Proposed Atlanto-Scandian herring Fisheries Management Plan

July 2026

Department for Environment, Food & Rural Affairs

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Executive Summary

The Atlanto-Scandian herring Fisheries Management Plan (FMP) is one of 43 FMPs set out in the Joint Fisheries Statement (JFS). It has been developed by the Scottish Government, Department for Environment, Food & Rural Affairs (DEFRA) and the Department of Agriculture, Environment and Rural Affairs (DAERA) with input from industry, scientists, non-governmental organisations (NGOs), and Statutory Nature Conservation Bodies (SNCBs).

This FMP sets out the policies and actions to manage the Atlanto-Scandian herring (ASH) stocks at sustainable levels, ensuring that they can continue to play a key role in providing positive socio-economic benefits to the UK, whilst also setting out a number of actions to improve management where this is needed.

ASH (*Clupea harengus*) is the generic term used for several stocks of herring, the largest of which is the Norwegian spring-spawning (NSS) herring. The FMP applies to sustainable management of ASH fisheries within UK waters of the ICES subareas 1, 2, and 5, and in divisions 4.a and 14.a and has been developed in line with the fisheries objectives of the Fisheries Act 2020 (the '2020 Act') and as required by the JFS.

Overall management of this fishery is shared with coastal State partners. This international context is important to understand when considering sustainability and wider management issues. Fishing opportunities for ASH are managed by total allowable catches (TACs). The setting of TACs can be an effective way of managing fishing pressure on fish stocks. TACs and other joint management measures are agreed through international negotiations which are guided by the best available scientific advice, whilst also balancing environmental, social, and economic factors.

ASH is a pelagic stock caught almost exclusively by a pelagic targeting fleet within UK waters and also outside of UK waters. ASH is of commercial importance within UK waters, with the landed value by the UK fleet reaching £20 million in 2024. It is a stock which has sufficient evidence to assess maximum sustainable yield[1] (MSY).

ASH is currently assessed as being fished within safe biological limits and is managed under a long-term management strategy agreed between coastal States. This FMP therefore describes a vision with policies and actions which set out how management can continue to support an MSY approach for the ASH fishery, and highlights areas that could lead to refinements to management approaches in the future. Areas for action include those which support the wider delivery of policies within the JFS and which contribute to the delivery of the objectives contained within the 2020 Act.

[1] An explanation of a MSY approach to fishing is provided in Advice published by ICES

Abbreviations

ASH – Atlanto-Scandian Herring

NSS – Norwegian Spring-Spawning (herring)

B_{PA} - Precautionary Biomass reference point

Blim - Biomass Limit reference point

Btrigger - Maximum Sustainable Yield Biomass trigger

CFP – Common Fisheries Policy

CO_2e – Carbon dioxide equivalent

DAERA – Department of Agriculture, Environment and Rural Affairs Northern Ireland

Defra – Department for Environment, Food & Rural Affairs

EEZ – Exclusive Economic Zone

FMP – Fisheries Management Plan

GES – Good Environmental Status

HCR – Harvest Control Rule

ICES – International Council for the Exploration of the Sea

JFS – Joint Fisheries Statement

LTMS – Long-Term Management Strategy

MCRS – Minimum Conservation Reference Size

MPA – Marine Protected Area

MSY – Maximum Sustainable Yield

OSPAR – Convention for the Protection of the Marine Environment of the North-East Atlantic

PMF – Priority Marine Feature

REM – Remote Electronic Monitoring

VMS – Vessel Monitoring System

SSB – Spawning Stock Biomass

WGWIDE – ICES Working Group on Widely Distributed Stocks

BMP – Bycatch Monitoring Programme

SPIDSCP – Scottish Pelagic Industry-Science Data Collection Programme

BESS – Barents Sea Ecosystem Survey

SAM – State-Space Assessment Model

SNCB – Statutory Nature Conservation Body

TAC – Total Allowable Catch

What is an FMP?

An Fisheries Management Plan (FMP) is 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 or contribute to the restoring or maintenance at sustainable levels. It is an evidence-based action plan that supports delivery of sustainable fisheries for current and future generations. The FMP is a strategic plan that must be reviewed and, if necessary, revised at least once every six years. It sets out both a long-term vision for the fishery (or fisheries), together with the policies and management interventions necessary in the medium-term to achieve this vision.

Why an FMP for Atlanto-Scandian herring?

ASH is a stock of herring caught mainly as part of a directed pelagic fishery. ASH is found within UK waters of ICES area 2a and also outside of UK waters. Although catches of ASH are small in comparison to other multi-party pelagic stocks, the landed value in 2023 was worth £5.5 million to the UK fleet and because of its commercial significance ASH was prioritised for an FMP. In recent years, all ASH landings by UK vessels have been from Norwegian waters.

Stakeholder Engagement

This FMP has been informed by a range of stakeholder engagement initiatives. A working group of over 50 industry, environmental and Statutory Nature Conservation Bodies (SNCBs) stakeholders was formed in 2023 and met multiple times to help inform the overall shape and contents of Scottish-led FMPs. On pelagic FMPs specifically discussion took place over a number of months to gather additional views and input. This was part of a process known as ‘pre-consultation’. As part of the process, the Scottish Government shared drafts of some of the pelagic FMPs and gathered comments from stakeholders at workshops held in March 2026. Stakeholder knowledge has been valuable in providing context for the FMP, and in developing meaningful actions that will support the sustainable management of ASH in the future.

Feedback received as part of formal public consultation will help shape the final FMP.

Vision

The vision for this FMP is that the ASH fishery in UK waters is managed sustainably, to help ensure that stocks are maintained above biomass levels capable of producing Maximum Sustainable Yield[2] (MSY).

The policies and actions laid out in this FMP set out how this will be delivered in a way that is consistent with, and supportive of, the wider achievement of the fisheries objectives set out in the Fisheries Act 2020, the policies contained within the Joint Fisheries Statement (JFS) and other legislative commitments.

Policies

The ASH stock is currently assessed as being fished within safe biological limits and is managed under a long-term management strategy agreed between coastal States. As a widely distributed and jointly managed stock, its sustainability reflects the cumulative effect of fishing activity across multiple parties. The agreed management framework provides a basis for sustainable exploitation, but its effectiveness depends on continued cooperation and consistent implementation. This FMP therefore focuses on ensuring that UK fisheries operate responsibly within that shared management framework.

As sufficient evidence is available to assess MSY, the FMP must contain policies and actions which at least contribute to restoring or maintaining the stock at MSY. In addition, in accordance with section 5.4 of the JFS, the design and structure of FMPs directly relate to the fisheries objectives identified in section 5.4.2 but may also address wider issues in fisheries management depending upon the specific goals or targets of each plan and may contribute to one or more of the remaining fisheries objectives.

To ensure effective ongoing management of the ASH fishery in UK waters, the FMP identifies six policies focussed on domestic and international management priorities. Each policy describes the outcome that is being worked towards, and the actions are intended to support the delivery of those outcomes

The policies are subject to the consideration of the consultation and will be prioritised to ensure realistic and measurable outputs. They were drafted to meet the requirements of section 6(3)(a) of the Fisheries Act 2020 (policy 1) and policies set out in the JFS (policies 2, 3, 4, 5 and 6).

For each policy, the plan sets out:

- a rationale;
- ongoing, short and longer-term actions;
- how the actions support delivery of the fisheries objectives.

[2] The Fisheries Act 2020 defines Maximum Sustainable Yield (MSY) as ‘the highest theoretical equilibrium yield that can be continuously taken on average from a marine stock under existing environmental conditions without significantly affecting the reproduction process

Performance indicators for the FMP are addressed towards the end of this document.

The six policies of this FMP are to:

- Policy 1: Harvest the ASH stock sustainably, contributing to maintaining or restoring the biomass above the level capable of producing MSY
- Policy 2: Use the best-available scientific evidence to support management decisions relating to the setting of sustainable fishing opportunities
- Policy 3: Monitor catches of ASH and ensure that where possible all catches are counted against quotas
- Policy 4: Identify and support implementation of ecosystem-based fisheries management approaches appropriate for the ASH fisheries.
- Policy 5: Support fishing businesses to deliver socio-economic and cultural benefits for communities
- Policy 6: Reduce the impact of fishing on climate change and support the fishing industry to adapt to the impacts of climate change

Scope

This FMP relates to Atlanto-Scandian herring (ASH) (*Clupea harengus*). ASH is the generic term used for several stocks of herring, the largest of which is the Norwegian spring-spawning (NSS) herring. Throughout this document ASH refers to these stocks of herring, unless otherwise stated. The ICES advice relevant to this stock covers Norwegian spring-spawning herring in subareas 1, 2, and 5, and in divisions 4.a and 14.a. For the purposes of management, ASH / NSS herring is defined as herring caught north of 62°N, which includes UK waters of division 2a and relevant parts of division 4a. Therefore, the scope of this FMP is herring caught in the relevant UK waters of divisions 2a and 4a, although currently there are no vessels either UK or non-UK targeting ASH in 4a.

The Fisheries Act 2020 requires the relevant authority, or authorities, to prepare and publish FMPs in accordance with the list and timetable included in the JFS.[3] The relevant authorities for this FMP are the Department of Agriculture, Environment and Rural Affairs (DAERA), the Department for Environment, Food & Rural Affairs (Defra), and the Scottish Government.[4] The plan has been prepared and published jointly by the relevant authorities for the purposes of the Fisheries Act 2020. As the coordinating authority, the Scottish Government has coordinated the preparation and management of this plan on behalf of the other relevant authorities.[5]

[3] UK Government (2022) Joint Fisheries Statement. The updated timetables are set out in the updated Annex A (amended December 2024)

[4] The definition for an "authority" is given in Annex A (p. 55) of the JFS, which is: "**Authority or Authorities responsible for preparation and publication of plan**: The authority or authorities which are responsible for preparing and publishing the plan. There can be up to four fisheries policy authorities acting jointly in a plan"

[5] The definition for a "co-ordinating authority" is given in Annex A (p. 55) of the JFS, which is: - "**Coordinating Authority**: The fisheries policy authority which will coordinate the preparation and management of the plan on behalf of the other fisheries policy authorities acting jointly"

Background

Stock

ASH is the largest herring stock in the world and is of significant commercial importance to the vessels that target it.

ASH is the generic term used for several stocks of herring found in waters north of 62ºN, the largest of which is the NSS herring.

NSS herring, spawn during February and March along the northern Norwegian coast, before feeding across the Norwegian sea during summer months. The majority of UK landings are during this period, targeting spawning stock, although other nations target the stock during both this period and also at the end of the calendar year. The southernmost extent of this feeding distribution lies in the UK waters of the northern North Sea, but the majority of the fishery takes place outside of UK waters. The feeding migration takes place just after spawning, with the larger fish travelling further, leading to a size gradation in distribution during the feeding months. Herring will spend the winter in overwintering areas, although the location of these has varied over the years.

The stock is typically sustained through sporadic large recruitment events producing strong year classes (e.g. 1993, 2004, 2006, 2016 Since then, SSB has declined due to absence of strong year classes between 2005 and 2015. The 2016 year-class was, however, estimated to be well above average in the 2023 assessment and resulted in an increase in SSB from 2020 to 2021. After that, the SSB declined over the period 2022 and 2023 and is predicted to be below Bmgt in 2026 but above Bmgt in 2027. At the time of writing fishing pressure on the stock is below F_{MSY}. Spawning-stock size is below MSY $B_{trigger}$ and between B_{PA} and B_{lim}.

Location

This stock is found in International Council for the Exploration of the Sea (ICES) subareas 1, 2, and 5, and in divisions 4.a and 14.a (Northeast Atlantic and Arctic Ocean). For management purposes, the fishing area for this stock for UK vessels is set as ICES subareas 1 and 2. As noted below, given the management arrangements that are in place, the content of this FMP only applies to UK waters (division 2a and 4a).

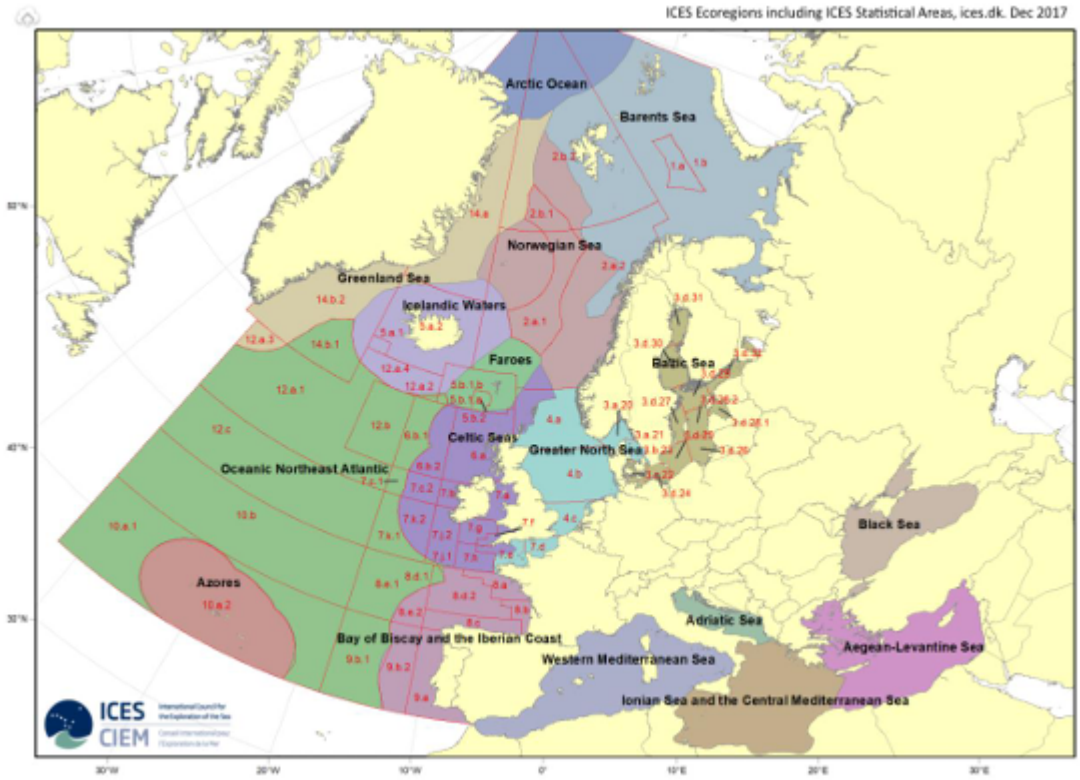

Figure 1: ICES ecoregions and statistical areas (Divisions), where Norwegian spring spawning herring is distributed. Also, adjacent Divisions are shown.

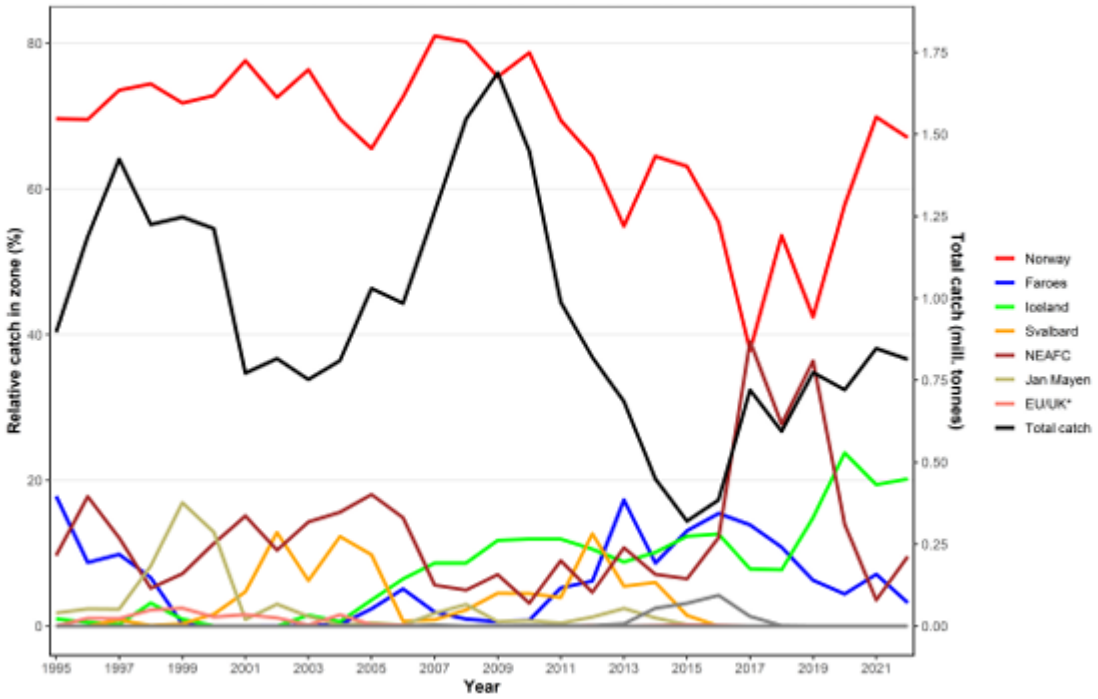

Figure 2: Relative catch by EEZs in the period 1995-2023.*Change from EU to UK EEZ from 2021. Source: Working Group on Widely Distributed Stocks (WGWIDE) (figshare.com).

Fishery

ASH are caught almost exclusively by the pelagic-targeting fleet, which accounted for over 99% of the total ASH catch in UK waters between 2018 and 2024. Whilst the stock is present in UK waters of 2a, in recent years UK vessels have primarily caught ASH in Norwegian waters, under bilateral access arrangements[6]. Analysis was undertaken of the UK fishing fleet catching ASH in all of ICES area 2a, as this is the data that we have available.

In 2024, Scottish registered vessels were responsible for 100% of the UK fleet landings. The tonnage of these landings varies significantly year on year, with no landings seen in 2021 (as no bilateral agreement was in place between the UK and Norway for reciprocal access), and 9,620 landings in 2022.

Analysis of UK fisheries data shows that almost all ASH landings by UK vessels are caught using trawls, which accounted for over 99% of the catch between 2018 and 2024.

Table 1 shows the value and weight of landings of ASH between 2018 and 2024[7]. Landings peaked in 2021 at 9,620 tonnes, while the value peaked in 2024 at £20,280 million

Table 1: Landings of Atlanto Scandian herring by UK vessels, 2018 to 2024

Landings	2018	2019	2020	2021	2022	2023	2024
Landed Value (£ thousand)	1,040	610	1,070	0	4,540	5,550	20,280
Tonnage	2,582	1,801	1,981	0	9,620	7,607	5,843
Price per tonne (£)	403	339	540	0	472	730	3,471

Between 2015 and 2024, the primary landing locations for the UK fleet catching ASH were outside of the UK. Norway was the most popular landing destination for ASH, seeing 89% of the total catch, whilst Denmark saw 10%. Less than 1% was landed outside of these two countries. It appears that no significant amount of ASH is landed into the UK, suggesting that the species is not of significant importance for any ports within the UK.

The only Seafish fleet group[8] who caught ASH between 2015 and 2024 was the over 40m pelagic segment. The ASH stock represented only 1% of this fleet segment's total landed value, and 1% of their tonnage. As such, the stock of ASH is of less commercial importance than other pelagic stocks to this fleet segment, but has nevertheless of economic significance in the UK.

[6] Report of the coastal States working group on the distribution of Norwegian spring spawning herring in the North-East Atlantic and the Barents Sea
[7] Sea fisheries: statistics - gov.scot
[8] More information on Seafish fleet segment grouping is available here.

Pelagic fisheries are, in the main, classed as a relatively 'clean' fishery, meaning that issues with discarding and bycatch are deemed to be minimal. However, given the capability of pelagic trawl vessels to take large tonnage hauls, the impact of any discarding, misreporting or slipping of catch, should it take place, would be considered high. The introduction of Remote Electronic Monitoring (REM) in Scottish waters, where the majority of pelagic fishing takes place in the UK, provides an enhanced level of confidence and ensure that effective tools are in place to deter and detect any illegal activity. Defra is also working towards introducing REM in this fishery.

Stock Assessment and MSY

Scientific evidence

As set out in Section 3.2 of the JFS, the UK takes an evidence-based approach to fisheries management, making use of the best available scientific evidence. For the purpose of stock management and Total Allowable Catch (TAC) setting, this tends to focus on the use of advice produced by ICES, although other sources of information, including data from the fishing indu.stry, may also be used.

ICES provide annual advice for NSS herring. Different models are used for assessment and advice, depending on availability and quality of data and uncertainty. The type of assessment is categorised from 1 (quantitative/analytical) to 6 (bycatch only data). The advice type is then given based on MSY principles, including data limited approaches (MSY proxy), and/or following a Precautionary Approach. NSS herring is a Category 1 stock which means that it is considered to have full age- and size-structured data on which to base an assessment, and that MSY reference points are available to provide a framework for advice on sustainable management.

Benchmark exercises are a process used by ICES to evaluate existing and new scientific evidence and methods and, where relevant, apply them in the stock assessment process. They are part of the continuous improvement process which ensures that ICES advice is based on the best available scientific evidence. ICES completed an assessment benchmarking process for ASH in 2025. Reference points have been updated; F_{MSY} has been revised upwards, and MSY $B_{trigger}$, B_{PA}, and B_{lim} have been reduced.

Assessment of evidence

The following evidence has been collated from the most recent ICES assessment working group report on Widely Distributed Stocks (WGWIDE)[9].

ASH have a high level of data available overall. On this basis, there is sufficient available scientific evidence for the relevant fisheries policy authorities to make annual MSY assessments of the stocks.and provide advice on sustainable catches

[9] Working Group on Widely Distributed Stocks (WGWIDE) - ICES

using the MSY approach The stock was benchmarked in 2025 with the new assessment model now comprising of data from radio-frequency identification (RFID) tagging, and one new recruitment survey from the Norwegian and Russian Barents Sea ecosystem survey in August−October (BESS).

The SSB on 1 January 2026 is estimated by ICES to be 3.012 million tonnes which is below B_{pa} (3.177 million t). The spawning stock has been declining since 2009 but increased in 2021 and 2022 followed by a decrease again in 2023 to 2025. The newly benchmarked assessment of NSS leads to a somewhat revised perception of the stock. The estimated SSB in 2024 was 5% lower in this year's assessment compared to last year; further back in time the difference was larger. In the last 30 years, several large year classes have been produced (1998, 1999, 2002, 2004 and 2016). The year classes 2005-2015 and 2017-2019 are estimated to be average or small. Results from surveys in the Barents Sea the last two years have estimated the size of the 2021 and 2022 year-class above average. Fishing mortality in 2024 is estimated to be 0.156 which is above the management strategy F (0.14) but below F_{MSY} and F_{pa} (0.21).

As already noted above, recruitment for ASH is irregular, which means that biomass can fluctuate significantly, with some years of sporadic large recruitment. Therefore, the relative health of the stock also fluctuates

The catch advice for the stock is based on the Long-Term Management Strategy (LTMS) agreed by the European Union, the Faroe Islands, Iceland, Norway, and Russian Federation in 2018, and subsequently by the UK in 2020[10].

Fisheries management

Management strategy for ASH

In the JFS, the UK fisheries policy authorities lay out a shared ambition to deliver 'world class, sustainable management of our sea fisheries and aquaculture across the UK, and to play our part in supporting delivery of this globally'. The JFS also states that 'As part of being an independent coastal State, the fisheries policy authorities will work together to support a vibrant, profitable, and sustainable fishing and aquaculture sector supported by a healthy marine environment that is resilient to climate change'. These ambitions are managed in line with numerous domestic and international policy drivers, which oblige action to consider and mitigate for the wider adverse environmental impacts of fishing activity.

In UK waters fisheries are managed in line with UK fisheries legislation (such as the Fisheries Act 2020, UK and devolved administration secondary legislation) and licence conditions where appropriate. The management of the fishery in the UK is carried out within this overarching context.

[10] Agreed_Record_-_NSSH_-_18.oktober_2024.pdf

The ASH fishery is managed jointly between Coastal States that includes setting the annual TAC. The approach to trilateral negotiations follows the principles for international negotiation stated in the JFS.

Once the coastal States negotiations conclude an agreement on the TAC it is set out in an Agreed Record of the consultations. However, there is currently no agreement on how the TAC should be divided amongst the Parties, therefore shares are set unilaterally by each Party which, when combined, have totalled more than 100% in recent years. In order to help manage fishing pressure, the UK has maintained its share at 1.95% in recent years, and has not increased this. Discussions are ongoing between coastal States to address this issue through the establishment of a new sharing arrangement. Agreeing a sharing arrangement is important for securing the long-term sustainability of the stock and is an action set out within this FMP. We will continue to promote a science- and evidence-based approach to managing this stock.

Following the conclusion of annual coastal States negotiations, the UK's share of the TAC is published in the UK Quota Determination Document by the Secretary of State under section 23 of the Fisheries Act 2020[11]. Following this, the UK's quota is apportioned between the four UK Fisheries Administrations in line with the UK Quota Management Rules[12]. Each UK Fisheries Administration then allocates its share of apportioned quota to vessels/licences under their administration, in line with their quota management[13] and Section 25 of the Fisheries Act 2020. Quotas are transferable, for example, they may be exchanged between the management groups which represent UK fishing vessels or exchanged with the EU.

The LTMS agreed in 2018 between coastal States set a Harvest Control Rule (HCR). ICES evaluated the strategy and found it to be precautionary. However, ICES have also warned that due to Parties exceeding the agreed TAC, current implementation of the LTMS may no longer be precautionary. Therefore, the overall long-term viability of the LTMS is likely to be dependent on a sharing agreement being put in place.

Current technical measures

All fishing activity in UK waters is managed through a range of technical measures. These technical measures were historically laid out in the form of technical conservation regulations written into the Common Fisheries Policy (CFP) legislation and through various EU delegated acts, which have been retained into UK law following the UK's exit from the European Union and are referred to as 'assimilated law'. Following the UK's exit from the EU, the UK Government and devolved administrations have various powers available to them to introduce new technical

[11] Fishing opportunities for British fishing boats. Guidance explaining the fishing opportunities available to British fishing boats, including catch limits (quotas) and other restrictions for different fish stocks and fishing areas.
[12] UK Quota Management Rules. Sets out how UK fishing quotas are divided and managed across the UK, including how quota is allocated to fisheries administrations, fishing groups and vessels.
[13] Separate quota management rules as set by the Scottish Government, Defra and DAERA.

measures, for example by using licence conditions, or through secondary legislation under the Fisheries Act 2020 or other relevant UK laws.

Technical measures tend to apply to specific groupings of vessels, or types of fish, and as such can be very similar. This means that the technical measures in place to support sustainable exploitation of the ASH stock, are likely to be similar to those in place to manage the other pelagic stocks.

Fishing for ASH is widely dispersed, both spatially and temporally, the regulatory landscape is complicated.

Current technical measures[14] in place in UK waters to ensure sustainable exploitation of the ASH stock include:

- Minimum Conservation References Sizes (MCRS) (which prevents targeting of undersized fish by ensuring that only fish above the MCRS can be sold for human consumption),
- Minimum mesh sizes and structure of fishing nets (which set a minimum standard intended to reduce catches of fish below the MCRS and generally make fishing operations more efficient and effective),
- Other domestic legislation stipulates that all catches of quota species, which includes ASH and includes all catches below MCRS must be landed and counted against quota unless exemptions apply.

Further detail regarding technical measures can be found on the UK Government's Technical Conservation and Landing Obligation rules and regulations webpage[15].

Current monitoring and enforcement

Fisheries regulations serve a range of purposes, including the prevention of actions which adversely impact the sustainability of the marine environment. Fisheries policy authorities are focused on reducing the main risks for non-compliance with those regulations.

Fisheries enforcement authorities (the Marine Directorate of the Scottish Government, DAERA, and the MMO in this instance) carry out enforcement that is intelligence-led, risk-based or is required by the UK's international obligations. Enforcement of the respective regulations (domestic and international) is in line with applicable guidelines for regulators. Across the UK there are a range of assets to support this, including compliance vessels, surveillance aircraft, and the UK Fisheries Monitoring Centre and Marine Enforcement officers conducting physical and office-based inspections throughout the chain of traceability.

[14] The majority of the technical measures applying to fishing vessels are set out under the Common Fisheries Policy legislation which was passed by the European Parliament in 2013, updated in 2019, and assimilated into UK law on the UK's exit from the EU. Regulation (EU) 2019/1241 sets rules to conserve fish stocks and protect marine ecosystems through technical fishing measures and provides details of the assimilated UK law.

[15] UK Government (2024) Technical Conservation and Landing Obligation rules and regulations from 2022 onwards.

Fishing vessels over 12 metres are required to have fully operational satellite Vessel Monitoring Systems (VMS), and electronic logbooks, enabling authorities to remotely monitor and control fishing activity and encourage higher compliance. Understanding and being able to monitor and control where fishing activity is taking place is an important part of fisheries management, particularly where area restrictions are in place. Accurate and robust locational data is also crucial for informing marine planning decisions.

In addition, from 7 March 2026, pelagic fishing vessels operating in Scottish waters, and Scottish pelagic vessels wherever they are fishing, must have REM equipment on board. This helps to deter and detect pelagic fishing vessels from engaging in any illegal fishing activity. It also helps deliver a greater confidence in the quality of scientific evidence on fish catches, which is important for stock assessment and advice on sustainable fishing levels.

UK fisheries authorities apply a fishing vessel licensing regime along with control measures throughout the whole chain of traceability from catching to sale. These measures include requirements to record catch details whilst at sea, the weight of catch landed, transport and takeover documents once landed and sales notes from registered buyers. This comprehensive data steam enables fisheries authorities to effectively monitor fishing activity and compliance with national and local regulations.

These measures are not specific to the ASH fishery but apply across the wider pelagic fishing fleet. Compliance risks are factored into the overarching risk management approach taken by the UK fisheries enforcement teams, and also as part of the international monitoring, control and surveillance groups (MCS) for pelagic fish stocks in the Northeast Atlantic and will continue to be monitored on an ongoing basis. As a stock managed with other coastal States, it is important that this FMP reflects appropriate actions identified through the MCS group.

Actions to maintain the current monitoring and enforcement approach are contained within ‘Actions’ under policy 3.

Environmental considerations

Conservation advice

FMPs are subject to legal duties and requirements relating to the protection of the natural environment arising from legislation such as the Habitats Regulations, the Marine Strategy Regulations 2010, and the UK Marine Policy Statement, the Environment Act 2021, Marine and Coastal Access Act 2009, and the Marine (Scotland) Act 2010.

Alongside these requirements, FMPs seek to support a range of other existing environmental policies that focus on enhancing the health of our seas for future generations, restoring marine biodiversity and tackling the causes and impacts of climate change. To support the development of policies aimed at protecting the

natural environment, Statutory Nature Conservation Bodies (SNCBs) provided conservation advice for the Scottish-led pelagic FMPs.

Advice provided to fisheries policy authorities by SNCBs gives more detail on the risks associated with fishing for species covered by the pelagic FMPs in relation to the protected features of MPAs, Priority Marine Features (PMFs) for Scotland and UK Marine Strategy Descriptors (UK MS). Joint advice from JNCC and NatureScot, commissioned by the Scottish Government's Marine Directorate and covering Scottish waters, was received for pelagic FMPs in Scottish waters as part of a single assessment. Additional joint advice from Natural England and JNCC, commissioned by Defra and covering English waters, was received for the draft Northern Shelf Blue Whiting FMP, Northern Shelf Mackerel FMP, North Sea Greater Silver Smelt FMP, North Sea Herring FMP, and North Sea Horse Mackerel FMP. Advice for Welsh waters, developed by Natural Resources Wales (NRW) in collaboration with JNCC, was also received for the draft Northern Shelf Blue Whiting FMP and the draft Northern Shelf Mackerel FMP.

Methodology

The SNCBs developed a ‘risk rating’ which is intended to help identify where the greatest impacts of fishing are likely to occur. A three-point scale has been used in the conservation advice: low, moderate and high risk.

- Low risk - An impact pathway exists, but evidence or expert opinion suggests that impacts are minimal or unlikely.
- Moderate risk – Interactions rated as moderate risk typically have an evidenced impact or expert judgment indicates a genuine risk, but factors such as evidence gaps around the scale of impact or exposure to pressures, existing mitigations, or difficulties disentangling impact sources, make it difficult to determine whether the risk is high or low. This precautionary approach to risk assessment is aimed at managing identified risks proactively while acknowledging gaps in current understanding. SNCB advice recommends that FMPs consider enhanced data collection or mitigation options if a moderate risk is identified, taking a proactive approach towards minimising impacts.
- High risk - Interactions identified as high risk are those where available evidence or expert opinion suggests there is an impact at such a scale as is likely to require mitigation.

In contrast to the SNCBs routine advice on environmental sensitivity of distinct habitats or species, the methodology developed specifically for the conservation advice on FMPs provides ‘indicative risk ratings’ on pelagic fisheries in general. These ratings consider the scale of risk associated with the different components of the pelagic fisheries in Scottish waters to help identify where the greatest impacts are likely to occur.

The conservation advice provided practical guidance on the most significant risks associated with the interactions between the fishing gear types used to target pelagic fish and the protected features of Marine Protected Areas **(**MPAs), Priority

Marine Features (PMFs)[i] (Scottish waters only) and UK Marine Strategy descriptors.

Summary

The conservation advice highlighted several moderate environmental risks associated with pelagic fisheries in UK waters, including:

- bycatch of fish, marine mammals and birds in the fisheries
- prey reduction, and
- the introduction of marine litter.

Details on the risks to MPAs, PMFs and UK Marine Strategy Descriptors are set out in the below, and more detail can be found in the published conservation advice.

MPAs and PMFs in Scottish Waters

Fisheries contained in the pelagic FMPs have the potential to impact the protected features of MPAs and on PMFs in 2 primary ways;

- through the bycatch of protected features of MPAs/PMFs, and
- the direct (targeted) and indirect (bycatch) removal of prey species on which designated and PMF species depend.

MPAs – risk summary

Evidence suggests that pelagic trawl and purse seine fisheries pose a relatively low risk to the MPA designated marine mammal and fish species features in terms of bycatch[16], with limited records of bycatch of harbour porpoise, grey seals, basking shark and 'common' skate. However, due to low sampling effort, improved evidence is needed to support a low risk rating for these species.

Several MPA designated bird species features are considered sensitive to bycatch in these fisheries; guillemot, razorbill and cormorant have all been recorded as bycatch in pelagic trawls., In light of limited evidence on bycatch and based on the potential sensitivity to bycatch, expert advice suggests the risk ought to be classed as moderate.

Owing to gaps in the available evidence, the risk rating for bycatch in pelagic fisheries is considered moderate. However, with the introduction and rollout of REM to UK pelagic fishing vessels, this will enhance the evidence base and could lead to a downgrading of the risk in the future.

This topic is explored further in Policies 3 and 4.

All the fish species managed through the pelagic FMPs are considered prey species for a broad range of predators and as such, are an important part of the marine

[16] [16] The UK bycatch monitoring programme ('the BMP') places dedicated sensitive species bycatch observers on pelagic trawl and purse seine vessels. In 2022 the BMP conducted monitoring for 15 days at sea in the midwater trawl fishery and 12 days at sea in seine fisheries. No marine mammal or seabird bycatch was recorded in these gears. Several instances of elasmobranch and fish bycatch were recorded. Microsoft Word - 2022 BMP Annual Report

ecosystem around Scotland. There is good evidence to demonstrate that many of the pelagic species covered in the pelagic FMPs are key prey for many of the designated fish, marine mammal, and seabird features in Scottish MPAs. However, the extent to which features rely on specific pelagic prey species is less clear. As such, the risk rating for pelagic fisheries in Scottish waters regarding removal of important prey species that designated species depend on is considered moderate.

This topic is explored further in Policies 1, 2 and 4.

PMFs (Scotland only)– risk summary

As discussed above for MPA features, pelagic fisheries are not expected to pose a substantial risk of bycatch; however, as evidence gaps remain this has resulted in a precautionary rating of '**moderate**' for PMF bycatch. Addressing evidence gaps through the collection of REM data, or through enhanced data collection will improve confidence in the assessment of bycatch risks, and may result in a downgrading of the risk in the future.

This topic is explored further in Polices 3 and 4.

Several marine mammal and fish PMFs, in addition to those species designated as MPA features, are likely to utilise pelagic species at various life stages as a prey resource. Though they exhibit a variety of foraging strategies, many killer whale groups, including those that visit Scottish waters, are fish-eating specialists, feeding almost exclusively on schooling pelagic fish species such as herring and mackerel. Fin whales feed on small schooling fish species such as herring and sprat. Herring and mackerel are also important prey species for adult porbeagle. Many of the species targeted by fisheries listed under the pelagic FMPs are important prey species for a variety of cetaceans and fishes, including species of conservation interest which are not listed as PMFs, such as the humpback whale. There is a lack of evidence available in relation to the overall ecosystem interactions, and therefore a moderate risk to PMFs (fish, marine mammals) through removal of key prey species in pelagic fisheries is concluded.

This topic is explored further in Policy 4.

UK Marine Strategy Descriptors

Background

The UK Marine Strategy Regulations 2010 (SI 2010/1627) provide the policy framework for delivering marine environmental policy at the UK level and set out how the vision of clean, healthy, safe, productive, and biologically diverse oceans and seas will be achieved. The Regulations require the Secretary of State, in consultation with the devolved authorities to define the characteristics of Good Environmental Status (GES). In turn the Secretary of State and devolved policy authorities must develop an associated Programme of Measures to deliver this. The UK Marine Strategy Part Three: UK Programme of Measures outlines the actions and initiatives the UK is taking to do this.

The advice focussed only on the most relevant descriptors in terms of risks posed by commercial and recreational fisheries: D1 biodiversity, D3 commercial fish and shellfish, D4 foodwebs, D6 seafloor integrity and D10 marine litter. In the UK Marine Strategy (UK MS) these descriptors are assessed using indicators for each of their constituent 'ecosystem components.' The assessment was undertaken by providing advice on the risks to eight descriptor-ecosystem component combinations:

- Cetaceans - D1, D4
- Seals - D1, D4
- Seabirds - D1, D4
- Fish - D1, D4
- Foodwebs - D4
- Seafloor integrity - D1, D6
- Marine litter - D10

The results of an initial consideration of the available evidence and expert opinion of the main risks arising from the fisheries covered by the pelagic FMPs to UK MS Descriptors are summarised below.

Risk summary

There is a moderate risk to achieving GES for the biological diversity of cetaceans, seals, and birds, due to impacts from pelagic fishing activities. However, it is important to understand the differences between fishing methods. For trawl vessels, it is thought they have relatively little bycatch risk (although evidence could be improved – as set out already). The lack of evidence to provide a confident assessment of bycatch risk suggests the risk is likely to be moderate. Given the importance of pelagic stocks within the UK marine ecosystem, the potential to impact prey availability needs further consideration for pelagic fisheries.

This topic is explored further as part of Policy 4.

There is a moderate risk to marine litter, with limited evidence available to help disentangle the relative contribution of pelagic fisheries to marine litter. The conservation advice indicates that more robust estimates of abandoned, lost, or discarded fishing gear from pelagic fisheries are required.

The advice also acknowledges that fishing litter is likely to be a relatively small component of overall marine litter, therefore fishing measures alone are unlikely to contribute significantly to the achievement of GES. In Scotland a range of actions are undertaken to address issues with marine litter, as set out in the Marine Litter Strategy for Scotland[17] and these will continue to be delivered as part of a separate programme of work.

It should be noted that there is ongoing work with regard to the Convention for the Protection of the Marine Environment of the North-East Atlantic (OSPAR) to implement the second Regional Action Plan on Marine Litter. This includes action to tackle marine litter from land and sea-based sources, including fishing.

[17] Supporting documents - Marine litter strategy - gov.scot

Context and interpretation of the conservation advice[18]

On bycatch, the moderate risk relates to the limited evidence base and can be classed as a precautionary rating. Given that REM policies for the Scottish pelagic fleet (which are the main pelagic targeting vessels in the UK) are well advanced, and that positive steps are being undertaken elsewhere in the UK to introduce REM, this evidence gap will be addressed, and this is noted within the FMP.

On predator/prey interaction, many pelagic species are integral parts of the wider food web and can often be key predatory and/or prey species. Whilst these interactions between different parts of the food chain are understood, at the present time, ICES does not follow a fully integrated ecosystem-based fisheries assessment model, and therefore fisheries management decisions which include these considerations are not fully possible. Actions to consider this further are contained in the policies and actions section.

On marine litter, there are two main considerations, firstly the risk that fishing in general, (rather than specifically pelagic fishing) presents to marine litter overall, and secondly, gaps in evidence. These two considerations have resulted in a moderate risk rating. However, the fisheries policy authorities do not believe that there is a prevalence or significant risk of marine litter in pelagic fisheries and therefore a specific action on this is not included within the FMP, although positive action is being taken by the UK, through OSPAR, on this, as set out below.

As noted within the FMPs, the pelagic fishing industry is largely regarded as a relatively clean fishery. In general terms, pelagic fish tend to school together as a species, meaning that different species can be targeted by fishing vessels rather than being caught as part of a mixed fishery. This reduces, although doesn't eliminate, unwanted catches of fish that aren't the target species. In the UK there is currently a requirement under fishing vessel licence conditions for all fishing vessels operating in UK waters to report any bycatch (incidental mortality or injury) of marine mammals to the Marine Management Organisation (MMO) within 48 hours of the end of the fishing trip. As of August 2025, no marine mammal bycatch has been reported in Scottish waters to the Marine Management Organisation. Finally, the main fishing fleet targeting pelagic species operates with trawls that rarely come into contact with the seabed, meaning that benthic disturbance is generally not an issue. This is important context in considering the conservation advice and whether any new management action is necessary.

Climate Change

Climate Change impacts on pelagic fish

[18] This section is not part of the original conservation advice and provides information on the policy context in which the FMPs are nested.

Pelagic fish stocks (including mackerel, herring and blue whiting) are among the most economically valuable and climatically sensitive fisheries in UK waters and the wider Northeast Atlantic (ICES, 2023[19]; Garrett et al., 2024[20]). The existing evidence shows that climate change is already reshaping pelagic fish distributions, productivity and ecosystem interactions, creating significant challenges for fisheries management systems which are largely based on historical conditions (Baudron et al., 2020[21]; Townhill et al., 2023[22]).

While able to respond rapidly to temperature over much of their lifecycle, pelagic species (including herring, mackerel, blue whiting and horse mackerel) may still be constrained by the need to spawn at specific localities that promote the transport of offspring to suitable nursery areas and the many seem to adopt a relatively demersal habit during this phase (Heath et al., 2012[23]; Wright et al., 2020[24]). Spawning locations for some pelagic species such as mackerel have changed, and this is possibly linked to climate but transport to suitable nursery habitats is also a factor (Fox C J et al., 2023[25]).

Pelagic species respond to warming seas faster and over greater distances than most demersal fish because they closely track temperature and plankton availability (Baudron et al., 2020; Montero-Serra et al., 2015[26]).

Key observed patterns include:

- Strong poleward shifts[27] of both warm-affinity and temperate pelagic species (Baudron et al., 2020; Townhill et al., 2023)
- Extreme mobility of Northeast Atlantic mackerel, whose centre of distribution shifted ~1,650 km west and ~400 km north between 2007–2016 (Garrett et al., 2024; Ólafsdóttir et al., 2018[28])

[19] Changes in fish distribution in the eastern North Atlantic ICES 2023. Opens a report on observed changes in fish distribution in the eastern North Atlantic based on ICES scientific analysis.
[20] Climate change risk adaptation for wild capture seafood. Opens guidance on adapting wild capture fisheries to risks associated with climate change.
[21] Changing fish distributions challenge the effective management of European Fisheries. Opens an article discussing how shifting fish distributions affect fisheries management in Europe.
[22] Climate change projections of commercial fish distribution and suitable habitat around North Western Europe. Opens a study presenting projected changes in fish distribution and habitats under climate change scenarios.
[23] Review of climate change impacts on marine fish and shellfish around the UK and Ireland. Opens a review of climate change impacts on marine fish and shellfish in UK and Irish waters.
[24] Impacts of climate change on fish, relevant to the coastal and marine environment around the UK. (2020 ed.) MCCIP 16_fish_2020.pdf. Opens an MCCIP report summarising evidence on climate change impacts on fish in UK waters.
[25] Impacts on Fish of Relevance to the UK and Ireland. Opens a report outlining climate-related impacts on fish species important to the UK and Ireland.
[26] Warming shelf seas drive the subtropicalization of European pelagic fish communities. Opens a scientific study on how warming seas are shifting fish communities toward warmer-water species.
[27] The term 'northward movement' in the context of species distribution means directed or going towards the North Pole in the northern hemisphere.
[28] Geographical expansion of Northeast Atlantic mackerel (Scomber scombrus) in the Nordic Seas. Opens a study describing the expansion of mackerel into northern waters.

- Northward re-centring of boreal pelagic stocks (e.g. herring, blue whiting) into Norwegian, Icelandic and Barents Sea waters (Pinnegar et al., 2023[29]; Garrett et al., 2024)
- Altered pelagic fish productivity with sea temperature impacting on spawning and larval survival (Petitgas et al., 2013[30]; Pinnegar et al., 2023)
- Increasing presence of warm-water pelagics (e.g. sardine- and anchovy-like species) in and around the North Sea (Montero-Serra et al., 2015; Townhill et al., 2023).

Recent warm years have produced strong year classes for some pelagic species (e.g. mackerel, blue whiting, sprat), but responses are highly variable across species and regions (Garrett et al., 2024). Under high-emissions scenarios, productivity outcomes diverge (Townhill et al., 2023; Garrett et al., 2024;).

Herring populations show strong natural variability, with abundance fluctuating over short time periods. These dynamics are influenced by environmental factors such as temperature, prey availability, and predation, which affect recruitment, mortality, and distribution (ICES, 2024[31]). This suggests that ecosystem-based reference points incorporating environmental and predator–prey interactions may be more ecologically relevant than traditional MSY approaches (Bentley et al., 2021[32]; ICES WKIRISH6, 2019[33]).

For ASH herring, temperature plays an important role, with warmer waters linked to faster growth but higher mortality and smaller maximum size. Continued warming is therefore likely to affect future stock dynamics. Recruitment has declined in recent years, with possible drivers including reduced larval survival, as well as wider anthropogenic pressures such as seabed extraction and fossil fuel activity.

See Table 2 below for climate related changes and projected direction for this stock:

[29] Impacts on Commercial and Recreational Fisheries Relevant to the UK and Ireland. Opens a report assessing climate change impacts on commercial and recreational fisheries.
[30] Impacts of climate change on the complex life cycles of fish. Opens a study examining how climate change affects different stages of fish life cycles.
[31] EU-UK request on ecosystem considerations in the provision of single stock advice for forage fish species. Opens documentation outlining ecosystem considerations in fisheries advice for forage fish species
[32] Refining Fisheries Advice With Stock-Specific Ecosystem Information. Opens a report on incorporating ecosystem data into stock-specific fisheries advice.
[33] ICES (2020). Workshop on an Ecosystem Based Approach to Fishery Management for the Irish Sea (WKIRISH6; outputs from 2019 meeting). Opens an ICES report on applying an ecosystem-based approach to fishery management in the Irish Sea.

Table 2. Climate related changes and projected direction of change for ASH

Stock	Current Stock Type / Thermal Affinity	Observed Climate-Related Changes	Projected Direction of Change (to ~2050)
ASH	Cold-water, high-latitude pelagic	Shifts in feeding and overwintering areas; recruitment increasingly sensitive to temperature and plankton timing	Continued northward shift; increased recruitment variability; higher sensitivity to warming

Management systems for these stocks are tied to historical distributions (e.g. fixed quota shares) and are becoming progressively misaligned with biological reality (Baudron et al., 2020). Stock productivity is becoming increasingly impacted by climate change making it less predictable, increasing uncertainty around reference points, MSY estimates and harvest control rules (ICES, 2023; Townhill et al., 2023). Adaptive and precautionary approaches will be increasingly necessary.

Herring is an important forage species and pelagic prey and food webs (Engelhard et al., 2014[34]; Lawrence et al., 2016[35]), and climate-driven changes may alter predator–prey interactions, prey availability and stock productivity (Fox et al., 2023). Pelagic fisheries increasingly require ecosystem-based management, particularly for forage species such as herring and sprat (ICES, 2023).

Marine heatwaves and temperature anomalies add short-term shocks on top of long-term warming and while these heatwaves may not permanently reduce pelagic biomass, they increase ecological volatility and uncertainty (Smale et al., 2019[36]).

Vessel emissions

In addition to the impacts of climate change on pelagic fish and on the fisheries who target these fish, and the need to adapt to these changes, it is also important to consider climate change mitigation (and net zero targets) in relation to fishing. The UK administrations have different targets relating to climate change and are developing plans to support the drive towards net zero.

The fishing sector contributes to carbon emissions mainly through vessel emissions and use of refrigerants, with additional impacts in the processing and wholesale

[34] ICES Journal of Marine Science, Volume 71, Issue 1, January 2014, Pages 90–104. Opens a scientific journal article from ICES Journal of Marine Science on fisheries or marine ecosystem research

[35] ICES Journal of Marine Science, Volume 73, Issue 8, September 2016, Pages 2075–2084. Opens a scientific journal article from ICES Journal of Marine Science on fisheries or marine ecosystem research.

[36] Marine heatwaves threaten global biodiversity and the provision of ecosystem services . Opens a study on the impacts of marine heatwaves on biodiversity and ecosystem services.

sectors relating to transport of exports (Engelhard et al., 2022[37]). A study of the Scottish pelagic fishing fleet showed 96% of emissions come from fuel use during fishing operations (Sandison et al., 2021[38]).

The UK pelagic fleet is comprised of large, modern (and highly efficient) vessels. UK pelagic vessels are significantly larger and more technologically advanced than the rest of the Scottish vessels with an average length of 72 metres and an average engine power of 5800 kW, compared to an average length of fewer than 12 meters and an average engine power of 200 kW for the rest of the UK fishing fleet (Metz et al., 2022[39]).

In Scotland, the pelagic fleet was made up of 21 vessels in 2024[40] which represent only 1% of the Scottish fleet, but account for just over 50% of landings by value of all landings highlighting their disproportionate contribution to total catch. They target primarily North East Atlantic mackerel, North Sea herring, Atlantic herring (or ASH) and Blue Whiting in the North Sea and Atlantic Ocean. Unlike some fisheries which are operational year-round, pelagic targeting vessels tend to fish for only a small part of the year, meaning that days spent at sea is considerably less on average.

At UK level, fuel use from all fishing activity contributed an estimated 467 kt CO_2e in 2024 representing around 0.12% of total UK territorial emissions (378 Mt CO_2e) and 0.43% of domestic transport emissions (109 Mt CO_2e), and equivalent to about 1.1% of agricultural emissions (41.0 Mt CO_2e). The pelagic fleet has a high daily fuel demand with an annual fuel use of over 35,000 litres. This accounts to around 102 kt CO2e or around 17% of total emissions per fleet segment (Metz et al., 2022). Despite the relatively high fuel use of pelagic vessels, when emissions are assessed per unit of landed output (e.g. edible protein), pelagic species have high catch volumes relative to fuel use and, generally, have comparatively lower emissions than most other seafood (Sandison et al., 2021). In contrast, emissions intensity is typically higher in demersal trawl fisheries and some shellfish sectors, where fuel use per unit of catch is greater.

Long term considerations

Addressing many of the challenges associated with climate change are beyond the scope of the FMPs.

The delivery of mitigation strategies for climate change is not within scope of this first iteration of these FMPs. The FMPs do, however, contain actions to explore options for adapting fishery management to challenges presented by the changing climatic conditions.

[37] Carbon emissions in UK fisheries: recent trends, current levels, and pathways to Net Zero. Opens a report analysing carbon emissions in UK fisheries and potential pathways to net zero.
[38] The environmental impacts of pelagic fish caught by Scottish vessels. Opens a study assessing the environmental impacts of pelagic fisheries in Scotland.
[39] Assessing greenhouse gas emissions from Scotland's fishing fleet. Opens a report evaluating greenhouse gas emissions from Scotland's fishing fleet.
[40] Scottish Government Sea Fisheries Statistics 2024: Table 47. Opens official statistics on sea fisheries from the Scottish Government, including Table 47.

Climate change is transforming pelagic fisheries from relatively stable, predictable systems into highly dynamic, seasonally varying ones. While warming may create new fishing opportunities (particularly for some pelagic species in northern UK waters), it also increases biological uncertainty, spatial instability and geopolitical risk (Townhill et al., 2023; Garrett et al., 2024).

To support delivery of the climate change objective in the 2020 Act, the fisheries policy authorities will work in partnership with stakeholders to support fisheries in the drive to net zero and consider where and how we need to adapt our approaches to take account of the impacts of climate change.

The FMPs will be reviewed and revised as research into climate change impacts develops and new methods to address challenges from climate change become available.

FMP policies

In developing the policies and actions for this FMP, the fisheries policy authorities have considered the current policy landscape including applicable international agreements and declarations, conservation advice and wider policy development already underway, in addition to considering what additional evidence, measures or policies may be needed to support both the vision of this FMP and delivery of the Fisheries Act 2020 objectives. In most cases, individual actions within this FMP will directly link to one or more of the Act's objectives and these links are made below. FMPs are one of the tools that support the achievement of the fisheries objectives, although they are not the only policy vehicle available to do this. The fisheries policy authorities have also considered the conservation advice received from the SNCBs and included the outputs from that work in considering where policy action may be needed.

Effective management of the overall marine space is critical to sustainable development of existing and emerging sectors, and the protection of the marine environment. Whilst not a specific topic that is covered in detail within the FMPs, the fisheries policy authorities are working on a range of policies to help manage the increased demand for marine space, reduce the conflict arising from competition for marine space, and ensure that the right protections are in place to manage broader impacts from wider use. This FMP has been developed within the wider context of the relevant Marine Plans around the UK. Consideration will also be given to the objectives and principles outlined in the EU-UK Trade and Cooperation Agreement when considering measures.

In Scotland, these policies will help achieve the outcomes set out in the Good Food Nation Plan[41], and its vision of Scotland becoming 'a Good Food Nation, where people from every walk of life take pride and pleasure in, and benefit from, the food they produce, buy, cook, serve, and eat each day'.

[41] Good Food Nation - Food and drink - gov.scot

In most cases further policy development work will be needed for any new actions, which could include additional evidence gathering or public consultation, along with the completion of appropriate impact assessments. It should also be noted that ASH is a jointly managed stock, and therefore overall fishing opportunities are determined through international negotiation. The stock is also subject to different management measures in different areas of the sea by individual Coastal States. As most fishing for ASH by UK vessels takes place outside of UK waters, measures contained within this FMP relating only to UK waters may not be applicable elsewhere.

The most recent ICES advice, alongside the fact that there is no-sharing arrangement in place, underlines the importance of international negotiation and cooperation in ensuring the development and delivery of effective management measures for ASH.

The first two policies set out below largely relate to management measures to achieve long-term sustainability of the ASH stock, and the remaining policies set out actions in relation to wider sustainable management.

Policy 1: Harvest the ASH stock sustainably, contributing to maintaining or restoring the biomass above the level capable of producing MSY

Rationale

The primary aim of FMPs, such as this ASH FMP where there is sufficient available scientific evidence to enable assessment of a stock's MSY, is to set out policies designed to maintain or restore the fish stocks at sustainable levels. This is in line with section 6(3)(a) of the Fisheries Act 2020, where the role of fisheries managers is to help ensure stocks are harvested sustainably, in order to protect the long-term viability of the stocks and the fisheries that depend upon them.

The use of TACs as a measure to manage fisheries is a key approach adopted by the UK and coastal states to help ensure that the fishing pressure on ASH is kept within sustainable levels, whilst also taking account of relevant socio-economic factors. This is consistent with the sustainability objective of the Fisheries Act 2020.

As already noted elsewhere in this FMP, the ASH stock has seen fluctuations over recent years. The SSB on 1 January 2026 is estimated by SAM to be 3.012 million tonnes which is below B_{pa} (3.177 million t). The spawning stock has been declining since 2009 but increased in 2021 and 2022 followed by a decrease again in 2023 to 2025. The newly benchmarked assessment of NSS herring leads to a somewhat revised perception of the stock. The estimated SSB in 2024 was 5% lower in this year's assessment compared to last year; further back in time the difference was larger. In the last 30 years, several large year classes have been produced (1998, 1999, 2002, 2004 and 2016). The year classes 2005-2015 and 2017-2019 are estimated to be average or small. Results from surveys in the Barents Sea the last two years have estimated the size of the 2021 and 2022 year-classes as being

above average. Fishing mortality in 2024 is estimated to be 0.156 which is above the management strategy F (0.14) but below F_{MSY} and F_{pa} (0.21).

The UK fisheries policy authorities are broadly confident that the ASH stock can continue to be managed through the use of TACs. Implementation of REM in March 2026 will enhance monitoring of catches, further supporting the use of a TAC management approach. The actions below are therefore focussed on maintaining the current management approach, whilst also delivering improvements by progressing sharing discussions in the international fora.

Actions

Ongoing actions

- Continue to take an approach to TAC setting informed by the best available scientific advice and in line with the LTMS.

- Continue to work with coastal States partners and fishing parties with the aim of improving the sustainable harvesting of the stock. This will include working collectively to agree a comprehensive sharing arrangement for the stock, which in turn will help reduce fishing pressure.

- Contain to maintain the UK TAC share at 1.95% to help manage fishing pressure in lieu of comprehensive sharing arrangements being put in place.

Short term actions

- Following the ICES benchmark for the stock in 2025, progress coastal State discussions to refine and update the current LTMS

Relevant Fisheries Act objectives

The relevant objectives are the:

- sustainability objective
- precautionary objective
- scientific evidence objective
- ecosystem objective
- national benefit objective

Policy 2: Use the best-available scientific evidence to support management decisions relating to the setting of sustainable fishing opportunities

Rationale

This policy is in accordance with section 3.2 ('Science and Evidence') of the JFS.

Scientific evidence is essential for delivering appropriate and sustainable fisheries management. A considerable level of work is carried out at national and international level to ensure that the scientific evidence base is robust and up to date.

ASH has a robust level of scientific evidence and data in place which already enables fisheries policy authorities to make an MSY assessment for the stock and to take evidence-based decisions in relation to the setting of fishing opportunities.

The actions below are focussed on maintaining the current data collection and scientific approach, along with considering longer-term improvements.

Some actions are not specific to the ASH stock but are general actions which underpin the UK's overall approach to collection and use of scientific data to support fisheries management.

Actions

Ongoing actions

- Continue to participate in ICES working groups to support ongoing data collection and maintenance of the international scientific evidence base that supports the setting of fishing opportunities at sustainable levels.

- Continue to undertake scientific surveys, participate in international stock assessments and contribute to the international advice process.

- Continue to work collaboratively with the UK pelagic industry in the Scottish Pelagic Industry-Science Data Collection Programme (SPISDCP) allowing data to be gathered on a haul-to-haul basis ensuring that high quality representative, data are gathered and submitted to ICES.

- Continue to use the best available evidence to underpin management decisions, implementing the precautionary approach when robust data is not yet available.

Short term actions (one to two years)

- Utilise additional and new data streams, including the use of biological data from the self-sampling scheme of the SPISDCP and scientific data derived from new technology such as REM.

Relevant Fisheries Act objectives

The relevant Fisheries Act objectives are the:

- sustainability objective
- scientific evidence objective
- precautionary objective

Policy 3: Monitor catches of ASH and ensure that where possible all catches are counted against quotas

Rationale

This policy is in accordance with section 4.2.8 ('Reducing Bycatch and Minimising Catches of Sensitive Species') of the JFS.

Pelagic fisheries are, in the main, classed as a relatively clean fishery, meaning that issues with discarding and bycatch are deemed to be minimal. Given the capability of pelagic trawl vessels to take large tonnage hauls, the impact of any discarding/slipping, should it take place, would be considered high.

There is a legislative requirement under the landing obligation to land all species of fish subject to quota regulations, and for fishers to ensure that all catches are counted and recorded. From 7 March 2026, all pelagic fishing vessels fishing in Scottish waters and all Scottish pelagic vessels wherever they fish, must have REM on board. REM is an effective way of ensuring that fishing vessels comply with relevant fisheries legislation.

REM also supports fisheries managers to understand levels of fish bycatch within pelagic fisheries, and take appropriate action if needed. This is consistent with the action suggested within the pelagic conservation advice.

Actions

Ongoing actions

- Continue to monitor pelagic fishing activity using REM (where available) and other tools and take appropriate action to tackle non-compliance as needed.
- Continue to monitor levels of fish bycatch within pelagic fisheries and take appropriate management action if required.

Relevant Fisheries Act objectives

The relevant Fisheries Act objectives are the:

- bycatch objective
- scientific evidence objective
- sustainability objective

Policy 4: Identify and support implementation of ecosystem-based fisheries management approaches appropriate for the ASH fisheries

Rationale

This policy is in accordance with section 4 ('Delivering Sustainable Management of Fisheries') of the JFS.

A thriving fishing industry is underpinned by healthy and productive seas. As set out in the JFS and the Act, the UK and Scottish Governments are committed to an ecosystem-based approach to fisheries management that will account for, and seek to minimise, impacts on non-commercial species and the marine environment. This also links to existing initiatives such as the Bycatch Mitigation Initiative and Clean Catch UK.

Understanding and minimising these impacts is an important part of delivering an ecosystem-based approach. The fishing industry has taken a number of steps over previous years to try and mitigate against this, for example by using more selective fishing gears, or trialling new tools to reduce bycatch of non-fish species and seabirds. The conservation advice that supports this FMP has identified some impacts and evidence gaps that need to be addressed in order to ensure that the risk posed by pelagic fishing to the wider marine ecosystem is minimised. In particular, conservation advice has flagged the need for an improved evidence base around bycatch levels and a recognition of the need for greater understanding and identification of potential actions in relation to predator/prey interactions, given the importance of pelagic species in the marine food chain. In some cases, action is already being taken on this and there are a range of policies and initiatives already in place or in development across the UK which contribute to this.

Actions

Ongoing actions

- Continue to monitor levels of bycatch in pelagic trawl fisheries through REM, to improve understanding of risk and to support appropriate management if required.
- Continue to promote existing good practice within the fishing industry in relation to handling of sensitive marine species and returning them to the sea unharmed, where practical to do so.

Short-term actions (one to two years)

- Work with UK experts to consider the ecological role of pelagic species in the North Sea and West of Scotland, and how an ecosystem-based approach could be integrated into fisheries management.

Medium to long term actions (three to five years)

- Work with ICES to consider further developing ecosystem-informed assessments and ecosystem modelling approaches in the future

Relevant Fisheries Act objectives

The relevant Fisheries Act objectives are the:

- sustainability objective
- ecosystem objective
- bycatch objective

Policy 5: Support fishing businesses to deliver socio-economic and cultural benefits for communities

Rationale

The UK Government holds an ambition to enable fisheries to continue to deliver social and economic benefit to coastal communities to benefit present and future generations. As already set out in this FMP, although ASH is not the main target fishery for pelagic fishing vessels in the UK, it does form a part of the business model for fishing businesses. In turn, these businesses collectively support jobs and underpin local communities, providing a source of economic input and output and underpinning the rich cultural heritage of the UK at both a local and national level. Fish is also a rich source of protein and forms an important component of food production within the UK.

There is an ongoing role for governments to help create the right conditions for businesses to operate sustainably and with certainty about the future.

Actions

Ongoing and short-term actions (one to two years)

- Continue to take account of socio-economic considerations as part of international negotiations and as part of the process to determine fishing opportunities.

- Continue to gather and use evidence on economic aspects of the fishery to ensure management decisions are informed by the best available evidence.

- Encourage and support initiatives to promote the consumption and value of ASH

Relevant Fisheries Act objectives

The relevant Fisheries Act objectives are the:

- equal access objective
- national benefit objective
- sustainability objective

Policy 6: Reduce the impact of fishing on climate change and support the fishing industry to adapt to the impacts of climate change

Rationale

This policy is in accordance with section 4.1 ('Delivering Sustainable Management of Fisheries - Our approach to Fisheries Management') of the JFS.

The evidence base underpinning climate change and fisheries is developing, and more work is needed to fully understand a) how carbon emissions can be reduced in a sustainable way, and b) the likely impacts of climate change on fish stocks and fishing communities and the scale / nature of change required to adapt.

We know that there will be changes to the distribution and size composition of the ASH stock as a result of climate change, but the overall impacts are not yet fully understood. The actions below consider how we can build and use an improved evidence base in order to make informed decisions on management action for the future.

In comparison to other forms of food production, fishing can provide a high-protein and low carbon method of production and offers opportunities to provide food security particularly as we move towards net zero. However, we also know that fishing vessels need to reduce fuel emissions in the future although there are no ready solutions in place for fishing vessels to currently utilise.

The actions set out below will also apply to other stocks in the fishery. However, as our evidence base grows, we will understand better the specific impacts of climate change on ASH, and the scale of change required to support vessels fishing for ASH to reduce their emissions and also adapt to changes in the ASH stock and general fishing conditions. These actions are likely to adjust over time and will become more refined.

Possible measures which could support this are already in development and / or being delivered. The FMP will support these measures, although it is not directly introducing or delivering them.

Actions

Medium to long term actions (three to five years)

- Collaborate with partners across government, industry, and academic sectors on initiatives to reduce environmental impacts of the ASH fishery (including CO2 emissions)) through projects such as the Horizon Europe project "Measures for Climate Change Adaptation and Mitigation in European Fisheries (MeCCAM)[42].

- Collaborate across the UK and internationally on further evidence and analysis to understand the impact of climate change on ASH and develop options for how the ASH fishery may adapt to climate change impacts in the future.

- As additional information becomes available in relation to climate change, explore the implications for this.

Relevant Fisheries Act objectives

The relevant Fisheries Act objectives are the:

- sustainability objective
- climate change objective
- ecosystem objective

Implementation and Monitoring

Implementation

The actions contained within this FMP will be taken forward following its publication. However, it is important to remember that many of the actions are already underway and part of multi-year delivery programmes.

Indicators for monitoring the effectiveness of the plan and review process

This FMP contains a number of policies and actions intended to ensure that the ASH fishery covered by this FMP is fished sustainably with respect to an MSY approach and also to support improvements in the overall management approach.

ICES stock assessments assess how fish populations have changed over time and the effect that fishing pressure is having on stocks. Key biological indicators are

[42] MeCCAM is a four-year Horizon Europe project developing innovative, science-based solutions to help the European fisheries sector adapt to and mitigate climate change. With 16 partners across research, industry, and policy, MeCCAM supports a more sustainable and resilient future for fisheries.

provided as reference points, which give indication towards their MSY, fishing pressure and spawning stock biomass. Fisheries policy authorities undertake a review of ICES stock assessments on an annual basis, to determine how stocks are performing against these reference points, and any other reference points provided within the advice[43,44].

The health of the stock will continue to be reviewed in this way as part of the ongoing negotiations cycle, utilising the ICES stock assessment process, and will also be reviewed on a more in-depth basis as part of the ICES benchmark process (which varies from stock to stock). The health of the stock will be the indicator used to monitor the effectiveness of this FMP in managing the ASH stock sustainably.

The policies and actions within this FMP will be reviewed as part of the three-year review cycle for the JFS. In addition, as set out within the Fisheries Act 2020 and the JFS, this FMP will be reviewed at least every six years. An earlier review may be triggered in light of a change to relevant evidence, international obligations, or wider events. The decision to review earlier will be taken by the fisheries policy authorities. The review of the FMP will include a report on individual policies and actions and whether they have been a) implemented and b) any known interactions between the actions and health of the stock.

[43] Assessing the sustainability of fisheries catch limits negotiated by the UK for 2026
[44] Landings by Scottish vessels - Scottish Sea Fisheries Statistics 2024 - gov.scot

Glossary

Atlanto-Scandian herring (ASH) – A group of herring stocks in the North East Atlantic, dominated by Norwegian spring-spawning herring.

Maximum Sustainable Yield (MSY) – The largest long-term average catch that can be taken from a stock without compromising its sustainability.

Total Allowable Catch (TAC) – The maximum quantity of fish that can be caught annually, agreed through international negotiations.

Stock - A population of a species that is managed as a unit.

Spawning Stock Biomass (SSB) – The total weight of mature fish available for reproduction.

Harvest Control Rule (HCR) – A management framework that sets out how fishing pressure is adjusted in response to stock status.

Long-Term Management Strategy (LTMS) – An agreed multi-year approach to managing a stock, including defined reference points and rules.

Reference Points (Blim, B_{PA}, MSY Btrigger, FMSY) – Biological thresholds used to assess stock health and guide management decisions.

Precautionary Approach – Managing fisheries conservatively where there is uncertainty, to avoid stock depletion.

Pelagic Fishery – Fishing targeting species that live in the water column rather than near the seabed.

Remote Electronic Monitoring (REM) – Onboard cameras and sensors used to monitor catches and compliance.

Marine Protected Area (MPA) – A designated marine zone where human activities are managed to protect ecosystems.

Priority Marine Feature (PMF) – Species or habitats recognised as being of conservation importance (Scotland).

Bycatch – Non-target species caught unintentionally during fishing.

Ecosystem-based Fisheries Management – An approach that considers the broader marine ecosystem, including predator–prey relationships.

Scottish Government
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St Andrew's House
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ISBN: 978-1-80775-334-4 (web only)

Published by The Scottish Government, July 2026

Produced for The Scottish Government by APS Group Scotland, 21 Tennant Street, Edinburgh EH6 5NA
PPDAS1762706 (07/26)