Bass FMP will contribute to building an improved understanding of the potential impacts that bass fishing can have on blue-carbon habitats, and how different harvest control strategies may change stocks of blue carbon.

The draft Bass FMP will contribute to building an improved understanding of how climate change is influencing bass distribution, abundance, spawning and recruitment.

The draft Bass FMP sets out actions to incorporate new data into management of bass fisheries, and to move towards a more flexible and adaptive management approach. These data will help the bass fishery adapt to climate driven changes, contributing to the climate objective in the Fisheries Act 2020.

Cultural Heritage

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.

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 bass 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 bass fisheries management policies and measures could support the protection of 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

It is difficult at this stage to be certain whether the draft Bass FMP as a plan will result in any significant negative effects on the marine environment, as the identified actions are at the beginning of their development. Therefore, we do not yet know the potential environmental effects of implementing the combination of goals set out in the draft Bass FMP. However, the fisheries objectives which will guide our actions should deliver improved environmental protection, so although it is difficult at this stage to anticipate significant negative effects on the environment in the short term, the overall ambition is to have a net positive effect on the environment over the long term through the implementation of the ecosystem-based approach to fisheries management. From an MPA perspective, any changes in management will be subject to MPA assessments which will ensure MPA features are protected inside and outside sites.

There is the potential for new management such as harvest control strategies, transitioning to low impact gears, measures to reduce discarding, and changes in spatial and temporal restrictions to alter the distribution and magnitude of environmental impacts (for example, through changes in the spatial footprint, intensity, type of gear and fishing methods). We recognise that management interventions brought in through FMPs may solve one issue, but unintended and unpredictable issues could arise because of the measures being implemented. For example, some of the proposed precautionary management measures and actions intended to have a positive effect to support the FMP objectives may lead to displacement of fishing activity to other locations or fisheries. This change may result in negative environmental effects that fall outside the scope (geographic area or species) of this FMP. Where an FMP cannot solve an issue, it may be appropriate for other FMPs to consider this issue. Or, if areas beyond English waters are affected, it may be appropriate for this issue to be considered through wider UK or international fisheries management fora.

Section 5 has identified potential negative effects that could arise from the implementation of the FMP's policies, actions and measures. Due to the policies, actions and measures being at an early stage of development, it is difficult to systematically set out their magnitude and significance. Changes to fishing activity resulting from the implementation of the FMP objectives and measures will be monitored as part of the process of evaluating the effectiveness of FMPs. Tools such as iVMS and VMS will improve our ability to monitor spatial and temporal changes in fishing activity. Such monitoring would help identify any unintended consequences on the environment and indicate whether the implementation of these measures could lead to any significant environmental effects if unmanaged. Mitigating action could then be considered where any significant negative effects are identified that are related to those issues scoped into this assessment. The development of more adaptive and flexible management approaches proposed within the draft Bass FMP should enable management intervention in a timely manner to mitigate any risks.

In-combination Effects

The draft Bass 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 (for England) and the Sustainable Management of Natural Resources (for Wales) during policy development will further ensure the environment is appropriately considered throughout the FMP process. More broadly, we anticipate the cumulative positive effect of these programmes will result in helping to meet sustainability objectives and achieving long-term improvements to the marine environment.

Undertaking the in-combination assessment at this stage in the production cycle of the FMP proved difficult due to the policies and measures being at an early stage of development. From the analysis of the potential environmental effects (section 5) of the policies and measures set out in the draft Bass FMP, the potential negative effects are not considered significant enough at this stage to require the policies and measures to be amended. When considering other potential policies, we are not aware at this stage that any other regimes/activities are going to change that position. The draft FMP could facilitate the in-combination assessment with Marine Plans by providing more specific detail on how the FMP could positively or negatively interact with them.

Before there are any changes to fisheries management as a result of the Bass FMP, where necessary, all new measures will be subject to Habitats Regulations Assessments and MCZ 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 measures of all FMPs will be considered through the mandatory FMP monitoring process once the plan is published and could form part of the longer-term JFS or FMP review cycles (section 8).

Conclusions

Bass fishing is an ongoing activity that poses some risks to the status of the marine environment. The overarching aim of the draft Bass FMP is to benefit a diverse range of environmental, commercial, recreational and social interests. A focus throughout the draft Bass FMP on stock sustainability and lower impact gears is thus likely to result in a net positive benefit to the 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 delivering the sustainability objective.

The draft Bass FMP may potentially result in positive or negative effects on the environment in the short term. However, the overall ambition is to have a net positive effect on the environment over the long-term through the implementation of the ecosystem-based approach to fisheries management.

The draft Bass FMP sets out how the issues of seabed disturbance, bycatch and litter will be addressed through the FMP.

The draft Bass 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.

6. Proposed Measures to Reduce Significant Negative Effects

Existing Negative Effects of Bass Fishing

This ER has acknowledged the existing negative environmental effects associated with the fishing activity which will be managed through the FMP and has set out the actions proposed by the FMP to reduce them (Section 6).

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

Measures currently being implemented to manage bass fishing (set out in the draft Bass FMP - Current bass management approach) include: annual catch limits per vessel for three gear types (trawls, seines, fixed nets and hook and line); a prohibition by any other gear type; for those fishing with trawls/seines and fixed nets, only bass bycatch may be landed, which is capped at a 5% per trip for trawls/seines; a minimum conservation reference size; a closed season during the spawning period; recreational bag limits and a track record requirement for those using nets and hook and line gear. These measures will be part of the overall management strategy and will make a contribution to the conservation of stocks and the wider environment.

The draft Bass FMP has considered advice from SNCBs with respect to the impacts from bass fishing activity on MPA features and the wider marine environment in relation to UK MS descriptors. The draft Bass FMP has set out the following proposed measures to reduce those known negative effects are set out below.

Within MPA Impacts

The MPA network ([Appendix C](#)) offers protection through the existing MPA management process (via the power to make byelaws), to our most valuable species and habitats by managing human activities such as fishing, to avoid likely significant effects on the environment.

IFCA, MMO and relevant advisors within Welsh Government were engaged during the development of the FMP to ensure measures proposed through the FMP would improve existing MPA management.

Before Defra or Welsh Government implement any new interventions proposed in the draft Bass FMP, those interventions will be screened for likely significant effects on any European site or European offshore sites that overlap with the geographical scope of the measure and, where necessary, an 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 MCZ Assessment will also be completed before any new management measure is implemented that may significantly hinder the conservation objectives of an MCZ.

The points above will make sure the impacts of bass fishing activity and the FMP's policies, actions and measures will 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.

Outside MPA Impacts

The marine environment outside of MPAs but within the spatial boundaries of this FMP may potentially be negatively impacted by bass fishing activities. SNCB advice highlighted the risk of bycatch of mobile species (birds, mammals and fish) that are designated features of MPAs where they occur outside site boundaries. This bycatch was classified as high risk due to the impacts of netting (potentially on a scale that is of a concern to MPA features). It was noted that other fishing methods for bass had a lower bycatch risk. The advice also 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 focus within the draft FMP will be on improved data collection on highly mobile species bycatch, especially the longer-term actions to incentivise bass fisheries to join REM early adoption projects. These will support a higher-resolution assessment of risk and the design of appropriate mitigation, where necessary. The draft Bass FMP also links specific data collection initiatives to wider bycatch monitoring and mitigation programmes such as Clean Catch UK, which will ensure a joined-up approach. Such an approach has the potential to appropriately mitigate risks associated with highly mobile MPA features.

UK MS Descriptors Impacts

Litter

The draft Bass FMP will support existing UK policies to protect the marine environment from marine litter, by taking a whole-life cycle approach to prevent and divert material from becoming a source of litter.

The Implementation of the second 'Regional Action Plan on Marine Litter', will include actions to tackle marine litter from fishing. The FMP will also support the continuation of monitoring programmes to assess seafloor litter, surface litter and beach litter- and ongoing research initiatives to support the reuse and repurpose of end-of-life fishing gear back into the fishing industry. These proposed measures should help the Bass FMP support the achievement of GES for UK MS Descriptor 11 – Litter, thereby having a positive effect on the current baseline status.

Bycatch: SNCB advice highlighted risks associated with bycatch in nets, this time in relation to where there may be a risk of population-level impacts on some UK MS descriptors, including cetaceans (D1, D4), seals (D1, D4) birds (D1, D4) or fish (D1, D4). As discussed in the above, the focus within the draft Bass FMP on improved data collection on highly mobile species bycatch, especially the longer-term actions to incentivise bass fisheries to join REM early adoption projects, will support a higher-resolution assessment of risk and the design of appropriate mitigation, where necessary. The draft bass FMP also links specific data collection initiatives to wider bycatch monitoring and mitigation programmes such as Clean Catch UK, which will ensure a joined-up approach. Such an approach has the potential to have a

significant positive effect on the current baseline status where research leads to new or improved mitigation and management.

Seabed integrity: SNCB advice identified the risks posed by mobile gears to benthic habitats resulting in high levels of disturbance and the failure to reach UK MS targets for benthic biodiversity and seafloor integrity (D1, D6). However, while some bass continues to be landed by mobile gear (as a bycatch allowance), these gears are not currently permitted to target bass. Therefore, the draft Bass FMP identified an action to maintain current restrictions on targeted trawling of bass as part of a continued shift towards lower impact gears.

Climate Change

Vessel Emissions

In the short-term, the draft bass FMP will increase the understanding of the carbon footprint of the bass fishery and identify options for reductions. In the medium-long term, it will support industry to decarbonise, contributing to UK Government commitments to Net Zero.

Blue Carbon

The evidence around the risks and impacts of bass fishing on blue carbon habitats within English and Welsh waters remains uncertain, but existing research and development, and evidence partnerships have the potential to address gaps in these areas. The FMP will explore the potential benefits of harvest strategies that could increase bass biomass, therefore improving blue carbon ocean storage.

Climate change impacts on bass stocks and fisheries

The draft Bass FMP identifies a number of actions to understand and mitigate climate change impacts. Short term goals focus on research on the impacts of climate change on bass distribution, abundance and recruitment. Consideration of improving opportunities for adaptive management are identified, including moving catch limits into licence conditions and the integration new evidence into future iterations of the bass FMP.

Cultural Heritage

The draft Bass FMP does not explicitly consider the potential impacts of bass 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 and Welsh Government should work with agencies such as Historic England and Cadw 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.

Effects Identified By This Assessment

An assessment of the likely negative effects of the policies, measures and actions was undertaken in Section 5. The likely negative effects will be considered when developing monitoring activities as part of the implementation process (see section 8), to ensure that any negative effects of the FMP's policies, measures and actions can be avoided. Monitoring changes to fishing activity resulting from the implementation of the FMP will help identify any unintended consequences on the environment that could lead to significant negative environmental effects. Where likely unintended environmental consequences are identified, appropriate changes to management or mitigation will be implemented to reduce to any negative environmental effects developing.

General

The UK is committed to using marine resources sustainably and reducing the impacts of fishing on the marine environment to comply with its international and domestic obligations. The draft Bass FMP seeks to support these commitments by providing the tools (FMP goals and actions) to deliver the sustainable harvesting of bass stocks.

The range of environmental issues identified through this assessment have been largely considered by the draft Bass FMP. The FMP acknowledges that the evidence base is not sufficiently comprehensive at present to fully address some of the issues and therefore proposes a multi-step, iterative approach to deliver long-term sustainability through improving the evidence base and identifying and implementing appropriate mitigation.

This ER considers that the FMP has proposed all possible actions to address existing issues and has appropriately considered how it will address potential issues arising from the implementation of the FMP's policies, measures and actions. This 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 Bass FMP. A reasonable alternative has been defined as 'an activity that could feasibly attain or approximate

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the FMP's objectives at a lower environmental cost or decreased level of environmental degradation'²³.

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

The draft Bass FMP, alongside the other 42 FMPs, was agreed by the fisheries policy authorities through the process to publish the JFS. 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 a FMP were considered. The draft list of proposed FMPs, including a FMP for bass, was part of the public consultation on the draft Joint Fisheries Statement in early 2022. There were no comments on the inclusion of a FMP for bass.

The bass fishery is an ongoing activity and management already exists. The draft Bass 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 Bass FMP policies and measures were developed to specifically address those fisheries management issues identified within the bass fishery.

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

A range of environmental issues (for example, through SNCB advice, evidence relating to climatic change impacts) have been considered during the development of the current proposed policies and measures to ensure they have minimal negative environmental effects and, where applicable, maximum positive environmental gain. Stakeholder input, including that from the environmental sector, has been considered during the development of policies and measures. These processes have been employed to ensure the most appropriate actions have been proposed for this stage

²³ [Reasonable alternatives definition](#)

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

in the life cycle of the FMP. An assessment of the potential alternatives is provided in Table 6.

Table 6. Assessment of alternatives to proposed Bass goals.

Goal theme	Goal	Alternatives
Management Approach	Inclusive stakeholder engagement structures to inform management of the bass fishery	<p>Co-management and stakeholder participation are important elements of ecosystem-based approaches and are associated with improved environmental outcomes. Strong stakeholder support for this approach.</p> <p>No alternative is available.</p>
	Equitable access to the bass fishery, while prioritising stock sustainability	A fit-for purpose authorisation system is required to support sustainable fisheries management.
		Actions identified for this goal will consider a variety of alternative authorisation approaches based on the most recent scientific evidence within the context of stakeholder views and co-management.
	Minimise discarding of bass bycatch where survival rates are low	<p>No alternative in the short term - identified actions explore appropriate alternative approaches.</p> <p>The suite of identified actions seek to improve the evidence base and consider more adaptive fisheries management that can help to minimise discarding.</p> <p>Adaptive, flexible management is important for delivering sustainable fisheries and ecosystem-based approaches.</p>

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		<p>Better data is required to make evidence-based management decisions.</p>
		<p>A full consideration of feasibility is required prior to implementation. Actions include consideration of different approaches.</p>
	<p>Encourage and facilitate full compliance with bass regulations</p>	<p>Compliance with bass regulations is important for sustainable fisheries management. A number of identified actions seek to consider improvements to management based on stakeholder experience as well as improving the evidence base for improving compliance. Alternative options were already considered as part of co-design process and therefore no alternatives are available.</p>
<p>Social and economic</p>	<p>Maximise the benefits of bass fishing for local coastal communities</p>	<p>The suite of identified actions seeks to improve the evidence base and consider more adaptive fisheries management that can better serve the needs of industry. Adaptive, flexible management is important for delivering sustainable fisheries and ecosystem-based approaches. Better data on the social, economic and cultural significance of bass fisheries to</p>

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		<p>coastal communities is required to make evidence-based management decisions.</p>
		<p>A full consideration of feasibility is required prior to implementation.</p>
		<p>No alternative is available.</p>
<p>Stock level</p>	<p>Sustainable harvesting of the bass stock in line with scientific advice</p>	<p>Setting limits according to scientific advice and following an MSY approach are in line with the Scientific Evidence objective and Precautionary objective of the Fisheries Act.</p>
		<p>No alternative in the short term - identified actions explore appropriate alternative approaches.</p>
	<p>Ongoing protection of the juvenile and spawning bass stock</p>	<p>Bass nursery areas and spawning season closures of all bass fisheries are well-established management tools which provide protection during a vulnerable life-history stage. For additional measures better data is required to make evidence-based management decisions.</p>
		<p>No alternative in the short term- identified actions will explore alternatives to this approach</p>

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Wider environment	Minimise the impact of bass fishing on the wider marine ecosystem	<p>The suite of identified actions aims to improve the evidence base and encourage fishers to move to lower impact gears environmental impacts of bass fishing.</p> <p>Better data is required to make evidence-based management decisions.</p> <p>No alternative in the short term - identified actions explore appropriate alternatives to this approach</p>
	Mitigate against and adapt to the impact of climate change on bass fishing	<p>The suite of identified actions aims to improve the evidence base in relation to bass fisheries whilst contributing to collaborative initiatives.</p> <p>Better data is required to make evidence-based management decisions.</p> <p>Strategic, collaborative initiatives are required to develop pathways to Net Zero.</p>
		No alternative is available.

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

The draft Bass 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 Bass FMP, alongside the consultation of this ER. These consultations will provide stakeholders with the opportunity to review proposed measures and present alternatives if available.

8. Monitoring and Review

Monitoring

Regulation 17 of the SEA Regulations 2004 requires Defra and the Welsh Government to monitor the significant environmental effects of the implementation of Bass FMP policies and measures to identify unforeseen adverse effects at an early stage, ensuring appropriate remedial action can be undertaken. Paragraph 9 of Schedule 2 to the 2004 Regulations requires the Environmental Report to include a description of the measures envisaged concerning monitoring in accordance with regulation 17.

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

- Monitoring the effectiveness of FMP objectives and measures
- Environmental impacts monitoring

Monitoring effectiveness of the FMP

Section 6 of the Fisheries Act 2020 requires the FMP to identify appropriate monitoring against specified indicators to assess the effectiveness of the draft Bass FMP.

The effective delivery of the Bass FMP will be assessed against the following performance indicators.

The draft Bass FMP identifies performance indicators and monitoring for each of its nine goals (see Table 7).

Table 7. Proposed performance indicators/ monitoring of the bass FMP

Goal theme	Goal	Performance Indicators and Monitoring
Stock level	Sustainable harvesting of the bass stock in line with scientific advice	Stock is maintained within sustainable limits (FMSY (Fishing mortality consistent with achieving Maximum Sustainable Yield), within 95% confidence intervals); more research is delivered to fill data gaps/improve stock assessments and assess alternative harvest strategies; management strategies are reconsidered in light of new evidence.

Goal theme	Goal	Performance Indicators and Monitoring
	Ongoing protection of the juvenile and spawning bass stock	Standing Stock Biomass (SSB); FMSY; relevant evidence has been delivered and handling guidance produced; appropriate size limits for the bass stock have been considered.
Social and economic	Maximise the benefits of bass fishing for local coastal communities	Research has been undertaken on the social, economic and cultural benefits of bass fisheries; consideration of whether catch limits should be moved into licence conditions.
Wider environment	Minimise the impact of bass fishing on the wider marine ecosystem	Improved data collection on PET bycatch associated with bass fishing, including through early adopter REM programmes where appropriate; greater awareness amongst the bass fishing community of existing monitoring requirements; trawling/netting bycatch approach maintained.
	Mitigate against and adapt to the impact of climate change on bass fishing	Vessel emission monitoring, population monitoring.
Management Approach	Inclusive stakeholder engagement structures to inform management of the bass fishery	Establishing a bass management group and associated evidence subgroup within one year of publication of the Bass FMP.
	Minimise discarding of bass bycatch where survival rates are low	New data is generated on bass discarding; the Bass Management group has reviewed the domestic management approach of discarding, including the feasibility of landing all bass (where survival rates are low).

Goal theme	Goal	Performance Indicators and Monitoring
	Encourage, incentivise and facilitate full compliance with bass regulations	MMO bass guidance is updated; improved feedback on the communication of regulations, levels of compliance are improved.
	Equitable access to the commercial bass fishery, while prioritising stock sustainability	Alternative bass access systems are reviewed and implemented if appropriate.

In addition to the monitoring set out in the FMP, monitoring of the environmental effects of implementing the FMP’s policies, actions and measures will be undertaken. Any changes to fishing activity resulting from the implementation of the FMP will form part of the monitoring of the effectiveness of the plan to help identify any unintended consequences on the environment that could lead to any significant negative environmental effects. Monitoring for potential environmental effects will be built into the wider process of monitoring and assessing the delivery of the draft Bass FMP and will be part of the review process (section 8). 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 the Marine Strategy Regulations or other relevant assessment programmes. Assessing the environmental effects of implementing the FMP objectives and associated measures will help establish what impact the FMP is having on the current baseline, and whether any changes are needed in the management of the bass fishery.

Environmental Impacts

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

UK MS: The UK MS monitors and assesses the state of the marine environment against 11 descriptors. 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 and the devolved administrations and to independently assess how the UK can optimally achieve its emissions reductions goals. The Committee advises on the level of carbon budgets and submits annual reports to Parliament on the UK's progress towards targets and budgets. Evidence on the contribution of the Bass fishing fleet has been considered in this SEA and would continue to be reviewed against the FMP objectives as part of monitoring.

Review

The Fisheries Act 2020 requires the Bass 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 Bass fishery harvesting within sustainable limits and the Fisheries Act objectives.

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

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

Appendix A: 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 UKMS updated part 1 assessment (available at https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/921262/marine-strategy-part1-october19.pdf), 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, see <https://moat.cefas.co.uk/biodiversity-food-webs-and-marine-protected-areas/cetaceans/>.

A summary of the status is shown in Table 1. 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.

Descriptor	Target	Indicator	North Sea	Celtic Seas
<u>D1; D4: CETACEANS</u>	The long-term viability of cetacean populations is not threatened by incidental bycatch	Harbour porpoise bycatch	GES achieved	GES status uncertain
	There should be no significant decrease in abundance caused by	Abundance and distribution of coastal bottlenose dolphins	GES achieved	GES status uncertain
		Abundance and distribution of cetaceans other than coastal bottlenose dolphins	GES partially achieved	GES status uncertain

Descriptor	Target	Indicator	North Sea	Celtic Seas
	human activities			
	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
		Abundance and distribution of cetaceans other than coastal bottlenose dolphins	GES partially achieved	GES status uncertain

Table 1. Detail from the 2019 UKMS assessment on cetaceans. Taken from Marine Strategy Part One: UK updated assessment and Good Environmental Status (available at <https://www.gov.uk/government/publications/marine-strategy-part-one-uk-updated-assessment-and-good-environmental-status>) and the UKMS Marine Online Assessment Tool (available at <https://moat.cefas.co.uk/>).

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 (available at <https://www.gov.uk/government/publications/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 UKMS 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, see <https://moat.cefas.co.uk/biodiversity-food-webs-and-marine-protected-areas/cetaceans/harbour-porpoise-bycatch/>.

More recent analysis for the 2023 OSPAR quality status report (which uses the same indicator as the UKMS) 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, see <https://oap.ospar.org/en/ospar-assessments/quality-status-reports/qsr-2023/indicator-assessments/marine-mammal-bycatch/>. As this is a common indicator for both OSPAR and UKMS, that suggests that an updated UKMS assessment would no longer be seen as meeting this target.

Using the latest evidence from the UK Bycatch Monitoring Programme by Kingston et al (2021)²⁵, it is 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, see <https://moat.cefas.co.uk/biodiversity-food-webs-and-marine-protected-areas/cetaceans/abundance-and-distribution-of-coastal-bottlenose-dolphins/>

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, see <https://moat.cefas.co.uk/biodiversity-food-webs-and-marine-protected-areas/cetaceans/abundance-and-distribution-of-cetaceans-other-than-coastal-bottlenose-dolphins/>

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.

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.

25 Kingston, A., Thomas, I. and Northridge, S. (2021) UK Bycatch Monitoring Programme Report for 2019. Sea Mammal Research Unit. Available at [Science Search \(defra.gov.uk\)](https://www.gov.uk/government/search/results?q=uk+bycatch+monitoring+programme+report+for+2019)

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 2019 UKMS updated part 1 assessment (available at

https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/921262/marine-strategy-part1-october19.pdf), 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, see <https://moat.cefas.co.uk/biodiversity-food-webs-and-marine-protected-areas/seals/>.

A summary of the current status is shown in Table 2. 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 2. Detail from the 2019 UKMS assessment on seals. Taken from Marine Strategy Part One: UK updated assessment and Good Environmental Status (available at <https://www.gov.uk/government/publications/marine-strategy-part-one-uk-updated-assessment-and-good-environmental-status>) and the UKMS Marine Online Assessment Tool (available at <https://moat.cefas.co.uk/>).

Descriptor	Target	Indicator	North Sea	Celtic Seas
D1; D4: SEALS	The long-term viability of seal populations is not threatened by incidental bycatch.	Marine mammal bycatch (OSPAR)*	-	-
	Population abundance and distribution are consistent with favourable conservation status.	Grey seal abundance and distribution	GES achieved	GES achieved
		Harbour seal abundance and distribution	GES not achieved	GES status uncertain

Descriptor	Target	Indicator	North Sea	Celtic Seas
	Grey seal pup production does not decline substantially in the short or long-term.	Grey seal pup production (OSPAR)	GES achieved	GES achieved

*for this indicator, an assessment of seal bycatch be found on the OSPAR 2023 quality status report website at <https://oap.ospar.org/en/ospar-assessments/quality-status-reports/qsr-2023/indicator-assessments/marine-mammal-bycatch/>.

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 (available at <https://www.gov.uk/government/publications/marine-strategy-part-one-uk-updated-assessment-and-good-environmental-status>).

Seal bycatch

The 2019 UKMS assessment suggests a new target on bycatch mortality will be used in the future. Seal bycatch was not considered within the 2019 assessment. Grey seals are one of the three marine mammal species regularly recorded during the UK Bycatch Monitoring programme. Figures for seals (grey and harbour) are combined but the majority are thought to be greys. In the 2018 report²⁶ the authors were fairly confident that all seals observed in gillnets were greys. Harbour seals (referred to as common seals in the report) are rarely caught and numbers are too low to generate a useful bycatch estimate separately. The gears that pose the most risk to grey seals appears to be tangle and trammel nets, which was estimated to account for over 90% of seal bycatch in 2019²⁷.

The most recent OSPAR quality status reports assessment on marine mammal bycatch²⁸ (which is likely to feed into the next round of UKMS 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

26 7 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. Available at Science Search (defra.gov.uk)

27 Kingston, A., Thomas, I. and Northridge, S. (2021) UK Bycatch Monitoring Programme Report for 2019. Sea Mammal Research Unit. Available at Science Search (defra.gov.uk)

28 <https://oap.ospar.org/en/ospar-assessments/quality-status-reports/qsr-2023/indicator-assessments/marine-mammal-bycatch/>

an updated UKMS 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 UKMS 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, see <https://moat.cefas.co.uk/biodiversity-food-webs-and-marine-protected-areas/seals/>.

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.

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 2019 UKMS updated part 1 assessment (available at https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/921262/marine-strategy-part1-october19.pdf), 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, see <https://moat.cefas.co.uk/biodiversity-food-webs-and-marine-protected-areas/birds/>

A summary of the current status is shown in Table 3. It should be noted that the current indicators used do not always cover the entire breadth of what is set out in the targets.

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For instance, although there are plans for target about bycatch, there was no indicator developed or used as part of the 2019 assessment.

Descriptor	Target	Indicator	North Sea	Celtic Seas
<u>D1; D4: BIRDS</u>	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*	-	-
	The population size of species has not declined substantially since 1992 as a result of human activities.	Marine bird abundance	GES not achieved	GES not achieved
	Widespread lack of breeding success in marine birds caused by human activities should occur in no more than three years in six.	Marine bird breeding success/failure	GES not achieved	GES partially achieved
		Kittiwake breeding success	GES 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
		Invasive mammal presence on island seabird colonies	Not assessed	Not assessed

Table 3. Detail from the 2019 UKMS assessment on birds. Taken from Marine Strategy Part One: UK updated assessment and Good Environmental Status (available at <https://www.gov.uk/government/publications/marine-strategy-part-one-uk-updated-assessment-and-good-environmental-status>) and the UKMS Marine Online Assessment Tool (available at <https://moat.cefas.co.uk/>). *for this indicator, detail of a pilot assessment can be found on the OSPAR 2023 quality status report website at <https://oap.ospar.org/en/ospar-assessments/quality-status-reports/qsr-2023/indicator-assessments/marine-bird-bycatch-pilot/>

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 (available at

<https://www.gov.uk/government/publications/marine-strategy-part-one-uk-updated-assessment-and-good-environmental-status>).

Bird populations size and breeding success

In the 2019 UKMS 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, see <https://moat.cefas.co.uk/biodiversity-food-webs-and-marine-protected-areas/birds/>.

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 UKMS 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 al²⁹ (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

29 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. <https://hub.jncc.gov.uk/assets/dbed3ea2-1c2a-40cf-b0f8-437372f1a036>

(Northridge et al 2020³⁰ and Miles et al 2020³¹). However, these estimates have high 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

30 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

31 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).

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safe biological limits, exhibiting a population age and size distribution that is indicative of a healthy stock’.

According to the 2019 UKMS updated part 1 assessment (available at https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/921262/marine-strategy-part1-october19.pdf), 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, see <https://moat.cefas.co.uk/biodiversity-food-webs-and-marine-protected-areas/fish/> and <https://moat.cefas.co.uk/pressures-from-human-activities/commercial-fish-and-shellfish/>.

The 2019 assessment used a limited number of indicators. More indicators are being included in future assessments. A summary of the current status and indicators is shown in Table 4.

Descriptor	Target	Indicator	North Sea	Celtic Seas
<u>D1; D4: FISH</u>	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
		Proportion of large fish (Large Fish Index).	GES not achieved	GES partially achieved
		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
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	

Descriptor	Target	Indicator	North Sea	Celtic Seas
	For listed fish species, the area and the quality of the habitat is sufficient.		Not assessed	Not assessed
D3: COMMERCIAL FISH AND SHELLFISH	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

Table 4. Detail from the 2019 UKMS assessment on fish and commercial fish. Taken from Marine Strategy Part One: UK updated assessment and Good Environmental Status (available at <https://www.gov.uk/government/publications/marine-strategy-part-one-uk-updated-assessment-and-good-environmental-status>) and the UKMS Marine Online Assessment Tool (available at <https://moat.cefas.co.uk/>).

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.2023³²). 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, see <https://moat.cefas.co.uk/pressures-from-human-activities/commercial-fish-and-shellfish/>

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

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 (available at <https://www.gov.uk/government/publications/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, see <https://moat.cefas.co.uk/biodiversity-food-webs-and-marine-protected-areas/fish/>

Fish summary

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

D1 & 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 2019 UKMS updated part 1 assessment (available at https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/921262/marine-strategy-part1-october19.pdf), 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

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to benthic habitats is therefore one which is required to meet GES. For more information, see <https://moat.cefas.co.uk/biodiversity-food-webs-and-marine-protected-areas/benthic-habitats/>

A summary of the current status is shown in Table 5. 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.

Descriptor	Target	Indicator	North Sea	Celtic Seas
<u>D1; D6: BENTHIC</u>	The physical loss of each seabed habitat type caused by human activities is minimised and where possible reversed.	Physical loss of predicted habitats	GES not achieved	GES not achieved
	The extent of habitat types adversely affected by physical disturbance caused by human activity should be minimised.	Extent of Physical damage indicator to predominant and special habitats	GES not achieved	GES not achieved
		Benthic communities' indicator*	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
		Aggregated Infaunal Quality Index	GES not achieved	GES partially achieved
		Aggregated Saltmarsh Tool	GES not achieved	GES achieved
		Aggregated Rocky Shore Macroalgal Index	GES achieved	GES achieved
		Aggregated Intertidal Seagrass Tool	GES achieved	GES achieved
		Intertidal rock community change indicator (MarClim)	GES status uncertain	GES status uncertain

Table 5. Detail from the 2019 UKMS assessment on benthic habitats. Taken from Marine Strategy Part One: UK updated assessment and Good Environmental Status (available at <https://www.gov.uk/government/publications/marine-strategy-part-one-uk-updated-assessment-and-good-environmental-status>) and the UKMS Marine Online Assessment Tool (available at <https://moat.cefas.co.uk/>). * The benthic communities' indicator (OSPAR BH2) is currently in the pilot stage of development.

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 (available at <https://www.gov.uk/government/publications/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 UKMS 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, see <https://moat.cefas.co.uk/biodiversity-food-webs-and-marine-protected-areas/benthic-habitats/physical-damage/> and <https://oap.ospar.org/en/ospar-assessments/intermediate-assessment-2017/biodiversity-status/habitats/extent-physical-damage-predominant-and-special-habitats/>

Habitat loss

UKMS assessments on a limited range of highly sensitive habitats (seagrass beds and horse mussel reefs), suggest that a loss of areas of potential habitat has occurred up to 2016. This was based on modelled data. The main causes were not thought to be due to fishing as these impacts are generally considered reversible. Irreversible loss has been predicted to have come about from aquaculture, navigational dredging /

dredge spoil disposal, recreational activity, and coastal development. For more information, see <https://moat.cefas.co.uk/biodiversity-food-webs-and-marine-protected-areas/benthic-habitats/physical-loss/>. 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 / 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 2019 UKMS updated part 1 assessment (available at https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/921262/marine-strategy-part1-october19.pdf), 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, see <https://moat.cefas.co.uk/biodiversity-food-webs-and-marine-protected-areas/food-webs/>

A summary of the current status is shown in Table 6.

Descriptor	Target	Indicator	North Sea	Celtic Seas
D4: FOOD WEBS	The species composition and relative abundance of representative feeding guilds are	Mean maximum length of fish.	GES not achieved	GES not achieved
		Selected plankton lifeforms pairs (for example, large vs small zooplankton).	GES status uncertain	GES status uncertain

Descriptor	Target	Indicator	North Sea	Celtic Seas
	indicative of a healthy marine food web.	Abundance and distribution of coastal bottlenose dolphins.	GES achieved	GES status uncertain
		Abundance and distribution of cetaceans other than coastal bottlenose dolphins.	GES partially achieved	GES status uncertain
		Marine bird abundance.	GES not achieved	GES not achieved
	The balance of abundance between representative feeding guilds is indicative of a healthy marine food web.	TBC	Not assessed	Not assessed
	The size structure of fish communities is indicative of a healthy marine food web.	Size composition in fish communities.	GES not achieved	GES partially achieved
	Productivity of the representative feeding guilds, characterised by key species, is indicative of a healthy marine food web.	Grey seal pup production.	GES achieved	GES achieved
		Marine bird breeding success/failure.	GES not achieved	GES partially achieved
		Kittiwake breeding success.	GES achieved	Not assessed

Table 6. Detail from the 2019 UKMS assessment on food webs. Taken from Marine Strategy Part One: UK updated assessment and Good Environmental Status (available at <https://www.gov.uk/government/publications/marine-strategy-part-one-uk-updated-assessment-and-good-environmental-status>) and the UKMS Marine Online Assessment Tool (available at <https://moat.cefas.co.uk/>).

Current impact of fisheries on the baseline condition

Anthropogenic impacts on the marine food web are multiple and complex. As fish communities are a key component of food webs, pressure from fisheries can have a significant impact. The removal of forage fish (i.e., species at a low trophic level that contribute significantly to the diets of other fish, marine mammals, or seabirds) has the potential to impact higher trophic levels. For instance, reduction in the availability of

small forage fish is likely to be contributing to the breeding success of some marine birds. Climatically driven changes in plankton will also have a strong influence on the rest of the food web. More detail is given under the individual faunal group sections. For more information, see <https://moat.cefas.co.uk/biodiversity-food-webs-and-marine-protected-areas/food-webs/>.

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 2019 UKMS updated part 1 assessment (available at https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/921262/marine-strategy-part1-october19.pdf), 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, see <https://moat.cefas.co.uk/pressures-from-human-activities/marine-litter/>. A summary of the current status is shown in Table 7.

Descriptor	Target	Indicator	North Sea	Celtic Seas
<u>D10 Marine Litter</u>	A decrease in the total amount of the most common categories of litter found on surveyed beaches.	<u>Presence of litter (beaches).</u>	GES not achieved	GES not achieved
	A decrease in the number of items of litter on the seabed.	<u>Presence of litter (seabed).</u>	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.	<u>Presence of floating litter.</u>	GES status uncertain	GES status uncertain

Descriptor	Target	Indicator	North Sea	Celtic Seas
	Develop an appropriate indicator to measure micro-litter in the marine environment.	In development.	Not assessed	Not assessed

Table 7. Detail from the 2019 UKMS assessment on marine litter. Taken from Marine Strategy Part One: UK updated assessment and Good Environmental Status (available at <https://www.gov.uk/government/publications/marine-strategy-part-one-uk-updated-assessment-and-good-environmental-status>) and the UKMS Marine Online Assessment Tool (available at <https://moat.cefas.co.uk/>).

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.' The 2019 UKMS updated part 1 assessment (available at https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/921262/marine-strategy-part1-october19.pdf), 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, see <https://moat.cefas.co.uk/pressures-from->

[human-activities/underwater-noise/](#). A summary of the current status is shown in Table 8.

Descriptor	Target 2019	Indicator	North Sea	Celtic Seas
D11 Underwater noise	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

Table 8. Detail from the 2019 UKMS assessment on underwater noise. Taken from Marine Strategy Part One: UK updated assessment and Good Environmental Status (available at <https://www.gov.uk/government/publications/marine-strategy-part-one-uk-updated-assessment-and-good-environmental-status>) and the UKMS Marine Online Assessment Tool (available at <https://moat.cefas.co.uk/>).

Current impact of fisheries on the baseline condition

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

Summary

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

Appendix C: UK MPA designations

- [Conservation of Habitats and Species Regulations 2017](#) and [The Conservation of Offshore Marine Habitats and Species Regulations 2017](#)
 - Special Protection Areas (SPAs) - England, Scotland, Wales
 - Special Areas of Conservation (SACs) - England, Scotland, Wales
- [Conservation \(Natural Habitats, etc.\) Regulations \(Northern Ireland\) 1995 \(as amended\)](#)
 - A. Special Protection Areas (SPAs) – Northern Ireland
 - B. Special Areas of Conservation (SACs) – Northern Ireland
- [Marine and Coastal Access Act 2009](#)
 - Marine Conservation Zones (MCZs) – England, Wales
 - Nature Conservation Marine Protected Areas (NCMPAs), offshore waters – Scotland
- [Marine \(Scotland\) Act 2010](#)
 - Nature Conservation Marine Protected Areas (NCMPAs), inshore waters – Scotland
- [Marine Act \(Northern Ireland\) 2013](#)
 - Marine Conservation Zones (MCZs) – Northern Ireland
- [Natural Environment and Rural Communities Act 2006 \(Part 4\)](#)
 - Sites of Special Scientific Interest (SSSI) – England, Scotland, Wales
- [The Environment \(Northern Ireland\) Order 2002](#)
 - Coastal Areas of Special Scientific Interest (ASSIs) - Northern Ireland
- [Convention on Wetlands of International Importance](#)
 - Ramsar Sites (Wetland of International Importance under the Convention on Wetlands of International Importance Especially as Waterfowl Habitat)

Appendix D: Marine Plans – Specific detail within the UK

England

Marine plans put into practice the objectives for the marine environment that are identified in the MPS alongside the [National Planning Policy Framework](#) (NPPF) and the [Localism Act 2011](#). The Marine Management Organisation (MMO) is responsible for preparing [marine plans in England](#), and published the [North East](#), [North West](#), [South West](#), [South East](#) marine plans by 2021. The marine plans include policies to support a sustainable fishing industry and a healthy marine environment.

Wales

The first [Welsh National Marine Plan](#) was introduced in 2019, providing a statutory policy framework to help guide the sustainable development of the Welsh marine area. It was prepared and adopted under the MCAA to conform with the UK MPS. Under the MCAA, the Welsh Ministers are the marine plan authority for the Welsh marine planning area and the Welsh Marine Plan covers both the inshore and offshore areas. The Marine Plan includes specific policies in relation to commercial fisheries alongside cross-cutting environmental and socio-economic policies.

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 0-200nm, save fisheries activities within 0-6nm which are the responsibility of the IFCAs. The MMO also has some UK responsibilities.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Appendix F: Statutory Consultee Consultation Responses

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

Natural England Response

26/05/23

Our refs: NESEASR260323DV



By email only

Re: – Strategic Environmental Assessments Scoping Report – Draft Sea Bass, Channel non-quota demersal and Southern North Sea and Eastern Channel Mixed Flatfish Fisheries Management Plans

Thank you for your consultation email dated the 12th of May 2023 seeking our views on whether the proposed scope and level detail of your Strategic Environmental Assessments (SEA) are appropriate.

In our response (dated 12th March 2023) to a similar request to provide comments on the proposed scope and level of detail for the SEAs to be produced for the Scallop, Whelk Crab and Lobster Fisheries Management Plans we set out our advice. We note the subsequent helpful email from Defra (22nd May) setting out how our comments have been considered and how the most recent set of documents reflect these comments.

We have reviewed the three reports provided. In all three documents, the proposed scope includes the main high-level topics we would want to see covered within the SEAs. In terms of whether the level of detail of the proposed assessment is appropriate, that is more difficult to say with certainty at this stage as the scoping document is relatively high-level.

We would like to draw your attention to the recently introduced Environmental Principles (via the Environmental Act 2021). It may be helpful to set out in the SEAs, how these principles have been considered.

The SEA Scoping Reports set out “*The marine environment is subject to a range of pressures derived from human activities. Fishing-related activities form only part of how these pressures affect the current state of our marine environment.*” Whilst correct, this underplays the significant role that fishing has had, and continues to have, on the state of the marine environment. Fishing is identified as one of the predominant

Proposed Seabass FMP Environmental Report

activities responsible for both past and current pressures. It is therefore important that FMPs are used effectively to not only improve the state and management of stocks but aid both the protection and recovery of the marine environment.

We have several other comments that we wish to raise at this stage. These can be found in a table appended to this letter below. We would welcome further discussion on these issues.

Ref	Document / section	Comment
1	All documents 1.3	It is important to consider climate change both in terms of its impact on stocks i.e., what, where and how much will be available to fish and how the impact of fishing relates to climate change. The delivery of the Climate Change Fisheries Objective is especially important in relation to this.
2	Sea Bass 1.4 but potentially relevant for all documents	We note that the Management Approach sets out equitable access to the commercial SeaBass fishery – one may wish to consider the recreational elements of each fishery.
3	All documents, Section 1.4	<i>The goal of this FMP is to review bass management in England and Wales to ensure that the bass stock is sufficiently protected and that the benefits of bass fishing can be realised for the communities that depend on it.</i> We note the word <i>review</i> . FMPs are intended to be one of, if not the key mechanisms to <i>deliver</i> both healthy stocks but wider fisheries objectives i.e., FMPs should deliver management.
4	All documents, section 1.4	We note the grouping of social and economic objectives. Natural England’s understanding is that there is work underway across the Defra group to increase differentiation between these elements.
5	All documents, section 3	We understand the names of the Governmental departments have recently altered. BEIS existed until 2023 when it was split to form the Department for Business and Trade (DBT), the Department for Energy Security and Net Zero (DESNZ) and the Department for Science, Innovation and Technology (DSIT). Responsibility for national security and investment policy has gone to the Cabinet Office.

Ref Document / Comment section		
6	All documents, section 3.1	<i>The marine environment is subject to a range of pressures derived from human activities. Fishing-related activities form only part of how these pressures affect the current state of our marine environment.</i> Whilst correct fishing is identified as one of the predominant activities responsible for both past and current pressures.
7	All documents, section 4.1	This list is incomplete – additional conventions/legislation/policy to be considered: UN Fish Stock Agreements, Western Waters Multi Annual Plan. North Atlantic Salmon Conservation Organisation (NASCO).
8	All documents, section 4.2	Marine Plans – increased specificity may be helpful.
9	All documents, section 4.2	Correct nomenclature: Environmental Improvement Plan 2023.

How the consultation response was considered

Point #	How point was considered
1	The ERs will consider climate change in terms of its impact on stocks and how the impact of fishing relates to climate change.
2	We will pass this suggestion onto the Bass FMP Policy team to consider.
3	We will pass this suggestion onto the Bass FMP Policy team to consider.
4	Point noted.
5	Point noted.
6	Point noted. The environmental baseline used for the assessment considers fishing as part of the baseline.

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Point #	How point was considered
7	The additional conventions/legislation/policy will be considered and added to the ERs where appropriate.
8	Further detail on the marine plans across the UK will be provided in the ERs.
9	Nomenclature will be up amended.
<p>We would like to draw your attention to the recently introduced Environmental Principles (via the Environmental Act 2021). It may be helpful to set out in the SEAs, how these principles have been considered.</p>	<p>Point noted. We consider including this information in the ER.</p>

JNCC Response



Joint Nature Conservation Committee
Inverdee House Baxter Street, Aberdeen,
AB11 9QA

<https://jncc.gov.uk/>

19th May 2023

Subject: Strategic Environmental Assessments – Bass Fisheries Management Plan, Channel Non- Quota Demersal Species Fisheries Management Plan, Southern North Sea and Eastern Channel Flatfish Fisheries Management Plan

Thank you for your consultation email dated 12th May 2023 regarding the aforementioned scoping reports. We at JNCC appreciate the opportunity to provide advice on the proposed scope and level of detail of the assessments. Given the similarities among the three Strategic Environmental Assessment Scoping Reports, we have consolidated our feedback into a single response.

We support 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. The potential environmental effects of the fishery have been well identified, and we consider the outlined methodology suitable for assessing these factors.

We are in agreement that all three FMPs are likely to have significant environmental effects on the receptors that have been scoped into the assessment. The decision to exclude the receptors Population, Human Health, Air, and Material Assets from all plans appears appropriate, although other consultees may offer more expertise in these areas. The decision to include Landscape/Seascape in the Southern North Sea Flatfish FMP and the Channel Non-Quota Species FMP, and to exclude it from the Bass FMP, seems justified based on the gear types used in the respective fisheries.

We note that the scoping report does not detail proposals for mitigation and monitoring. Including these would provide a clearer understanding of how potential negative impacts could be minimised or avoided. However, we understand that these will be included and appropriately detailed in the forthcoming Environmental Report.

We hope you find our advice clear and helpful. Should you have any queries regarding our response or require further clarification, please do not hesitate to contact us.

How the consultation response was considered

Point #	How point was considered
<p>We note that the scoping report does not detail proposals for mitigation and monitoring. Including these would provide a clearer understanding of how potential negative impacts could be minimised or avoided. However, we understand that these will be included and appropriately detailed in the forthcoming Environmental Report.</p>	<p>Point acknowledged. As stated, details of the mitigation and monitoring will be included in the Environmental Reports.</p>

Historic England Response

Historic England is pleased to offer its comments in response to Defra seeking views on the scope and level of detail of Strategic Environmental Assessment (SEA) of this second tranche of three Fisheries Management Plans (FMPs): for Channel Demersal Non-Quota Species; for Southern North Sea and Eastern Channel Mixed Flatfish; and for Seabass.

Noting that the Seabass FMP is joint with Welsh Government, it would be helpful to know if Defra has also sought views from Cadw and the Royal Commission on the Ancient and Historical Monuments of Wales (RCAHMW)?

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

HE is pleased to see that cultural heritage is regarded as being within the scope of these three SEAs. We concur that all three fisheries involve methods that can have negative interactions with marine heritage assets, notably through the use of towed gear, fixed nets, drift nets, and pots and traps. Whilst fishing activity that targets seabass using hook and line fishing gear is less likely to pose a risk to marine heritage assets, hook and line gear may contribute to Abandoned, Lost or Discarded Fishing Gear (ALDFG) that snags and accumulates on historic wrecks, obscuring them and creating a risk to visiting divers in addition to the hazards it creates for marine life.

HE is also pleased to see that landscape and seascape are also regarded as within the scope of the SEAs on Channel Demersal Non-Quota Species and Southern North Sea and Eastern Channel Mixed Flatfish fisheries. As above, this is welcome and fully warranted.

We note that landscape and seascape are regarded as beyond the scope of the SEA on seabass. Whilst this is understandable in the case of hook and line gear, we would welcome reassurance that the methods and scale of fishing for seabass using fixed nets is unlikely to have significant effects on landscape/seascape.

There are several points we have made in respect of previous SEA scoping reports for FMPs that we would like to keep on the agenda:

First, HE would like to underline the positive interactions between fishing and cultural heritage in addition to potential negatives, including the importance of the cultural heritage of fishing acknowledged in the Joint Fisheries Statement. We have previously suggested that FMPs be given a specific objective on developing the cultural heritage of each fishery: at the very least, we would welcome express acknowledgement that the social and economic objectives of each FMP encompass cultural heritage.

Second, we have flagged that former prehistoric landscapes now submerged by sea-level rise are often represented by peaty horizons and other fine-grained deposits that act as an important carbon store. As such we would expect the SEAs to clearly articulate the

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importance of these deposits as ‘blue carbon habitats’, and to address how cultural heritage is a potential source of data and understanding of the extent of these deposits, how they are changing, and how their conservation might contribute to climate change mitigation and adaptation.

Third, we are pleased to see 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.

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

How the consultation response was considered

Point #	How point was considered
<p>Noting that the Seabass FMP is joint with Welsh Government, it would be helpful to know if Defra has also sought views from Cadw and the Royal Commission on the Ancient and Historical Monuments of Wales (RCAHMW)?</p>	<p>Welsh Government have sought views from the Cadw.</p>
<p>Whilst this is understandable in the case of hook and line gear, we would welcome reassurance that the methods and scale of fishing for seabass using fixed nets is unlikely to have significant effects on landscape/seascape.</p>	<p>Clarification will be provided in the Environmental Reports (ER).</p>
<p>We have previously suggested that FMPs be given a specific objective on developing the cultural heritage of each fishery: at the very least, we would welcome express acknowledgement that the social and economic objectives of each FMP encompass cultural heritage.</p>	<p>Point acknowledged, Environmental Reports (ER) will provide recommendations on how FMPs could consider fishing and cultural heritage.</p> <p>Defra will consider the suggestion for developing a specific objective for cultural heritage of each fishery, in future iterations of the FMP.</p>

Point #	How point was considered
<p>As such we would expect the SEAs to clearly articulate the importance of these deposits as ‘blue carbon habitats’, and to address how cultural heritage is a potential source of data and understanding of the extent of these deposits, how they are changing, and how their conservation might contribute to climate change mitigation and adaptation.</p>	<p>The ERs will consider this suggestion.</p>
<p>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.</p>	<p>Defra would welcome further discussions with HE to consider this point.</p>

Environment Agency Response

The attached response sent for the previous shellfish FMPs covered a more general comment across all the FMPs, so I don't have anything more specific to add. I note that these latest plans mention the UK Marine Strategy indicators as a baseline and the environmental effects of bottom-towed gear on the seabed.

No further comments.

How the consultation response was considered

Point #	How point was considered
N/A	No further points to consider.

Cadw Response

Please see Cadw's advice below.

The accompanying Strategic Environmental Assessment Scoping Report indicates that, in general, the impact on the Cultural Heritage will be minimal, apart from the potential impact of interactions between fishing gear and marine heritage assets. We agree with this assessment and that Cultural Heritage can be scoped out of the SEA apart from the interactions between fishing gear and marine heritage assets which will need to be considered.

How the consultation response was considered

Point #	How point was considered
The accompanying Strategic Environmental Assessment Scoping Report indicates that, in general, the impact on the Cultural Heritage will be minimal, apart from the potential impact of interactions between fishing gear and marine heritage assets. We agree with this assessment and that Cultural Heritage can be scoped out of the SEA apart from the interactions between fishing gear and marine heritage assets which will need to be considered.	No further points to consider.

Natural Resources Wales Response



By e-mail

STRATEGIC ENVIRONMENTAL ASSESSMENT (SEA) SCOPING REPORT FOR THE BASS FISHERIES MANAGEMENT PLAN (FMP) FOR ENGLAND AND WALES

Thank you for consulting Natural Resources Wales (NRW) on the SEA Scoping Report for the Bass FMP for England and Wales.

The statutory purpose of NRW is set out by the Environment (Wales) Act 2016. In the exercise of its functions NRW must pursue sustainable management of natural resources in relation to all of its work in Wales and apply the principles of sustainable management of natural resources in so far as that is consistent with the proper exercise of its functions. NRW's duty (in common with the other public bodies covered by the Well-Being of Future Generation (Wales) Act 2015) is to carry out sustainable development. This means, in general terms, looking after air, land, water, wildlife, plants, and soil to improve Wales' well-being, and provide a better future for everyone. NRW are also advisors to the Welsh Government on the natural heritage and resources of Wales and its coastal waters.

Under the Environmental Assessment of Plans and Programmes Regulations (EAPPR) 2004 (as amended), NRW is a statutory consultee for all plans, programmes & strategies (PPS) within Wales and for those outside Wales whose effects could extend in to and have effects upon the environment of Wales. NRW is also the appropriate nature conservation body for Wales under the Conservation of Habitats and Species Regulations 2017 (as amended) in relation to sites within 12 nautical miles of the coast. Our comments are therefore provided in the context of this responsibility. It is relevant for NRW to comment on the application of each of the Regulations in relation to the Bass FMP, because this directly affects our ability to comment on the environmental effects of the Bass FMP, as per our role.

Proposed scope of the Environmental Report

NRW welcomes the principle of the FMP programme, and the opportunity this FMP provides to deliver sustainable management of the European seabass *Dicentrarchus labrax* population and fishery in Welsh waters. Undertaking of the SEA (and a *plan-level* Habitats

Regulations Assessment) is a key step in ensuring the FMP delivers sustainable management of this marine natural resource, as it will allow a collective understanding of the

Proposed Seabass FMP Environmental Report

effect of implementing the FMP on the environment, and the opportunity to mitigate and manage any negative effects.

NRW has concerns, however, about the proposed scope of the Environmental Report for the FMP as currently set out in Section 5 of the Scoping Report. Based on the proposed scope of the Environmental Report, we advise that it is likely that the Environmental Report will be inadequate, as it will not assess the effect of implementing the policies within the FMP.

Following receipt of legal advice on the king scallop FMP SEA Scoping Report, NRW believe the scope of the bass FMP is similarly narrower than what is required by Regulation 12 of the EAPPR 2004.

Regulation 12(2) of the EAPPR 2004 states that "*The report shall identify, describe and evaluate the likely significant effects of:*

- a) implementing the plan or programme; and*
- b) reasonable alternatives taking into account the objectives and the geographical scope of the plan or programme."*

Section 5.3 of the Scoping Report states that "We will not assess all the risks and impacts of seabass fishing activity per se" and goes on to state "It is the draft Seabass FMP, as a plan of management that will be assessed, rather than the activities themselves".

NRW advises that the proposed scope does not satisfy the requirements of the EAPPR 2004. It is not sufficient to assess the effect of a plan on the environment rather than the effect of the activity considered by the plan on the environment. NRW therefore suggest Section 3.2 of the SEA Scoping Report is amended as follows:

- *The Environmental Report will identify, describe and evaluate the likely significant effects on the environment of implementing the FMP and reasonable alternatives taking into account the objectives and the geographical scope of the FMP. The Environmental Report will also take into account assessments which have already been carried out in relation to the risks and impacts from fishing activities as part of the UK's obligations under legislation relating to Marine Protected Areas (MPAs) and the wider marine environment (UK MS).*
- *The Environmental Report will acknowledge those pressures resulting from current fishing activity being managed and explain how the FMP will support existing mitigation. The Environmental Report will also set out measures envisaged to prevent, reduce and as fully as possible offset any significant adverse effects on the environment of implementing the FMP.*

NRW advises that the assessment of likely significant effects within the Environmental Report considers the potential changes in bass fishing activity from implementing the FMP. We have highlighted areas that may result in potential changes to bass fishing activity as a result of implementing the FMP in an Annex to this letter. The effects of the ongoing bass fisheries on the environment will therefore need to be established first, before any meaningful assessment of the changes resulting from implementing the FMP can be made.

The purpose of undertaking the SEA process is to prevent, reduce and as fully as possible offset any significant adverse impacts on the environment from the proposed objectives,

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policies and management interventions before the FMP is introduced. As previously set out in our advice on the king scallop FMP SEA Scoping Report, it is important that Welsh Government scope the Environmental Reports for the first tranche of FMPs correctly, as they will inform the SEA process for each of the remaining FMPs including the required in-combination assessment as each FMP will be a relevant PPS.

SEA scoping process

Without a detailed description of the actions that might arise from the implementation of the FMP within the Scoping Report, it has been challenging for NRW to provide meaningful advice on the scope of the Report or to identify potential effects, mitigation or wider management that may be required in advance of the Environmental Report.

Due to the limited amount of detail provided within the Scoping Report, NRW does not believe the SEA scoping process has been used effectively. Investing in the SEA scoping process would have focussed the content of the Environmental Report and maximised the benefits of the process as a whole for sustainably managing and developing the bass fishery in Wales.

Requirements of the Conservation of Habitats and Species Regulations 2017 (as amended)

Section 5.1 of the SEA Scoping Report describes the process and results of undertaking the required test of likely significant effect of the FMP under Regulation 63 of the Conservation of Habitats and Species Regulations 2017 (as amended). Welsh Government and Defra concluded that:

- *“it is not possible to rule out actions arising from the draft Seabass FMP having a likely significant effect on a European site or a European offshore marine site; and*
- *the draft Seabass FMP is not directly connected with or necessary to the management of such European sites.”*

Therefore, before it can be introduced, the fisheries policy authorities (FPAs) must produce an appropriate assessment of the implications of the FMP on relevant European site(s) in view of their conservation objectives and consult with the appropriate nature conservation bodies on the appropriate assessment.

NRW advises that the potential changes in bass fishing activity resulting from implementing the FMP are considered within the appropriate assessment. The effects of the bass fisheries on the features of sites will therefore need to be established first, before any meaningful assessment of the changes resulting from implementing the FMP can be made.

Further advice

NRW has provided further detailed comments on the Scoping Report in an Annex to this letter. In our detailed comments we highlight information that we consider necessary to ensure that the Environmental Report is comprehensive and addresses the effects of implementing the Bass FMP.

Annex

Scoping Report approach

1. The Scoping Report provides a high-level overview of the FMP objectives and description of the Environmental Report process. However, it does not provide adequate information for NRW to make a meaningful response in relation to the proposed scope and content of the Environmental Report.
2. The FMP was not provided with the Scoping Report consultation. Whilst we have previously been sent a draft of the Bass FMP document, we are unclear on its status as it was marked draft '19 April 2023' and is incomplete. Having sight of the current draft FMP as part of the formal consultation would have assisted in understanding the approach, content and scope of the Environmental Report. It would also have allowed us to provide more detailed comments. Furthermore, no information on the location and scale of the existing or potential bass fisheries has been provided in the Scoping Report.
3. We consider that the FPAs correctly screened the FMP into the SEA process as set out in Section 5.1 of the Scoping Report, due to the potential effects of the fishing activity and implementation of the FMP on the marine environment.
4. Table 2 of the Scoping Report presents the scoping exercise to determine the environmental issues likely to be significantly affected by the FMP and thus scoped into the Environmental Report. Limited information has been provided in the Scoping Report to help understand why certain issues have been scoped out in Table 2. It is clear, however, from the description in Table 2 that the impacts from the activity of bass fishing on the environment will need to be considered in the Environmental Report (and *plan-level* HRA as set out in Section 5.1 of the Scoping Report). However, paragraph 5.3 states '*It is the draft Seabass FMP, as a plan of management that will be assessed, rather than the activities themselves.*' This approach limits and confuses the scope of the SEA.
5. It is clear the FMP will set out objectives, policies and management interventions that will geographically overlap with protected marine features. Therefore, it is our understanding that an assessment of the effects of potential changes in bass fishing activity resulting from implementing the FMP on those features should be made in the Environmental Report (and *plan-level* HRA as set out in Section 5.1 of the Scoping Report).

Scoping Report content

6. NRW supports the inclusion of assessments, mentioned in Section 5.3 of the Scoping Report, that have already been conducted as part of the UK's obligations under legislation relating to MPAs and the wider marine environment. These include Defra's completed Revised Approach to fisheries management programme (inside 6nm) and the MMO's ongoing Fishery Assessment programme (outside 6nm).
7. However, NRW advises that the FPAs cannot rely on either of these work programmes in relation to Welsh waters as they are both geographically limited to English waters.
8. It would have been beneficial to have included the detail and outputs of both these work programmes within the Scoping Report. This would help establish the coverage and scope of the assessments being relied upon to have already assessed and managed the impacts from bass fishing within MPAs. Their inclusion would have provided confidence in the proposed approach to the Environmental Report.
9. It is unlikely that existing assessment and management programmes have

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sufficiently and comprehensively assessed all the pressures and impacts that will result from the FMP objectives, policies and management interventions in all MPAs. The Scoping Report process could have been used to highlight gaps where it is not possible to rely on existing assessments and requested advice and relevant information to support the Environmental Report's assessment of those gaps.

10. In terms of European marine sites, Welsh Government will need to consider the impacts from the FMP both within and outside 12nm of the coast and on mobile species features wherever they are.
11. SSSIs are intertidal and may be affected by bass fishing activities if they occur in shallow inshore or intertidal waters.
12. WFD water bodies in Wales may also be affected by bass fishing if the activity occurs within them, and in particular as fish species are a quality element of transitional water bodies.
13. Skomer is the only Marine Conservation Zone (MCZ) in Wales. Bass fishing is not currently prohibited from Skomer MCZ. The impacts from the FMP objectives, policies and management interventions will therefore need to be assessed in relation to the MCZ.
14. NRW advises that Welsh Government should also consider the Welsh MCZ pre-consultation engagement process to select and designate new MCZs in Wales. When new MCZ sites are designated, assessment and potential management of activities, such as bass fishing, that may affect features will be required.
15. NRW advises that Welsh Government also consider the impacts from bass fishing on Good Environmental Status under The Marine Strategy Regulations 2010. NRW advises that bass fishing could impact biodiversity (D1), potentially introduce marine invasive non-native species (INNS) (D2), affect commercial fish species (D3), affect food webs (D4), impact seafloor integrity (D6) and potentially introduce litter to the marine environment (D10).
16. NRW advises that the potential effects of bass fishing on the Favourable Conservation Status of Annex 1 habitats outside of sites at a national level are also considered in the Environmental Report.
17. We advise that Welsh Government should also consider their duties under the Environment Act (Wales) 2016. Section 6 of the Act requires that public authorities must seek to maintain and enhance biodiversity [of the Section 7 habitats and species] so far as consistent with the proper exercise of their functions and in so doing promote the resilience of ecosystems.
18. NRW advises that the Environmental Report also considers the Welsh Natural Resources Policy, relevant parts of Area Statements and the biodiversity and resilience of ecosystems under the Environment Act (Wales) 2016.
19. NRW advises that the Scoping Report also considers the impacts on ecosystem resilience through impacts on its 4 measurable attributes – Diversity, Extent, Condition & Connectivity of Ecosystems Assessment (DECCA)¹.
[\[¹Ecosystem Resilience\]](#)
20. There are other pressures on stocks of sea fish that may affect their ability to be maintained at, or restored to, sustainable levels, for example climate change, energy generation, aggregate dredging etc. It is not clear whether the FMPs will consider these wider pressures and implement objectives, policies or management to address them.

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21. The Scoping Report does not include any of the relevant PPS relating to other marine sectors such as offshore energy (oil, gas, renewables), cabling, aggregate extraction etc. in Section 4. It also does not consider other FMPs as relevant PPS.
22. While presenting a list of PPS in Section 4, the Scoping Report does not provide any further information on their links and interactions with the FMP, for example which PPS might affect, or be affected by, the FMP.
23. The Scoping Report does not consider the possibility of in-combination or cumulative impacts with other fisheries or other marine sectors such as offshore energy (oil, gas, renewables), cabling, aggregate extraction etc.
24. The Scoping Report does not consider all types of bass fishing that occurs in Welsh waters, for example trawling, spear fishing, or use of drift nets to fish for bass, are not included.
25. The Scoping Report does not consider the impacts from displacement of fisheries due to fisheries management measures or spatial squeeze from MPAs or offshore renewables.
26. No proposals for future monitoring have been provided in the Scoping Report.
27. The Scoping Report has not identified any key evidence gaps or needs to be considered when designing monitoring.
28. No explanation of how the FMP's objectives will be achieved has been provided in the Scoping Report.
29. The Scoping Report does not present an appropriate, relevant set of guide questions which will allow the assessment of significant effects.
30. The assessment criteria to be used in the Environmental Report have not been provided in the Scoping Report.
31. The Scoping Report does not define levels of significance.
32. The Scoping Report does not identify alternatives or describe a process for producing realistic and achievable alternatives.

Environmental Baseline

33. No baseline environmental information has been provided within the Scoping Report. This is a missed opportunity to scope the content before producing the Environmental Report.
34. The proposed use of the UKMS descriptors alone to define the baseline environment condition is likely to be insufficient. The UKMS descriptors are high level and broad. The Scoping Report does not describe the environmental baseline, at a scale and level of detail appropriate for the Environmental Report. The Scoping report does not identify any existing environmental issues, challenges or tensions with the proposed baseline.
35. Section 3.1 of the Scoping Report acknowledges that the marine environment is subject to a range of pressures derived from multiple human activities. It is important that the environmental baseline differentiates between the influence of other marine activities and the fishing activities being considered.
36. In addition, the baseline needs to sufficiently reflect regional issues. The status of the marine environment or baseline in areas where bass fishing is occurring (or may occur in the future) may be significantly different to the UK-wide UKMS descriptor assessment, due to the effect of the fishing activity acting on the receptors in that area. This is not captured within the Scoping Report.

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37. The Scoping Report does not identify likely future trends in the environmental baseline in the absence of the FMP.

Receptor advice

38. The objectives included within Section 1.4 of the FMP Scoping Report are high level and do not provide sufficient detail to be able to meaningfully consider what the potential effects of the FMP on relevant receptors will be.
39. The species identified in Table 2 Biodiversity appear to be limited to Annex 2 fish species of the Habitats Directive. NRW advise that the impacts of bass fishing activities will affect a much broader group of receptors including types of birds, other fish species, mammals, habitats etc. where potential significant effects are possible.
40. NRW welcome the FMP Scoping Report scoping in the assessment of effects upon '*Biodiversity, fauna and flora*'. However, no detail of the methodologies to be used in the Environmental Report assessment have been provided and therefore it is not possible for NRW to advise on whether the report will sufficiently assess all the relevant effects of the FMP on the relevant receptors.
41. NRW advises that the Environmental Report fully considers and assesses the positive and negative effects that the FMP could have on relevant habitat and species features in Welsh waters. These negative effects could occur, for example, through changes to fishing effort (increased effort, spatial changes in effort, displacement of effort), or changes to fishing methods etc. from implementing the FMP.
42. NRW considers that changes to fishing effort or methods may arise from implementing policies 1.1, 1.2, 2.1, 3.1, 4.2, 4.3 and 4.5 of the latest draft FMP that we have been provided with.
43. Potential negative effects resulting from the FMP on species features in Welsh waters could include, for example, increased bycatch or collisions, increased disturbance, impacts to habitat, and reduced prey availability. Potential negative effects resulting from the FMP on marine habitats features in Welsh waters could include, for example, habitat loss, degradation or disturbance and impacts related to the ingress and spread of INNS.
44. No information has been provided on habitat resilience and recovery rates from disturbance.
45. In addition, it is not clear to what extent the fishing activities considered in the FMP would repeatedly affect the same areas of seabed, thereby limiting the footprint of the activity but increasing impacts.
46. Consideration within the Scoping Report in relation to cultural heritage is limited to maritime heritage assets. This appears to be at odds with the emphasis placed on cultural importance in Section 1.2 which states that '*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*'.
47. NRW advises that in relation to Wales and the Welsh Government's Well-being of Future Generations Act 2015 responsibilities, this view of cultural heritage is too narrow, and NRW advises that Welsh Government also considers the impacts of the FMP on Welsh coastal communities, populations and language.
48. NRW advises that the decision to scope out seascape in Section 5.2 appears to be based on evidence relating to the physical impacts of pot fishing on the seafloor

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rather than visual impacts from bass fishing on the seascape. However, NRW advises that bass fishing activities from boats and shore should have limited impact on the seascape and agree with it being screened out of the Environmental Report.

49. NRW advises that the FMP not directly addressing population, human health, air and material assets issues is not a valid reason to scope the issues out. We advise that the FPA should consider the effect of implementing the plan upon these issues and then decide if they can be screened out or need to be addressed further in the Environmental Report.

Additional Comments

50. NRW advises that the goal of the FMP set out in Section 1.4 of the Scoping Report '*to review bass management in England and Wales to ensure that the bass stock is sufficiently protected and that the benefits of bass fishing can be realised for the communities that depend on it*' does not align completely with the requirement of the Fisheries Act 2020 for FMPs, which is '*to restore one or more stocks of sea fish to, or maintain them at, sustainable levels*'.
51. NRW advises that some of the FMP objectives in Section 1.4 of the Scoping Report may result in increases in fishing effort or changes to fishing methods and spatial distribution, and these potential changes should be assessed in the Environmental Report (and *plan-level* HRA).
52. NRW advises that the impacts of climate change are assessed from the activity of bass fishing and on the activity of bass fishing.
53. NRW advises that it is not clear how additional measures to address risks or impacts identified in the Environmental Report will be determined, or how these will be secured and delivered. For example, whether mitigation identified through the Environmental Report (and *plan-level* HRA) will be written into the final FMP as part of an iterative development process.
54. NRW advises that the objectives do not indicate how the FMP will consider wider fisheries management issues including those related to the environment. FMP objectives relating to natural ecosystems and climate are listed but it does not indicated how the FMP will address potential negative impacts from the bass fishery on receptors.
55. NRW advises that the FMP objectives do not include proposing new interventions (Section 5.3) to further mitigate negative environmental effects where necessary.
56. Table 2 Biodiversity, fauna and flora – NRW advises that this issue also considers UK MS Descriptor D2, risks posed by introduction and/or spread of marine INNS.
57. Table 2 Population – Whilst it is beyond our remit, this topic covers economic and societal factors that could affect or change local coastal populations, so will be relevant given the focus of the FMP on coastal communities and the economic benefits of bass fishing.
58. Section 7 – NRW advises that the final FMP will need to consider and address any negative effects of the draft FMP assessed through the Environmental Report (and *plan-level* HRA).

How the consultation response was considered

Welsh Government and DEFRA have consulted with statutory nature conservation advisors including Natural Resources Wales (NRW) with regards to the scope and level of detail the

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bass SEA environmental report (ER). Some comments provided by NRW, as part of the consultation in preparation of the ER, have already been addressed by the ER. Outstanding comments/advice including the timing of Habitats Regulations Assessments (HRA) are considered below.

The FMP follows a high-level strategic assessment framework using Marine Strategy Framework Directive (MSFD) indicators as benchmarks for environmental assessment.

FMP goals relevant to the ER are given in Table 5. Many of the FMP goals have the potential to recommend subsequent management measures which may change the characteristics of bass fisheries in some way and a reasonable summary of positive and negative effects are provided.

Changes to the fishery could be spatial, temporal or effort linked. However, it is important to draw the distinction between the possible effects of high-level strategic objectives being met and any resulting recommended management measure being adopted.

For example, Goal 5. suggests Defra and Welsh Government “consider” how to fill evidence gaps required for improved stock assessments. In both statutory and practical terms, until management measures are identified through this process any effects cannot be reliably identified and assessed. In this example, Goal 5 is to consider rather than to implement the actions. Until these actions have been considered and suitable management actions identified it would not be possible to attempt to assess the type or scale of resultant impacts or effects on relevant MPAs and associated protected habitats and species.

Before any recommended management change is implemented, changes to fishery regulations controlling the existing fishery would be required. This legislative change would provide the appropriate opportunity to fully assess the then known scope and potential impacts or effects of the new management change in line with the Conservation of Habitats and Species Regulations 2017 and address any outstanding advice provided by NRW. Before this point, no real-world changes which may subsequently be caused (and assessed via HRA) as a result of a potential management change could be transmitted through to any protected Welsh MPAs, habitats or species because the FMP itself is not making any management changes or implementing new management measures.