



Department
for Environment
Food & Rural Affairs

Proposed Fisheries Management Plan for Whelk in English Waters

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Executive Summary

Context

Our sea fish and shellfish stocks are an important natural resource. We aim to work with the fishing sector and wider stakeholders to ensure these stocks are harvested sustainably and supported by a healthy marine environment so that they continue to provide benefits into the future.

Fisheries Management Plans (FMPs) are a requirement of the Fisheries Act 2020 (the Act), the UK Joint Fisheries Statement and a commitment in the England Environmental Improvement Plan 2023. FMPs assess the status of stocks and must set out policies to restore stocks to or maintain them at sustainable levels.

The whelk draft FMP has been prepared for the purpose of meeting the requirements set out in the Act. It has been prepared in partnership with the Sea Fish Industry Authority (Seafish) in collaboration with the Whelk Management Group (WMG) that brings together industry, government, and scientists. Feedback from the WMG and from the wider sector, during stakeholder engagement events, has shown that there is a need for better management of the whelk fishery in England.

What is an FMP

An FMP is an evidence-based action plan that charts a course to sustainable fisheries. Once published, the FMP will last for six years. It will set out both a longer-term vision and goals for the fishery (or fisheries), together with the policies and management interventions necessary to achieve these goals in the shorter-term. As well as focussing on sustainable stocks, Defra intends to use FMPs to help tackle environmental, social, and economic issues associated with our fisheries, significantly enhancing our ecosystem-based approach to fisheries management and securing the economic and cultural benefits we gain from fish and from fishing. Plans will be regularly reviewed and updated to ensure they respond to new evidence and practical experience to remain effective.

Why an FMP for whelks

The whelk industry recognised in 2019 that action was needed to better manage the stocks. With support from Seafish and Defra, the WMG was formed in 2020 to consider specific actions. This early work and engagement allowed the decision to be taken to channel the work into an FMP. Whelks have been prioritised for an FMP due to the stock's vulnerability to over-exploitation, the economic value of the fishery and a lack of evidence to properly assess and monitor the state of the stock. Whelk fisheries contribute culturally, socially, and economically to coastal communities

through employment and recreational fishing interests. Improved management action is therefore needed to protect whelks and secure their future and the future of the industry that depend on them. Feedback from the WMG and from the wider sector, during stakeholder engagement events, has confirmed the need for better management of the whelk fishery in England.

Summary of the state of stocks

The plan collates the evidence on whelk stocks and the whelk fishery around England, identifies existing management measures and sets out short- and long-term policies and actions to manage the whelk fishery.

Evidence on the state of the whelk stocks is poor. There is no stock assessment for whelks in English waters, no delineation of stock boundaries, and no Maximum Sustainable Yield (MSY) reference points or proxies. Consequently, there is no assessment of likely stock health and abundance. Furthermore, in recent years there has been an increase in whelk fishing effort because of the expansion of export markets for whelks alongside reduced fishing opportunities for other species (see Annex 1). Whelk stocks are particularly vulnerable because whelk is a sedentary species with limited mobility and short larval dispersal. They are particularly susceptible to localised depletion because the life history and life cycle of the species means that stocks are unlikely to quickly recover from overexploitation.

This FMP presents an opportunity to take a precautionary proactive and adaptive approach to long-term management to create sustainable English whelk fisheries.

Current management framework

Whelks are non-quota stocks meaning that fishing of these stocks is not currently subject to catch limits. Access to whelk fisheries is largely unrestricted and there are limited management measures in place. A national Minimum Landing Size (MLS) of 45mm applies.

Within the 0-6 nautical mile zone, whelk fishing is regulated by the Inshore Fisheries and Conservation Authorities (IFCAs). Several IFCA jurisdictions enforce additional whelk specific management measures including larger MLS, permitting schemes, flexible byelaws with conditions, and pot limits (see details in Annex 1). However, the overall lack of evidence on the state of the whelk stocks, in general, means that there is no conclusive evidence on the effect of these measures. This means that much of the information that would be required to develop a whelk harvest strategy is not yet available. A key action in this FMP will be to improve the evidence base.

Key goals and proposed actions

Stakeholders noted that a 'one size fits all' approach to management is not appropriate for a fishery characterised by local stocks and fleet variation. So regional or local based management is needed together with better species and fishery data to ensure the long-term sustainability of these important fisheries. The FMP sets out Whelk Specific Objectives that address specific requirements for the whelk fisheries in English waters.

Specifically, the FMP sets out the following actions:

- **Improving the evidence base:**

Whelk stocks are currently classed as data limited because there is insufficient scientific information available to assess stock abundance. Going forward, a strong data gathering system will be required to assess abundance and health of the stocks and make informed interventions. The whelk research plan (Annex 2) details available science and evidence. It highlights where knowledge and evidence gaps exist and what is required to fill those gaps to provide the necessary protection for stocks now and in the long-term. These evidence gaps include the development of data collection programmes, defining stock boundaries, and developing stock assessments. The aim of the research plan is to build on existing research and data for whelks so that management is driven by a comprehensive harvest strategy, reliable stock assessments and a consistent ongoing data collection and research programme.

- **Initial management measures:**

These are designed to address immediate sustainability concerns in line with the precautionary objective. The key proposal is the introduction of a permit scheme or licence entitlement with conditions. The purpose of this scheme is to allow adaptive management to reflect the local characteristics of the whelk stocks and fleets with the aim of controlling effort in whelk fisheries over the long term. A further proposal is to allow the development of measures to protect whelk spawning stocks through seasonal closures. Protecting stocks during spawning will allow spawning individuals a greater chance of reproducing successfully and should improve stock viability.

- **Longer term measures:**

Over time, as both the evidence base and monitoring of management effectiveness improves, the process of implementing more targeted measures will be developed through the lifetime of and future iterations of this FMP. The FMP proposes an adaptive, iterative management approach in which management decisions are implemented, reviewed, and refined with new data, to deliver long-term sustainability. Future measures will focus on ensuring stocks are not excessively targeted. Minimum Landing Size (MLS) variations, pot and catch limits and gear design measures are some of the

interventions under consideration which will be developed in collaboration with the WMG and relevant partners.

Wider issues and environmental impacts

All FMPs are subject to legal obligations for environmental protection arising from the Habitats Regulations, Marine and Coastal Access Act 2009, Marine Strategy Regulations 2010 and the Environment Act 2021. These requirements are in addition to the FMP contributing to the environmental objectives of the Fisheries Act 2020,

The Whelk FMP will contribute to commitments to improve our marine ecosystem set out in the England Environmental Improvement Plan 2023 and the UK Marine Strategy.

The Whelk FMP includes objectives that will ensure that the environmental impacts associated with whelk fishing are understood. The whelk pot fishery potentially poses two environmental risks of a) bycatch of Endangered, Threatened and Protected (ETP) species and unwanted marine species and b) marine litter from abandoned, lost, and discarded fishing gear. Both risks are currently considered low in the whelk fishery based on available evidence. Where whelk pot fisheries are considered to have an adverse impact on the marine environment, the FMP sets out commitments to taking action to avoid, remedy or mitigate such impact.

Implementation and monitoring

The actions and measures contained within the Whelk FMP will undergo an implementation phase where appropriate mechanisms will be required to deliver them. Such mechanisms could include voluntary measures, license conditions, national and regional byelaws, and statutory instruments.

The Whelk FMP must be reviewed when appropriate and at least every six years. This formal review will assess how the FMP has performed in terms of delivering against the objectives of the Act.

To conclude

The Whelk Fisheries Management Plan has been prepared for the purpose of meeting the requirements set out in the Fisheries Act 2020. This statement and the contents of the plan meet the obligation set out in section 6 of the Act.

The Whelk FMP has collated existing management measures and available science and evidence to assess the status of Whelk stocks around England in 2023 and determine a sustainable level of exploitation. At the time of publication, there is insufficient evidence to determine a maximum sustainable yield for the whelk fishery around England. The FMP highlights where knowledge and evidence gaps exist to

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be able to establish sustainable whelk fisheries. The management objectives and associated evidence and research plan guide those seeking to fill those gaps over time. The proposed management interventions seek to apply a precautionary approach to managing harvesting whilst our evidence improves. This Whelk FMP aims to deliver a step change in moving us towards the long-term sustainable management of whelk fisheries in English waters.

Foreword

The Whelk FMP sets out the road map to achieve long-term sustainable management of whelk fisheries in English waters, in line with the objectives in the Fisheries Act 2020. The FMP has been developed by Seafish and the Whelk Management Group (a collaborative forum that brings together industry, researchers, and government regulators and policy makers, and is part of the overarching Shellfish Industry Advisory Group (SIAG)). Seafish, on behalf of the WMG, has also engaged more widely with coastal communities, supply chain businesses, NGOs, and other government bodies on the development of the management objectives detailed in this FMP.

In 2021, whelk was the 4th most important shellfish fishery in the UK by volume (19,400 tonnes landed) and 5th by value (£22.2 million)¹. However, whelk fisheries are currently classed as data limited with little management in place, outside the IFCAs, by way of comprehensive data programmes or formal stock assessments. There is also no formal fishery management strategy, and there are few management measures in place to control fishing effort which has implications for the long-term health of the whelk fishery (either collectively or as individual whelk stocks).

The Whelk FMP sets out to rectify this and to systematically move whelk fisheries in English waters to a position where management is driven by a comprehensive harvest strategy underpinned by a reliable stock assessment methodology, which in turn is supported by a consistent data collection and research programme. The management objectives detailed in this FMP describe the key stages on that journey and set out the shared commitment that industry and government have for these important fisheries, over the next six years. A core principle driving the implementation of the FMP objectives will be adaptive management to reflect that as the evidence base improves, management interventions will be more responsive.

The WMG and SIAG were very keen to establish shared shellfish principles and whelk fishery objectives. They are presented in two parts:

- Shared Shellfish Principles. These are high-level principles to guide management common to all shellfish fisheries. SIAG will have oversight and responsibility of the shared shellfish principles which will apply to all shellfish fisheries. These principles include climate change adaptation/mitigation and economic principles relating to market access, trade, and promoting increased consumption. They go beyond the requirements of section 6 the Fisheries Act 2020 and are intended to drive industry behaviours and actions as well as government and regulators. They are included in order to demonstrate a

¹ [UK sea fisheries annual statistics report 2021 - GOV.UK \(www.gov.uk\)](https://www.gov.uk/government/statistics/uk-sea-fisheries-annual-statistics-report-2021)

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more holistic picture of the challenges for the fisheries and the intention to better manage them. The SIAG will maintain responsibility for the principles and the actions set out to deliver them.

- **Whelk Specific Objectives:** These objectives relate specifically to the management of whelk fisheries in English waters. These objectives address the data collection, assessment, and management requirements of these fisheries. They are also focused on ensuring that the environmental impacts associated with whelk fishing are understood and where whelk pot fisheries are considered to have an adverse impact on the marine environment, action is taken to avoid, remedy or mitigate such impact. Again, some of these objectives and the potential actions suggested to deliver them go beyond the requirements of section 6 of the Act but are included for completeness. Responsibility for delivery of these objective, once actions are agreed, will sit across industry groups, fisheries authorities and government.

In terms of navigating this FMP the key sections are as follows:

- **Legislative alignment and governance** (Annex 5) details how the Whelk FMP meets the requirements of the Fisheries Act 2020 and wider legislation and policy initiatives.
- **Industry collaboration and stakeholder engagement** (Annex 3) describes how the Whelk FMP has been co-designed with the WMG.
- **Scope of the Whelk FMP and status of whelk fishery** section describes the history of the whelk fishery and current management.
- **Description of fishery management objectives** section sets out the overarching shared shellfish principles and whelk-specific objectives.
- **Future fishery management strategy** section describes the fishery management strategy for whelk fisheries in English waters, including how the Harvest Standard Specification (HSS) will be applied and the adaptive approach to ensure appropriate management of fishing effort. This section also details the priority management interventions for this fishery; some of these will be regulatory but where appropriate non-regulatory measures will also apply.
- **Meeting environmental considerations** (Annex 6) details how environmental considerations will be addressed.
- **Monitoring performance** section details how we will measure performance in terms of delivering the plan but also in terms of how the state of the fishery has improved because of the activities undertaken.

There are six accompanying documents that support this plan:

- Annex 1: Whelk Evidence Statement details the current available information on whelk fisheries in English waters.

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- Annex 2: Whelk Research Plan details the approach to secure the evidence required to support the plan and deliver on FMP objectives.
- Annex 3: Whelk FMP Stakeholder Engagement Report presents a summary of the stakeholder feedback collected during engagement events, held in late 2022, to inform the development of the plan.
- Annex 4: Full details of the Shared Shellfish Principles developed by the SIAG: These are high-level principles to guide management common to all shellfish fisheries.
- Annex 5: Legislative context and Governance describes the legislative context that applies to the development and implementation of the Whelk FMP and gives details about the roles and responsibilities of the Whelk Management Group in relation to the Whelk FMP.
- Annex 6: Environmental considerations details the government's environmental obligations covering FMPs.

Introduction

The Whelk FMP will manage the whelk fishery to ensure the long-term sustainability of the whelk stocks. It also aims to deliver social and economic benefits to coastal communities from a productive and profitable fishery, while maintaining public confidence in the management of this important resource. This FMP applies to English waters.

The FMP collates all available information on the biological, socio-economic, and environmental status of the whelk fishery. It establishes a roadmap to move whelk fisheries in English waters to a position where management is driven by a comprehensive harvest strategy underpinned by a reliable stock assessment methodology, which in turn is supported by a consistent data collection and research programme.

Achieving sustainable whelk stocks, profitable whelk fisheries and a healthy marine environment is likely to bring changes to how and where whelk fishing occurs (input controls²), and the amount of whelk that can be caught from one year to the next (output controls³). The purpose of the FMP is to ensure that the most appropriate management measures, based on the best available science and evidence are developed, in collaboration with the WMG, and implemented in consultation with wider stakeholders.

Context

The Whelk Fisheries Management Plan has been prepared for the purpose of meeting the requirements set out in the Fisheries Act 2020.

The 2018 *Fisheries White Paper: Sustainable fisheries for future generations* set a clear ambition for sustainable stewardship and management of UK fisheries that committed to deliver - “a more competitive, profitable and sustainable fishing industry across the whole of the UK, setting a gold standard for sustainable fishing around the world.”

2 Input controls are fisheries management measures that restrict the number and size of fishing vessels (fishing capacity controls), the amount of time fishing vessels are allowed to fish (vessel usage controls) or the product of capacity and usage (fishing effort controls). “A Fishery Managers Guidebook - Management Measures and their Application.” FAO Fisheries Technical Paper 424.

3 Output controls are direct limits on the volume of fish coming out of a fishery and can include the tonnage of fish/shellfish or the number of fish/shellfish that may be caught from a fishery in a period of time such as total allowable catches. FAO *ibid*.

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The Fisheries Act 2020 ('the Act')⁴ sets out the legal framework governing fisheries in the UK and provides for UK Fisheries Policy Authorities to prepare and publish Fisheries Management Plans (FMPs) setting out policies designed to restore stocks and maintain them at sustainable levels.

[The Joint Fisheries Statement \(JFS\)](#), published in November 2022 sets out further details of the policies the UK fisheries authorities will follow to achieve or contribute to achieving the eight fisheries objectives in the Act. It includes a list of FMPs, setting out the lead authority for each FMP, the stocks covered and timescales for publication.

In addition to meeting the requirements of the Act, the Plan also supports the implementation of wider commitments on protecting the marine environment, restoring biodiversity, and addressing climate change. In particular, the Environment Improvement Plan 2023 for England restated the commitment to deliver FMPs, setting out for the first time how we will increase sustainability on a stock or fisheries basis. Each FMP also supports commitments under the UK Marine Policy Statement, the UK Marine Strategy, the Marine wildlife bycatch mitigation initiative, and the Climate Change Act 2008.

Further details on the requirements of the Fisheries Act and wider commitments and how these are met in this plan are set out in Annex 6.

The issue of increasing spatial pressures and the challenges it can pose to fisheries, including where relevant any social, economic, and environmental implications resulting from possible displacement need to be considered. The government has established a Marine Spatial Prioritisation programme to help support a more strategic approach to managing future pressures in English seas. The programme will engage with stakeholders and evaluate existing and emerging evidence to understand future demands and determine the best way of managing them. Outputs from the programme will inform the implementation phase and subsequent reviews of the FMP, as well as our future approach to marine planning.

The Whelk FMP was developed by Seafish in collaboration with the Whelk Management Group (WMG); the WMG brings together industry stakeholders, from across the whelk supply chain, scientific researchers, and fishery regulators to work collaboratively to address issues facing UK whelk fisheries. The WMG oversaw the development of the FMP and established a dedicated FMP working group to work on the whelk-specific management objectives and the future management requirements for whelk fisheries.

As part of the FMP development process, Seafish delivered a series of informal stakeholder engagement events during late 2022. A full summary of these events –

⁴ [Fisheries Act 2020 \(legislation.gov.uk\)](#)

including format of sessions and key themes emerging– is presented in the Stakeholder Engagement Report in Annex 3. Feedback from these events was used by Seafish and the WMG to refine draft content and to develop the proposed initial management interventions presented in this plan.

Further details on roles and responsibilities and the process for developing the plan are set out in Annex 5.

Scope of the Whelk FMP and status of whelk fishery

Species

This FMP applies to common whelk (*Buccinum undatum*) in English waters only. It addresses all whelk fishing activity in English waters. This includes activity from other UK, EU, and other Coastal State vessels in English waters. Any measures adopted in accordance with this plan must be consistent with the requirements of the EU-UK Trade and Cooperation Agreement (the TCA) including, in particular Article 496,⁵ and any relevant decisions made via the Specialised Committee for Fisheries (SCF) such as the adoption of any multi-year strategies (MYSTs) for shared non-quota stocks.

Description of the fishery

Whelks are widely distributed around the UK. In English waters, they are found in ICES subareas 4 (North Sea) and 7 (English Channel, Celtic Sea, and Irish Sea). The most significant whelk fisheries in English waters are found in the following areas:

- Off the Norfolk coast;
- To the East of England (southern North Sea);
- Along the south coast, from Kent to Devon (eastern and western English Channel); and
- In approaches to the Bristol Channel, southwest of England (Celtic Sea).

Fishing grounds are often located within the 6 nautical mile area from the coast, falling under the jurisdiction of IFCA, but fishing also occurs further offshore.

⁵ Article 496 of the TCA requires that fisheries management interventions are evidenced based, are proportionate and are non-discriminatory to either party.

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The common whelk fishery is primarily targeted by under-10m vessels, fishing almost exclusively with baited traps / pots, with small quantities of landings reported as bycatch by vessels using other gears such as nets and beam trawls.

Reported landings since 2003 suggest that some of the fisheries have expanded. However, the comprehensiveness of the reported landings for this sector appears to have been influenced by the introduction of the Restrictive Shellfish Licence Scheme (RSLs) in 2006. The RSLs was aimed at trap caught crustaceans by the <10m static gear sector but led to the capture of more comprehensive information on whelk fishing activity⁶. Effort information in the form of the number of traps is partially recorded for some fisheries but is often incomplete or unreliable, meaning the data cannot be used to produce accurate landings per unit effort data⁷.

The introduction of the electronic catch app for vessels <10m may improve the quality of these data for much of the whelk fishing fleet. However, provision of effort information on the number of pots hauls remains optional for >10m vessels using the existing reporting procedure.

Regionally, IFCAs report no significant fishery in the Isles of Scilly, Cornwall, Northumberland or in the North-eastern districts. Most of the whelk landings have been from fisheries taking place in the Eastern IFCA, Kent and Essex, Sussex, and the Devon and Severn IFCAs, with the Southern and North-Western IFCAs having reported emerging fisheries in recent years^{8,9}). Eastern, Kent and Essex, Sussex, North-Eastern and North-Western IFCAs collect fishing activity data as a condition of shellfish permit schemes and time series of these data are developing. The States of Jersey have also reported significant landings.

Current status of the fishery

There is currently insufficient evidence to complete a stock assessment for whelks in English waters. Furthermore, there is no delineation of stock boundaries and no MSY reference points or proxies. Consequently, there is no assessment of likely stock health so much of the information needed to develop a harvest strategy is not yet available.

6 Reeve, C., Clarke, D. and Lawler, A. (2020) 'Preliminary Review of Common whelk (*Buccinum undatum*) Fisheries in the UK - Data availability and potential for stock assessment', Unpublished report to Defra, pp. 1-38.

7 Lawler, A. and Stott, S. (2021) 'Further progress towards data gathering and whelk assessments around English coasts', Unpublished report to Defra, pp. 1-30.

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Additionally, data that could be used to give an indication of likely stock status or fishing effort, such as catch per unit effort (which requires records of numbers of pot hauls and total whelk catches) are either not currently collected or are not sufficiently granular to accurately assess whelk stock status. Thus, the most basic metrics for monitoring fishing pressures and interpreting the health of the stock are not consistently available across English waters.

Unlike other important shellfish fisheries (crab, scallop), access to whelk fisheries is largely unrestricted. A national minimum landing size of 45mm (EU regulation retained in UK law), is the only national management measure in place for the whelk fishery. The reliance on a single national MLS to drive management is problematic due to the variability in the life cycle and size/maturity of the species over small spatial scales. This means that a 45mm MLS may not be viable as a blanket approach across English waters because of the variable size of maturity of whelks in different stocks and in different areas. As a result, while in some areas the MLS does afford a level of stock protection, in other areas it may not, or it may restrict the landing of marketable whelks.¹⁰

Several IFCA jurisdictions enforce whelk specific management measures inside 6nm (see details in Annex 1). These include larger MLS, flexible byelaws and commercial or recreational permitting schemes with associated fees (with no restriction on the number of permits), and pot limits. Permit holders are also required to provide catch returns and other data relating to each month's fishing activities. These interventions are put in place to protect vulnerable whelk stocks and to manage the inshore fishing activity at sustainable levels. They are relatively new interventions and the data that are being gathered helps to inform the IFCA's short and longer-term management decisions on their whelk fisheries within their inshore jurisdictions, but not beyond (offshore waters). Wales also have introduced additional Whelk fishing regulation (The Whelk Fishing Permit (Wales) Order 2019¹¹) to protect their local whelk stocks and manage their local fleet sustainably.

Expansion of export markets for whelks, combined with reduced fishing opportunities for other species has, in recent years, seen an increase in whelk fishing effort (see Annex 1). As a sedentary species with limited mobility and larval dispersal there is a risk that whelk stocks are particularly susceptible to localised depletion. The lifecycle of the species means that stocks are unlikely to quickly recover from overexploitation. This FMP presents an opportunity to take a proactive and adaptive approach to the long-term sustainable management of English whelk fisheries.

10 Haig et al., [Temporal and spatial variation in size at maturity of the common whelk \(*Buccinum undatum*\)](#). 2015

11 [The Whelk Fishing Permit \(Wales\) Order 2021 | GOV.WALES](#)

Shared shellfish principles and whelk fishery management objectives

Set out below are nine overarching shared shellfish principles designed to address key management, social, and economic issues that face all shellfish fisheries in English waters.

The Shellfish Industry Advisory Group (SIAG) have developed these principles. This group brings together regulators, researchers, and industry stakeholders to discuss national-level strategic management of shellfish fisheries. Many issues facing the sector are not specific to individual shellfish species. These principles recognise common challenges and issues and have been reflected in each of the shellfish FMPs.

While these principles, and the associated actions, go beyond the legal obligations for FMPs in section 6 of the Fisheries Act 2020, Defra welcomes these industry commitments to complement and support the delivery of the FMPs and objectives in the Act.

The SIAG will maintain responsibility for the principles and the actions set out to deliver them.

The shared principles are:

- Formalise the structure and operation of the SIAG, and associated sub-groups and ensure effective representation, so that it becomes a focal point of engagement on shellfish fisheries management in England.
- Assess fishing effort (including latent capacity) and, if necessary, recommend appropriate measures to manage effort.
- Establish a mechanism that enables regulators to effectively engage with and draw on shellfish industry knowledge in relation to discussions relating to NQS management through the Trade and Cooperation Agreement.
- Enable better involvement of the shellfish industry in matters regarding marine spatial planning and spatial squeeze by facilitating better collaboration between regulators, planners, and industry stakeholders.
- Improve understanding of the impacts of non-fishing activities (for example capital dredging, undersea cables) on English shellfish stocks.
- Progress initiatives to increase and promote consumption of sustainable UK shellfish.
- Facilitate and promote trade opportunities for shellfish in overseas markets (EU and non-EU).
- Develop advice and guidance on shellfish welfare issues to help the industry to further develop and implement best practice handling measures.

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- Industry to take collective responsibility to comply with welfare and good working conditions legislation and guidance to ensure the highest possible levels of standards across the shellfish sector supply chain.

Further detail on these principles is set out in Annex 4.

These were supplemented by **whelk species-specific objectives** drafted by the Whelk Management Group. The whelk-specific objectives are management objectives for whelk fisheries in English waters which are described in Table 1 below. The table sets out the rationale for each objective, and identifies potential activities that will help deliver it, and how it links to Objectives in the Act. Some Whelk FMP Objectives go beyond the Act but are included here for completeness.

Table 1 - Management objectives for whelk fisheries in English waters

As set out above, these objectives relate specifically to the management of whelk fisheries in English waters. While most objectives identified are necessary to meet the requirements of section 6 of the Fisheries Act, some of the objectives and the actions suggested to deliver them go beyond these requirements but are included for completeness. Responsibility for delivery of these objectives, once actions are agreed, will sit across industry groups, fisheries authorities and government and will need to be prioritised to support the phased approach of FMPs progress towards meeting the Fisheries Act objectives.

#	Objective	Rationale	Potential Actions	Fisheries Act 2020 objectives
1	Develop and pilot a comprehensive data collection programme for whelk fisheries, which supports a data rich future and results in the establishment of a reliable time series that facilitates well-informed, sustainable management.	Reliable evidence provisioning is fundamental for facilitating the development and enforcement of an appropriate, evidence-based fisheries management regime.	<p>Define critical data gaps and requirements to support monitoring and evaluation of:</p> <ul style="list-style-type: none"> • Stock status and harvest strategies • Compliance with management measures • Social and economic indicators of successful management • Wider environmental impacts of the fishery • thus facilitating evidence-based management decisions in the short and long term. 	The scientific evidence objective.

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#	Objective	Rationale	Potential Actions	Fisheries Act 2020 objectives
			<p>Develop an improved data collection programme at a national level, which delivers upon critical data requirements (as per action 1), to build a long-term time series of data to support evidence-based fisheries management.</p> <p>This should cover:</p> <ul style="list-style-type: none"> • Biological data (collected through fisheries dependent and independent sampling schemes, for example, Catch App, eLogs) • Spatial data (distribution of fishing activity, for example, VMS, iVMS) • Environmental data (interactions with the wider marine environment) • Social and economic data • Implement a data collection programme that is cost-effective, user-friendly (for fishers, scientists, and managers), directly aligned with requirements of fishery managers, addresses key evidence gaps, and makes the best use of industry-derived data and information 	

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#	Objective	Rationale	Potential Actions	Fisheries Act 2020 objectives
			<p>that can be gathered at different stages of the whelk supply chain.</p> <p>Build partnerships between stakeholders and UK Research and Innovation (UKRI) institutes to ensure that research is targeted at answering management questions, peer reviewed, industry are consulted, and data are made available to support evidence-based fishery management.</p>	
2	Define key whelk stock boundaries at a suitable scale for assessment and management.	<p>Whelk populations exist at a relatively small spatial scale, with the term 'stocklet' often used to describe their stock units.</p> <p>Appropriate stock boundaries must be defined to facilitate accurate assessments of stock status, which</p>	<p>Explore options around managing fisheries without clear biological stock boundaries.</p> <p>Collate the following available relevant information to identify gaps in current understanding of whelk stock boundaries:</p> <ul style="list-style-type: none"> • whelk biology and morphology (including environmental drives) • patterns of exploitation, and • management and enforcement landscape 	The precautionary objective and the scientific evidence objective

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#	Objective	Rationale	Potential Actions	Fisheries Act 2020 objectives
		<p>deliver outputs at a relevant scale for evidence-based management. Management is therefore less likely to disproportionately disadvantage certain fisheries, or harm/ impact other stocks.</p>	<p>Create a research plan to address key knowledge gaps and improve understanding of the role environmental parameters play in determining stock boundaries.</p> <p>Collate available information on stock structure to:</p> <ul style="list-style-type: none"> • determine the most appropriate scale at which to set stock boundaries for management, and • define the granularity at which data should be collected for stock assessment purposes (linking to Objective 1) 	
3	<p>Assess catch per unit effort (CPUE) in the whelk fishery.</p>	<p>Improved understanding of fishing effort and catches will facilitate improved modelling and assessment of stock status, thus improving our ability to implement an evidence-based fisheries management which is</p>	<p>Building on Objective 2, provide fishery managers with scientifically reliable fishing effort data to meet modelling/assessment requirements.</p> <p>Explore options around whole catch monitoring using standardised, scientific whelk pots and</p>	<p>The scientific evidence objective.</p> <p>The sustainability objective:</p>

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#	Objective	Rationale	Potential Actions	Fisheries Act 2020 objectives
		<p>responsive to changes in fishing activity and/or stock status.</p>	<p>collaborative data gathering efforts involving different stages in the supply chain.</p> <p>Expand data collection to include pot numbers at sea, pot numbers hauled, bait type, and soak time, to improve knowledge of current fishing effort in English waters.</p>	
4	<p>Establish options for assessing stock(s) or exploitation status.</p>	<p>Accurate information regarding stock status is essential for informing management decisions and protecting against over-exploitation.</p>	<p>Define appropriate whelk assessment unit(s) in English waters based on the outputs of objective 2.</p> <p>Review existing and available information and potential stock assessment models that can be applied to whelk stocks (for example, Surplus Production in Continuous Time (SPiCT) and age/size structured models)</p> <p>Define indicators and reference points, explore the use of life history-based evaluations, and other metrics that can help inform stock or exploitation status or trends such as CPUE. Explore the use of fishers' knowledge and anecdotal information from industry stakeholders to inform assessment.</p>	<p>The scientific evidence objective</p> <p>The sustainability objective</p>

Proposed FMP for Whelk in English Waters

#	Objective	Rationale	Potential Actions	Fisheries Act 2020 objectives
			<p>Develop whelk stock assessment methods as time series of monitoring programme (objective 1) builds and align assessment methods with fishery management goals and available management tools.</p>	
5	<p>Assess the impact of whelk fishing activity on the wider marine environment</p>	<p>It is essential to understand how whelk potting activity impacts the marine environment to identify and minimise any negative interactions.</p> <p>This will protect marine ecosystem structure and functioning, support the achievement of GES, as well as improve industry reputation.</p>	<p>Undertake desk-based review, of wider environmental impacts of whelk fisheries.</p> <p>Assess nature and extent of interactions in the whelk fishery (monitoring programme)</p> <p>Assess the efficacy of existing avoidance/mitigation measures relating to impacts of whelk fisheries on benthic habitats, non-target species and Endangered, Threatened & Protected (ETP) species. If necessary, make recommendations on changes (considering both regulatory (for example, MMO byelaws) and voluntary measures) the sector could make to improve its environmental credentials.</p> <p>Explore the frequency, scale, drivers, and likely impacts of fishing gear losses in the static gear sector.</p>	<p>The ecosystem objective</p>

Proposed FMP for Whelk in English Waters

#	Objective	Rationale	Potential Actions	Fisheries Act 2020 objectives
			<p>Identify opportunities for research collaboration and work in partnership with existing initiatives wherever possible.</p>	
6	<p>Explore the need for management around interactions between the English whelk fishery and other fisheries.</p>	<p>Understanding interactions with other fisheries is key to developing a management regime which accounts for the operations of other fisheries, and appropriately addresses any issues or conflicts identified.</p>	<p>Review interactions between whelk fisheries and other fisheries to understand:</p> <ul style="list-style-type: none"> • current bait provisioning mechanisms and the impact of using brown crab (excluding processing waste or by-products) as bait in the whelk fishery, • regionalisation of interactions, • the likely impact of other fishing activities as a source of whelk mortality • environmental and economic impact, and • implications for long-term sustainability <p>Explore alternative bait sources for whelk fishing</p> <p>Examine how the whelk fishery uses the by-products of the crab processing or sales processes</p>	<p>The bycatch objective</p> <p>The ecosystem objective</p>

Proposed FMP for Whelk in English Waters

#	Objective	Rationale	Potential Actions	Fisheries Act 2020 objectives
7	Create a programme of long-term management to align fishing effort with actual / likely stock status through development of a whelk harvest strategy with appropriate harvest control rules.	A Harvest Strategy, with appropriate Harvest Control Rules, based on the best available scientific evidence (as per Objectives 1 and 2) will facilitate agile fisheries management which is responsive to changes in fishing activity and stock status, thus protecting against unsustainable exploitation.	<p>Understand options for managing whelk fishing activity</p> <p>Evaluate the appropriateness of existing management measures (for example, MLS) and undertake scenario modelling to explore alternate management regimes.</p> <p>Review the effect of whelk pot design on catch efficiency, including an appraisal of current technical conservation measures (for example, escape gaps) and ways of optimizing efficacy.</p> <p>Propose a management regime, based on outputs of objective 2, 3 and 4, which will manage fishing effort that aligns with restoring or maintaining stocks at levels capable of maintaining MSY, or suitable interim proxies.</p>	<p>The scientific evidence objective:</p> <p>The precautionary objective</p>
8	Government and shellfish industry to work together to take collective responsibility to:	1: Improved understanding of the carbon footprint of shellfish fisheries in scope of the FMP will help identify carbon	1(a) Assess the carbon footprint of English shellfish fisheries using a reliable metric which takes into account specifics of the shellfish industry (for example, different fleet <i>métiers</i> , carbon sequestration in shell material.)	The climate change objective

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#	Objective	Rationale	Potential Actions	Fisheries Act 2020 objectives
	<p>1: Mitigate emissions from the shellfish supply chain, and</p> <p>2: Adapt to the environmental impacts of climate change</p>	<p>hotspots and identify opportunities for decarbonisation.</p> <p>Reducing emissions from the shellfish supply chain will help the industry contribute to national and global goals to combat climate change and to meeting net-zero commitments.</p> <p>2: Improved understanding of likely impacts of climate change on English shellfish fisheries will help the commercial fishing sector adapt to changes, building greater business resilience.</p>	<p>1(b) Identify opportunities for reducing carbon emissions in the shellfish sector and encourage improvements where possible and economically viable.</p> <p>1(c) Support seafood businesses to explore alternative uses for shellfish co- / by-products, for example, shell waste, to minimise scope 3 emissions in the shellfish supply chain.</p> <p>1(d) Maintain a watching brief on climate change-related issues of relevance to the shellfish sector and use the SIAG as a forum through which to raise awareness, stimulate collaborative working, and support communication of positive environmental credentials</p> <p>2. Review relevant research to outline likely impacts of changing climatic conditions on English shellfish fisheries, to assess:</p> <ul style="list-style-type: none"> the likely impact on population dynamics of target species, 	

Proposed FMP for Whelk in English Waters

#	Objective	Rationale	Potential Actions	Fisheries Act 2020 objectives
			<ul style="list-style-type: none"> • economic viability of commercial fisheries, and likely impact(s) on coastal communities and wider society (for example, loss of employment) and • communicate options for English shellfish fisheries to adapt and to operate under changing climatic conditions, with the aim of safeguarding long-term environmental and socio-economic sustainability. 	

Management Strategy

This Whelk FMP sets a pathway for our vision of long-term sustainable fishery management. The whelk specific objectives set out how this vision will be achieved. Given the limitations of current whelk data, we need to improve the evidence base. This action will provide the foundation for better management and the development of a whelk specific harvest strategy incorporating agreed harvest control rules (HCRs), supported by regular stock assessments.

A harvest strategy will ensure that fishing mortality (fishing effort) is managed at a level that enables long-term sustainable exploitation based on a reliable assessment of stock status (or a suitable proxy until a full stock assessment for whelks is available). HCRs will ensure that fishing effort remains at or below a pre-determined management target and if stock status falls below this level, clear and decisive management action can be taken.

Recognising limitations with the evidence base available to underpin good management, the future fishery management strategy needs to be adaptive. Hence, our approach will reflect the precautionary objective of the Act which states that “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.” As the baseline data improves, and as we increase our knowledge of the fishery, the need for management interventions will need to be flexible in response.

Figure 2 shows a simplified, conceptual cyclical process for fisheries management improvements whereby management decisions are made. The process is as follows: based on the best available evidence at any given time, management action is taken, the effects (negative and positive) of management actions are monitored through data collection, and adjustments are made if improvements are not evident, or if new information becomes available better to inform decision making. This approach is aligned with the scientific evidence and precautionary objectives of the Act and section 4.1.7 of the JFS¹².

¹² [Joint Fisheries Statement JFS 2022 \(publishing.service.gov.uk\)](https://publishing.service.gov.uk)

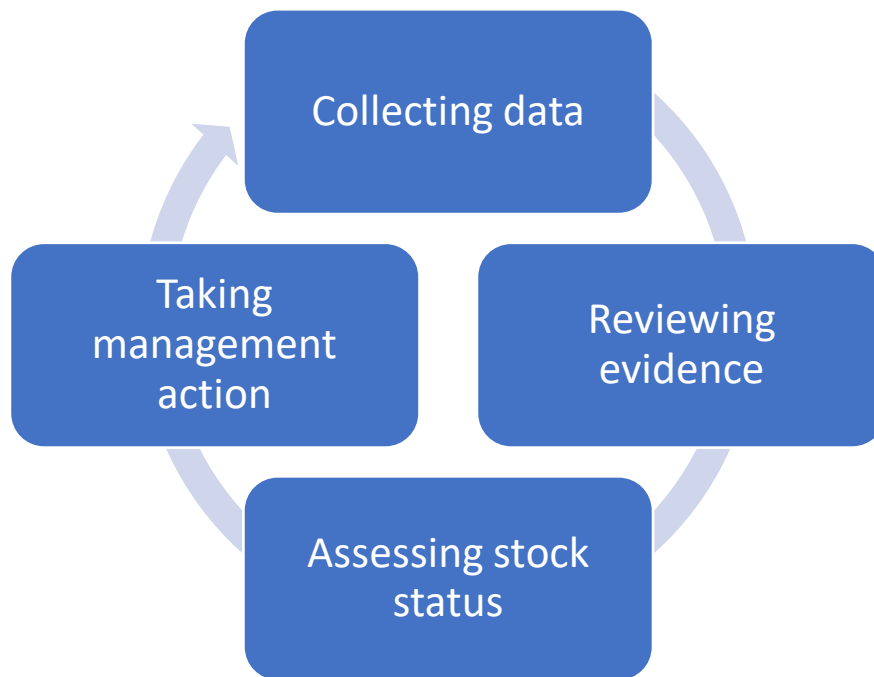


Figure 1: A conceptual diagram of the proposed iterative fisheries management cycle to drive continuous improvement through data collection, analysis, assessment, and management action.

Whelk stocks are understood to vary geographically, largely due to differences in whelk biology; differences also exist in the make-up of the fleets exploiting these whelk stocks. There are distinctions between ‘inshore and offshore’ fleets (or small and large) vessels influenced by vessel size, power, and capacity. Any future management of whelk fisheries in English waters will consider such characteristics. Management interventions should consider the specific needs of local fisheries to ensure that the effects of management decisions are equitable. While the FMP provides a national-level strategic management plan, its implementation will require tailored approaches to reflect the local needs of whelk stocks and regional fleet differences.

Approach

This FMP presents the opportunity to transition whelk fisheries in English waters to a regime of iterative and agile effort management, underpinned by the best current and future available evidence. The proposed approach to achieve this is twofold:

- Assessing and tracking stock status; and
- Implementing an adaptive management approach including short term and longer-term measures to ensure fishing effort is aligned with long term stock sustainability.

Assessing and tracking stock status

Given the ambition for long-term sustainable management of whelk stocks and fisheries, the challenges with assessing current whelk stock status, and anecdotal concerns from industry about increasing pressure on stocks, the primary focus is to collect the data that scientists and fishery managers need to build an appropriate time series to inform future management. The Evidence and Research Plan (Annex 2) sets out in detail the research needed to support the FMP. The following actions will be taken, over the course of this FMP, to deliver an improved evidence base for whelk fisheries.

- Establish and implement a data collection programme for both fishery-dependent and fishery-independent data (as detailed in Whelk Objective 1);
- Agree on proxy stock boundaries for whelks as the basis for management (Whelk Objective 2). Given the highly variable nature of whelk 'stocklets', it may be necessary to focus initially on determining appropriate proxy stock boundaries for whelks at an appropriate scale for effective management. Proxies could be based on patterns of exploitation, anecdotal information gathered from fishers, and understanding of the role of environmental parameters in determining stock characteristics;
- Assess CPUE, or other indices of abundance, as data improve to monitor general trends in performance (Whelk Objective 3). Indices of abundance used in other whelk fisheries (in the UK and beyond) will be evaluated to determine their appropriateness for application to whelk stocks in English waters; and
- Develop a whelk specific Harvest Strategy (Whelk Objective 7) to drive management action and determine acceptable levels of fishing pressure, in response to changes in stock status. Key to the Harvest Strategy will be a set of Harvest Control Rules which are aligned with MSY or a suitable proxy as per the sustainability objective of the Fisheries Act 2020.

Implementing an adaptive management approach:

As the whelk evidence base improves, the focus is on delivering more tailored effort management to ensure stock status remains at or above an agreed MSY target. Table 2 provides an overview of management approaches that could be used to limit effort in the whelk fishery. The Precautionary Objective of the Act stresses the need to take management action even in the absence of sufficient scientific information. The FMP therefore proposes a multi-step, iterative approach in which management decisions are implemented, reviewed, and refined to deliver long-term sustainability. This adaptive management approach will run alongside efforts to improve the evidence base as detailed above.

Initial management interventions

To address concerns about the long-term sustainability of the whelk fishery and to deliver on the precautionary principles of the Act, two initial management interventions are proposed. These early interventions are intended to safeguard stocks and the fishery while more information is being gathered to inform the necessary components for responsive management in the future.

- **Task 1:** Introduce a whelk permit scheme/entitlement to manage whelk fishing effort and to provide a mechanism for proactive effort management in the future. A permit scheme/entitlement may be used as a vehicle to introduce various conditions that manage fishing effort and introduce data collection requirements to inform and bolster future management approaches. This is described in detail below.
- **Task 2:** Establish measures to protect whelk spawning stock through seasonal closures. Whilst regional variations in peak spawning periods are likely to exist around the English coast, there is evidence that significant volumes of whelk are removed during periods that coincide with spawning. Protecting stocks during spawning will allow individuals a greater chance of reproducing successfully and should improve stock viability when combined with additional effort restriction measures. Seasonal closures may also act as a temporary limit on fishing effort. Additional effort control measures will also need to be considered alongside the seasonal closures so that the benefits of a spawning closure can be best realised, if there are no excessive/compensatory increases in fishing patterns and effort. This is described in detail below.

These are preliminary management proposals for which there is:

- Some stakeholder support gathered through the industry-led Whelk Management Group and stakeholder feedback from FMP engagement activities;
- A need for regulatory intervention as opposed to voluntary agreements given the proposed nature or scale of the intervention;
- Reasonable scientific evidence to support the introduction of the measure and appropriateness for English Whelk fishery; and
- Some regulatory rationale to suggest that the proposed interventions will contribute to the delivery of fisheries management objectives laid out in the FMP.

Proposed policy: Manage fishery effort via a whelk permit scheme or entitlement

The purpose of this management measure is to:

- Better control fishing effort of whelk fisheries.
- Facilitate further fishery management measures by means of variable conditions.

English whelk fisheries are currently open access, meaning that any vessel with a fishing licence¹³ can fish for whelks in English waters. This makes 'whelking' an attractive option for vessels that are displaced from other fishing grounds or fisheries. The ease of switching to whelks is also a driver for increased effort during periods of high whelk prices, or price downturns for other species, as minimal vessel modifications are required, and the price of whelk pots is lower than other gear types. Sector flexibility to move between fisheries is important for the viability of smaller, predominantly, inshore sector vessels. Currently there is no ability to manage or restrict whelk effort outside of existing measures in certain IFCA jurisdictions up to 6nm.

A whelk permit scheme or entitlement will not immediately address effort expansion from those operators already active in the fishery, but it can be used as the mechanism to apply future management measures. This means that measures, such as effort limitations such as increased MLSs, pot and catch limits, spatial and/or temporal restrictions, or data gathering requirements, could be introduced as required, relatively simply once a new permit or entitlement scheme is in place. The whelk permit scheme or entitlement can provide flexibility in how the whelk fishery is managed in the future. However, introducing a permitting scheme or entitlement is complex and further policy development will be required to implement the measure and explore options for the design of a permitting system. Any new scheme would require consideration of a number of practical issues, these include, but are not limited to, how to assess the number of permits, eligibility for permits, payment for permits, impacts on newcomers and transferability.

Whelk stocks are data limited with limited means to reliably assess stock status or the impact that fishing pressure is having. Although scientific evidence is limited for offshore waters, anecdotal information, which includes expansion in pot numbers and indications that fishermen are operating further beyond their traditional fishing grounds, suggests that whelk stocks could be under pressure.

¹³ [Understand your fishing vessel licence - GOV.UK \(www.gov.uk\)](https://www.gov.uk/understand-your-fishing-vessel-licence)

Given the limited understanding of the health of whelk stocks, the introduction of a whelk permit scheme or entitlement is considered a vital first step in delivering long-term sustainable management of this important resource.

Proposed policy: Closed season to protect spawning stocks

The purpose of this management measure is to reduce fishing effort to:

- Protect individuals during periods of reproduction (copulation and spawning/egg laying); and
- Reduce overall fishing mortality.

Implementing a closed season, in combination with additional effort control measures, could contribute to conditions that increase the likelihood of strong recruitment of juveniles into the fishery. In turn, this should improve catches (volume and/or stability) and improve fishing efficiency over the medium- to long-term.

Research information provided by the Southern IFCA¹⁴ describes how whelk 'egg laying takes place between the months of October and May, depending on location'. Additional research¹⁵ provides an insight into the Solent whelk stocks which 'were found to lay eggs between December and February (Smith et al., 2013) whereas egg laying in Plymouth has been recorded between October and May (Lebour, 1937 cited in Hollyman, 2017)¹⁶'. Spawning variability is also present 'along the coast of Normandy [which] occurs mainly between October and December (Heude-Berthelin et al., 2011)¹⁷'. Closer to home, in areas outside of the English Channel, in North Wales, spawning has been recorded between November and December (Hollyman, 2017).

In English waters, whelk spawning appears to occur over winter¹⁸, and in many areas this coincides with a reduction in whelk fishing activity due to poor weather, lower catches (whelks become less active), and availability of other fisheries. However, some whelks are still landed during these peak spawning months and their protein content/meat quality is lower as it declines during spawning and post

14 [Whelk-Species-Profile.pdf \(toolkitfiles.co.uk\)](#)

15 Smith, K.E., Thatje, S., and Hauton, C., 2013. Thermal tolerance during early ontogeny in the common whelk *Buccinum undatum* (Linnaeus 1785): Bioenergetics, nurse egg partitioning and developmental success. *J Sea Res* 79:32-39

16 Hollyman, P., 2017. Age, growth and reproductive assessment of the whelk, *Buccinum undatum*, in coastal shelf seas. PhD Thesis, Bangor University, Anglesey

17 Heude-Berthelin, C., Hégron-Macé, L., Legrand, V., Jouaux, A., Adeline, B., Mathieu, M., Kellner, K., 2011. Growth and reproduction of the common whelk *Buccinum undatum* in west Cotentin (Channel), France. *Aquat. Living Resour.* 24, 317– 327

18 Determination of the Size of Maturity of the Whelk *Buccinum undatum* within the Devon & Severn IFCA District. (2015) Research Report KS012015. [Whelk Report 2015.pdf](#)

spawning periods. Implementing a closed season linked to spawning times would remove fishing pressure at this key time, allowing spawning individuals a greater chance of reproducing successfully. This should provide better conditions for strong recruitment events and contribute towards the conservation of whelk stocks, whilst providing consumers with consistently high-quality product.

Seasonal closures are a standard management intervention that have been applied in other shellfish fisheries across the UK and globally (including *Buccinid* whelks). By making use of the best available information, the proposed management intervention aligns with the 'precautionary objective' of the Act.

Longer-term interventions

As the evidence base improves, the potential management measures identified in Table 2 will be further developed and more targeted measures will be applied to manage fishing effort as required. Linkages to FMP objectives in table 1 and the Evidence and Research Plan in Annex 2 are provided to show how data and knowledge gaps should be addressed to enable the use of different management interventions. As better evidence is gathered for English whelk fisheries further adaptive management measures can be introduced to manage fisheries to MSY. This cyclical process will allow future iterations of the FMP, to focus on progressing fisheries management from more rudimentary, precautionary approaches whilst the evidence base is developing, towards a regime of agile management.

Any fisheries management intervention will result in a range of social, economic, and biological impacts. When implementing a new fisheries management measure, there is a statutory requirement to estimate the anticipated wider national benefits (for example, improved stock status of target species) as well as likely impacts on stakeholders and means of mitigating negative impacts. Broader impacts on local communities, economic social and human rights impacts will be set out in associated impact assessments that will be required as part of the development of measures.

Table 2: Summary of possible management measures for whelk fisheries in English waters; the assessment of each measure is based on current feasibility using existing evidence and additional supporting information where available.

As a guide, actions identified as short term are expected to be undertaken in 1-2 years of publication of the plan, medium term in the next 3-5 years and long-term measures 5+ years to reflect the more complex work required to develop them.

Measure	Likely current feasibility	Assessment
Whelk fishing permit scheme or entitlement	Short-term: no apparent evidence barriers to implementation, however there are a number of practical and administrative issues to consider	<p>Managing effort in the whelk fishery, for example, by creating a whelk permit scheme or entitlement, may provide a mechanism to apply additional management measures. This could include reporting requirements by permit / entitlement holders to improve the evidence base or additional measures (such as pot limits or seasonal closures, catch limits) to manage fishing effort from those within the scheme, as is already seen in some IFCA permitting schemes.</p> <p>In 2022, Wales introduced a permitting scheme for whelk fisheries in Welsh waters; in this scheme the total number of permits available is not limited and effort is controlled by annual and monthly catch allocations/limits. The scheme also includes provisions for a programme of evidence gathering and scientific monitoring to determine annual and monthly catch limits¹⁹.</p>
Seasonal spawning closures	Short-term – no apparent evidence	Information is available via Cefas fishery-independent data on whelk spawning seasons and time series data from the MMO on monthly catch records. Seasonal closures can be used to reduce fishing pressure on stocks when females are laying eggs and should improve reproductive success. Existing IFCA shellfish seasonal closures for other fisheries and

¹⁹ [The Whelk Fishing Permit \(Wales\) Order 2021 \(gov.wales\)](https://gov.wales)

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Measure	Likely current feasibility	Assessment
	barriers to implementation	emergency closures will need to be considered as part of this approach and more thinking is required around existing and future supporting evidence for local stocks and stocklets.
Gear design measures (for example, mandatory escape gaps)	Longer-term: some research required to understand efficacy and application	<p>Gear design measures are already enforced in some IFCA jurisdictions, but efficacy should be better understood. Fishing Industry Science Partnership (FISP) funded research by the WMG, and Heriot-Watt University is underway to evaluate different pot designs and escape hole configurations to minimise catches of undersized whelks. Effective use of escape holes is based on understanding the regional whelk shell morphology and biology (linked to effective use of MLS) to ensure that gear design measures a) afford appropriate protection to stocks and b) do not disproportionately impact fishers in certain areas.</p> <p>Technical conservation measures could play an important role in protecting juveniles prior to recruitment to the fishable stock; avoiding catching juvenile whelks also minimises the risk of exposing them to damaging handling practices and post-release mortality or depredation.</p> <p>Research needs 7.3 in the Evidence and Research Plan addresses data and knowledge gaps related to this management measure.</p>
MLS variations	Longer term: some research required to determine efficacy and	<p>Incomplete data on variations in size of maturity for different whelk stocks around the English coast, means this measure requires a more local approach in its implementation. As demonstrated by the IFCAs, different areas will continue to require a local approach that considers the variable size and growth rates of whelks. There is also the need to have a coordinated approach in inshore and offshore waters and harmonisation of MLSs, where appropriate, will be considered.</p>

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Measure	Likely current feasibility	Assessment
	appropriate spatial scales	<p>There are reported concerns about the survivability of undersized whelks when returned to the sea after capture; research suggests that repeated handling (grading by manual or mechanical riddling) can significantly impact shell growth and repair, and whelk survivability.²⁰ Voluntary whelk handling guidance for fishers²¹ prepared by Professor Michel J. Kaiser, Heriot Watt University, on behalf of the Whelk Management Group offers advice and tips on careful handling and future gear modifications can help prevent undersize whelks from being caught in the first place.</p> <p>Given local considerations with whelk Size of Maturity (SOM), i.e. different stocks mature at different times which influences MLS considerations, and therefore reliance on MLS may create two challenges: a) if stock specific MLS is applied, it could create a complex management landscape (each stock with its own MLS) that is difficult and costly for fishermen to adhere to and complex for regulatory authorities to monitor and enforce; b) if a single MLS is implemented across all whelk stocks, it could unnecessarily restrict fishing activity in some areas and may fail to protect juvenile whelks in others.</p> <p>Research needs 1.2, 2.1, 2.3, and 7.6 in the Evidence and Research Plan address data and knowledge gaps related to this management measure.</p> <p>To move this measure forward a bespoke MLS increase for one stock in one area could be introduced as a pilot scheme to test these challenges.</p>

²⁰ Colvin et al., (2022) The effect of environmental factors on shell growth and repair in *Buccinum undatum*

²¹ [Why it pays to treat your whelks well \(1\).pdf](#)

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Measure	Likely current feasibility	Assessment
Catch limit	Longer-term: utilise existing data and address gaps to inform evidence-based management action	<p>A stock assessment for whelks is being designed to determine safe biological limits for fishing mortality. Currently, for a catch limit to be implemented, in the absence of a stock assessment, consideration of introducing catch limits based on historic fishing activity (landings) could be taken.</p> <p>In 2022 Wales implemented an Annual Catch Limit (ACL) for whelk fisheries, the ACL is attached to a permit and is distributed throughout the year using a flexible catch limit of 50 tonnes per vessel per month. The ACL in Wales was initially set based on the average landings of whelks in Wales between 2015 and 2019. Over time the limit will be refined based on uptake and fishery-independent survey data linking catches to likely stock abundance.</p> <p>In the Welsh scheme there is no limit on the number of permits available. Monthly catch limits are adjusted based on uptake; it is a system of equal allocation of a shared resource where all permit holders have an equal share of the allowable catch, and they are free to manage their allocation according to their business needs.</p> <p>Research needs 1.2, 2.1, 2.3, 3.1, 3.2, 4.1, 4.2, and 7.6 in the Evidence and Research Plan address data and knowledge gaps related to this management measure.</p>
Pot limit	Longer-term: significant research required to address gaps to inform	<p>Data on current fishing effort in offshore waters (numbers of pot hauls, pot design, soak times, whelk catchability due to different baits / seasons) is something that needs to be collected. Data also needs to distinguish between pot types so that pot limits can be set effectively to limit fishing mortality.</p>

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Measure	Likely current feasibility	Assessment
	evidence-based management action and enforcement considerations	<p>Implementation of iVMS may provide a proxy of pot numbers hauled in the future as will improving the fishery dependent data collection and measures to require mandatory effort monitoring. There are examples of pot limits being used successfully in whelk fisheries elsewhere (for example, Basse-Normandie / Granville Bay) but are predicated on CPUE reference points (which are not yet available for whelk fisheries in English waters) and are also linked to the number of crew members working aboard the vessel.</p> <p>Harmonisation of pot design and capacity can be considered to prevent circumvention of pot limitations, for example through the deployment of larger or more efficient pots.</p> <p>Effective enforcement of pot limits requires additional gear marking regulations, as the Scottish marking of creels regulation demonstrates²².</p> <p>Constructive engagement with fishermen will contribute to successfully recovering pots beyond a pot limit.</p> <p>Research needs 1.1, 1.2, 2.1, 2.3, 3.1, 3.2, 4.1, 4.2, and 7.5 in the Evidence and Research Plan address data and knowledge gaps related to this management measure.</p>

22 [The Marking of Creels \(Scotland\) Order 2020 \(legislation.gov.uk\)](https://legislation.gov.uk)

Environmental Considerations

The FMP will contribute to policies relating to the wider marine environment, specifically the requirement to ensure the health of our seas for future generations, ambitions to restore biodiversity, and to address climate change.

The Environmental Improvement Plan 2023 for England: This details the goals that government will pursue to improve the environment within a generation. It sets out how marine biodiversity will be protected and restored and how the management of fishing should take an ‘environment first’ approach. It sets out a series of ambitious targets with the following relevance to the Whelk FMP:

Table 1: Summary of relevant environmental legislation and FMP obligations

Environmental UK legislation and frameworks	FMP obligations
<p>The Conservation of Habitats and Species Regulation 2017</p> <p>The Conservation of Offshore Marine Habitats and Species Regulations 2017</p>	<ul style="list-style-type: none"> • FMPs and their measures must not result in adverse impact to site integrity for European Marine Sites. • FMPs and their measures must not result in an adverse impact to site integrity for Offshore Special Areas of Conservation and Special Protection Areas (SPAs). • to the competent authority must undertake a Habitats Regulation Assessment (HRA) to determine whether the FMPs (including proposed management measures) may have an impact on Marine Protected Areas (MPAs) features or site integrity.
<p>Marine and Coastal Access Act 2009</p>	<ul style="list-style-type: none"> • FMPs and their measures must not hinder the conservation objectives of Marine Conservation Zones (MCZs). • FMPs may need to undertake an MCZ impact assessment to determine whether they (including proposed management measures) may have an impact on MPA conservation objectives.

Environmental UK legislation and frameworks	FMP obligations
<p>UK Marine Strategy (UKMS) Regulations 2010</p>	<ul style="list-style-type: none"> • The UKMS requires the UK to take the necessary measures to achieve or maintain Good Environmental Status (GES), set out through the UK Marine Strategy. • The UKMS identifies FMPs as a tool to support the delivery of GES.
<p>Environment Act 2021</p>	<ul style="list-style-type: none"> • When developing fisheries management measures or policies, FMPs must have due regard to the Environmental Principles Policy Statement in the Environment.

Ensuring that all fish stocks are recovered to and maintained at levels that can produce their maximum sustainable yield.

The Whelk FMP sets out the roadmap to contribute this target by delivering, in time, a comprehensive harvest strategy underpinned by a reliable stock assessment methodology, which is supported by a consistent data collection and research programme; and a series of targets relating to protecting and restoring wider marine biodiversity including increasing the proportion of protected and well-managed seas, better managing existing protected sites, and ensuring populations of key species are sustainable with appropriate age structures.

The Whelk FMP sets out an approach to better understand the impacts that whelk pot fishing may have on the marine environment and to ensure action is taken when such impacts may prevent us achieving these targets.

UK Marine Policy Statement (MPS) and individual Marine Plans in English waters: The MPS establishes the overarching framework to support the formulation of Marine Plans, to ensure marine resources are used in a sustainable way. The MPS details the objectives that will drive Marine Plans and the overarching outcomes sought. These include sustainable economic development, a low-carbon economy, a sustainable marine environment, and realising the societal benefits that the marine area can provide.

There are 11 Marine Plans covering English waters (see Annex 1) and collectively they put into practice the objectives for the marine environment identified in the MPS. Marine Plans should provide for fishing and aquaculture use and ensure that

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decisions on other marine uses support habitats for fish stocks (nursery or spawning grounds).

The Whelk FMP objectives align with the MPS objectives in terms of the shared ambitions to deliver:

- A sustainably harvested whelk stock over the long-term and a diverse and healthy marine environment;
- Whelk resources that are managed to deliver economic prosperity to coastal communities and across the seafood supply chain;
- Opportunities for stakeholders to engage in and collaborate on management decisions relating to whelks; and.
- Decision making that is underpinned by scientific and socio-economic evidence, with decisions monitored to ensure they are effective.

Measures developed under the Whelk FMP should take account of the requirements of the relevant Marine Plan. Similarly, decisions on wider marine access and use made under a Marine Plan should consider the objectives of the Whelk FMP. The government will explore the relationship between marine spatial planning and fisheries management plans so these policies can work in a joined-up way to ensure more effective use of the marine space and resources - this process in England will be supported by the outputs from the Marine Spatial Prioritisation Programme.

The UK Marine Strategy (and Good Environmental Status): The UK Marine Strategy provides the framework for delivering clean, healthy, safe, productive, and biologically diverse oceans and seas. It consists of a 3-stage framework for achieving good environmental status (GES) in our seas through protecting the marine environment, preventing its deterioration, and restoring it, where practical, while allowing sustainable use of marine resources.

The Whelk FMP will contribute to GES by managing fishing activity to harvest whelks within sustainable limits in English waters. This FMP will seek to improve the science and information base on the status of whelk stocks, establishing if whelk pot fishing has an adverse impact on the marine environment and intervening if it does, and ensuring that whelk harvesting is responsibly managed so that fisheries are profitable and capable of delivering social and economic benefits.

Marine wildlife bycatch mitigation initiative: The marine wildlife bycatch mitigation initiative sets out how the UK will achieve its ambitions to minimise and, where possible, eliminate the accidental capture and entanglement of sensitive marine species in UK fisheries. The Whelk FMP will contribute to the initiative by improving monitoring of bycatch, identifying, and managing (through bycatch mitigation measures) bycatch hotspots.

The ecosystem objective of the Act explicitly requires that incidental catches of sensitive marine species should be minimised and where possible eliminated. While sensitive marine species bycatch is considered low in the whelk pot fishery, the Whelk FMP proposes that a bycatch monitoring plan is implemented across all whelk fisheries in English waters to understand the extent of interactions and the scale of risk that these interactions pose to marine species populations. Further details can be found in Whelk Specific Objective 5 and in 'Meeting Environmental Considerations section'.

Climate Change Act 2008: This legislation establishes the target to reach net zero by 2050. The FMP will ensure that research and tools are in place so that the shellfish supply chain is equipped to minimise its emissions, and to enable the fishing industry to understand and adapt to the environmental impacts of climate change.

Further details on how this contribution will be achieved is summarised in the FMP shared principles in Annex 6.

Implementation, monitoring and review

Implementation

The Whelk FMP sets out a vision and goals for the whelk fishery, together with the policies and management interventions necessary to achieve these goals. The FMP proposes new measures but will not implement them. The actions and measures contained within the FMP will undergo a subsequent implementation phase as appropriate mechanisms will be required to deliver them. Such mechanisms could include voluntary measures, license conditions, national and regional byelaws, and statutory instruments. This implementation phase will build on the existing evidence base, any action taken throughout the FMP's development, and the options discussed and developed with stakeholders.

Specific timings on this process will depend on the outcome of the FMP consultation, the costs and benefits of the proposals and the length of time required for implementation.

Subsequent implementation roadmaps will be subject to regular monitoring and review to ensure progress. The Whelk FMP is subject to a statutory review process at least 6 years after publication, at which point it will be necessary to evidence what has been achieved through the implementation of those actions and measures. In line with the strategic environmental assessments developed alongside this FMP, this review process will build in monitoring for potential environmental effects, to help

establish whether any changes are needed in the management of the respective fisheries.

Monitoring performance

The Whelk FMP is subject to a statutory review process at a maximum of 6 years after publication, at which point it will be necessary to evidence what has been achieved through the implementation of those actions and measures.

Delivery of the actions/measures for the Whelk FMP will be monitored and assessed against a set of performance indicators to ensure the overarching outcomes and actions are effective in achieving FMP goals and the requirements of the Act. Initial performance indicators will be included in the published FMP and will be further developed during the first reporting cycle. In line with the Act, the long-term outcome for whelk stocks in English waters is that these fisheries are managed to ensure stock status reaches and remains at or above MSY, and that any environmental effects arising through the implementation of the Whelk FMP are monitored and addressed where required. For data poor or data limited stocks such as whelks, it is not possible to say how quickly stock status at or above MSY will be achieved. Therefore, initial performance assessment will be based on contributing components which can demonstrate ahead of the six-year review that meaningful progress has been made to deliver on this plan.

These contributing components will include but are not limited to:

- Data collection programmes developed, implemented, and funded to provide regular time series of data to inform management
- Agreed stock boundaries (or functional units)
- Establishment of indices of abundance with at least two years of effective reporting

The Whelk FMP proposes several specific management measures to deliver progress that will be tested against the above indicators. Following the outcome of the consultation, which will decide which measures should be prioritised, detailed monitoring plans and target delivery dates will be put in place. These plans will include key milestones to deliver outcomes following publication of the final FMP later this year and the next iteration at the 6-year review point.

Review & Revision of the Whelk FMP

The Whelk FMP must be reviewed when appropriate and at least every six years. This formal review will assess how the FMP has performed in terms of delivering against the objectives of the Act.

Proposed FMP for Whelk in English Waters

The findings of these reviews will inform the development of subsequent iterations of the Whelk FMP. Further, the FMP will be assessed in the round as part of the process to report on the contribution of FMPs to the delivery of the JFS. The Act requires fisheries policy authorities to report on the JFS every three years and review the JFS whenever deemed appropriate, or at least within six years of publication.