



**DELIVERING FISHERY IMPROVEMENTS
IN THE NORTH EAST ATLANTIC**



**Annual Report
2019–2020
May 2020**

698,000t

In 2018 **UK vessels** landed 698,000t of seafood into the UK and abroad

Source: MMO UK sea fisheries statistics, 2018

£989m

Landings by UK vessels into the UK were worth £989m in 2018

Source: MMO UK sea fisheries statistics, 2018

6,036

In 2018, the UK fishing industry had 6,036 **fishing vessels** and an estimated 11,961 fishermen

Source: MMO UK sea fisheries statistics, 2018

£1,886

The **average price** for all fish landed by UK vessels into the UK was worth £1,886 per tonne in 2019

Source: MMO monthly sea fisheries statistics, 2019

132,484t

In 2019, Peterhead received the largest **total landings** of any UK fishing port from UK vessels with 132,484 tonnes

Source: MMO monthly sea fisheries statistics, 2019

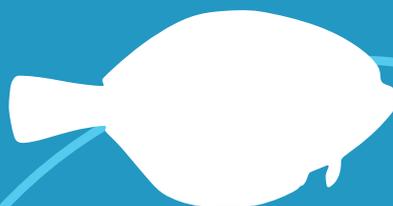
70%

70% of **seafood consumers** think sustainability is important

Source: Seafish State of the Nation research, 2019



UK Fisheries





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Executive Summary

This report summarises the activities of Project UK following the 2019-2020 annual review of each Fishery Improvement Project (FIP). Much progress has been made through the hard work and dedication of over 120 participants across the FIP Steering Groups.





Through eight Fishery Improvement Projects, Project UK is addressing 61 individual actions, each consisting of multiple milestones across a five-year timeframe. Highlights this year include:

- Completion of two-years of postgraduate research into scallop dredge habitat impacts;
- Production of eight reports by the Centre for Environment, Fisheries and Aquaculture Science (Cefas), each assessing the environmental impacts of a given fishery;
- An extensive review of the potential interactions between fisheries and endangered, threatened and protected species, and the design of a recording protocol for the South West crab and lobster fishery;
- The launch of one PhD studentship and funding for three Masters students to undertake environmental research projects;
- Significant progress on Fishery Management Plans by all FIP Steering Groups;
- A new Project UK logo and branding guidelines.

Project UK has scaled up considerably since its inception, growing from the original six FIPs to the current eight, representing 12 fisheries across the UK. These fisheries all bring commercial, economic, and cultural benefits to UK communities. Project UK represents best practice in working towards an environmentally sustainable future for all fisheries that partake in the project. The progress made would not be possible without the drive and commitment of Steering Group members and funders, and their continued hard work and support has led to many achievements to date.

There are challenges ahead that may lead to delays in delivery of some actions over the next year, such as the impact of EU exit on UK fisheries and the unforeseen global coronavirus pandemic, however the Project UK Secretariat is working closely with all FIPs to ensure progress continues throughout these extraordinary times.

While the ambition and scale of Project UK is already delivering success, there is potential to continue to scale the project with the right level of financial and in-kind investment, commitment, and partnership. Steering Group members are already enquiring about the next round of fisheries to be included in Project UK, and the Secretariat welcomes suggestions with regards to new species that might be considered as candidates for the project.

SEAFOOD STAKEHOLDER SUPPORTED PROJECTS



Overview

Project UK is a collaborative partnership between the fishing industry, scientists, NGOs and the seafood supply chain. The project works towards an environmentally sustainable future for UK fisheries through the implementation of credible Fishery Improvement Projects (FIPs). Project UK builds on the outputs of Project Inshore, a successful and innovative project that used the MSC pre-assessment process to inform the management of the fisheries interacting with the English inshore area. An MSC pre-assessment provides an overview on how a fishery performs against the MSC Standard. Project UK FIPs use MSC tools and processes to identify areas where improvement is needed and develop fishery-specific Action Plans to bring this about. Together, these help fisheries to meet globally accepted sustainability criteria.

Each FIP has an associated Steering Group comprising relevant stakeholders who inform, support and contribute to the success of the FIP. Steering Group members provide information and expertise, and are essential to defining and delivering each Action Plan – which outlines a series of steps for fishery improvement. FIPs run for a pre-determined timeline, usually five years, agreed by the Steering Group using the draft Action Plan to inform their approach. This timeline is set in motion with a formal agreement of the Action Plan by the relevant Steering Group.

Initially, six fisheries were selected by the supply chain to be FIPs due to their importance for the UK market: crab, lobster and monkfish fisheries in the South West; the plaice and lemon sole fisheries in the North Sea; and the scallop fishery in the English Channel ([Round 1](#)). In 2019, two additional fisheries joined the program: the scallop and *Nephrops* fisheries in the North Sea, West of Scotland and the Irish Sea ([Round 2](#)).

All Project UK FIPs adhere to the MSC definition of a credible FIP (see Appendix on MSC processes). Each FIP is publicly listed and updated on the tracking website fisheryprogress.org, ensuring actions are transparent and that Steering Groups are held accountable for maintaining progress. All documents, including pre-assessments, Action Plans, minutes and annual reviews are available to download from fisheryprogress.org, and will be hosted on a new Project UK website from Summer 2020.

Project UK is facilitated by the MSC, building on the organisation's unique relationship with the fishing industry and supply chain to support UK fisheries as they improve their sustainability credentials to a level that meets the MSC Fisheries Standard.



Project UK highlights for 2019-20

Alongside the specific progress that has been made by each of the FIP Steering Groups, the Secretariat has been involved in several other activities on behalf of Project UK:

- Organisation of 18 FIP Steering Group meetings.
- Presentation of Project UK progress at external seminars and meetings, including the Coastal Futures conference, the Seafish Discard Action Group (DAG) and Common Language Group (CLG) meetings, the Scallop Industry Consultation Group (SICG), Defra, and Fishing into the Future's 'Business of Fishing' course.
- This year, Claire Pescod left the MSC and we welcomed Katie Keay, Senior Fisheries Outreach Manager, and Matt Spencer, Fisheries Outreach Officer to the Project UK team.
- The final European Maritime and Fisheries Fund (EMFF) report on research into environmental interactions associated with the fisheries in Round 1 was submitted. This was met with positive feedback from the Marine Management Organisation (MMO), who managed the grant.
- The MSC held a five-day Capacity Building Training (CBT) workshop to aid understanding of the MSC Fisheries Standard.

- Project UK was featured as a model for industry-led FIPs in the recently published [Global Landscape Review of Fishery Improvement Projects](#).
- Additional funding was secured from Fisheries Innovation Scotland and The Fishmongers' Company to address specific actions identified in a number of FIP Action Plans.

While 2019-20 has seen a high level of activity across Project UK, the unexpected impacts of coronavirus, along with the longer-term impacts of EU exit, will influence the direction and progress of fisheries involved in Project UK in the coming year. The full implications of these events are as yet unknown, and the Secretariat will continue to support each FIP throughout this uncertain period.

STEERING
UK FISHERIES
TOWARDS
SUSTAINABILITY



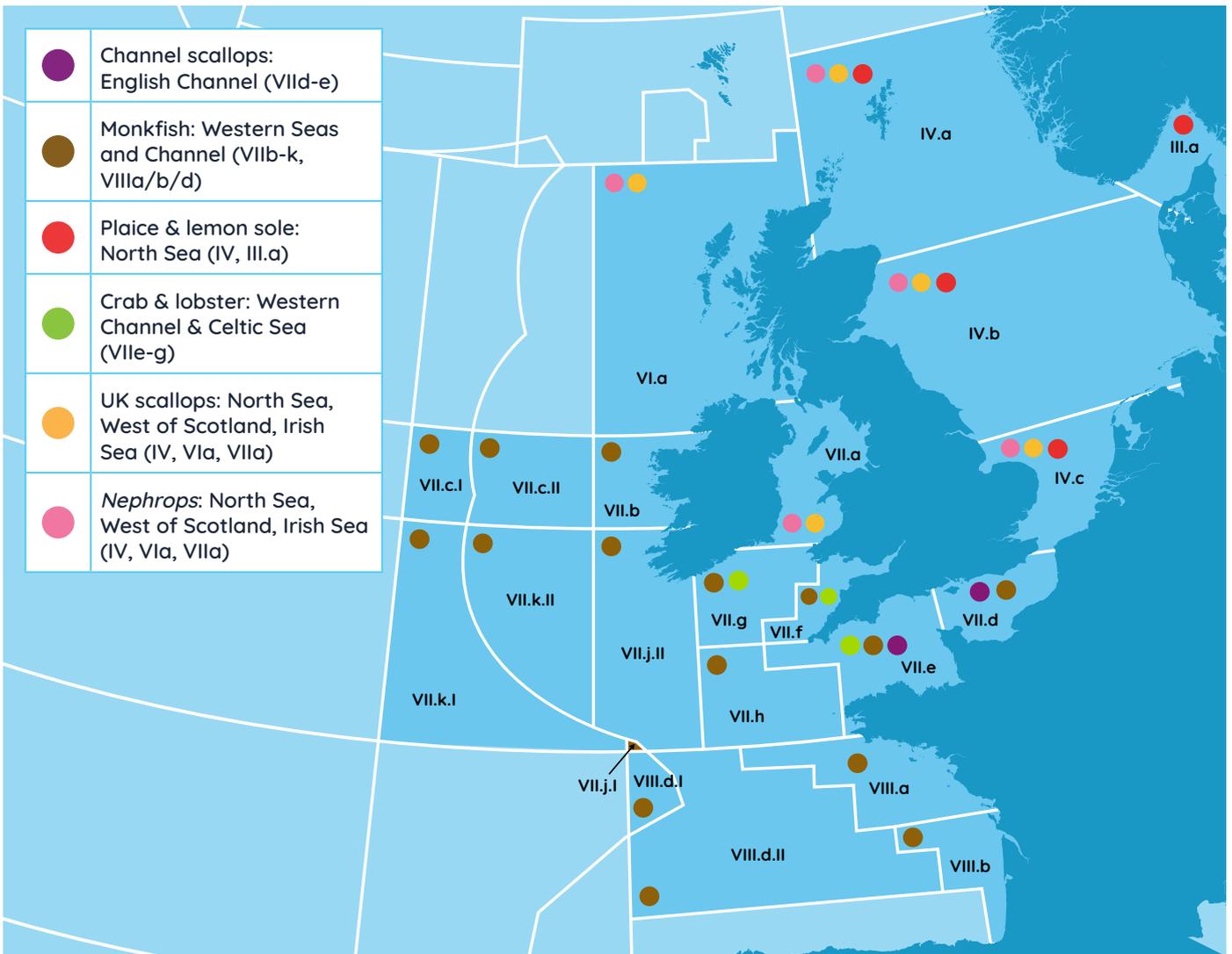
Governance

In Autumn 2019, the Secretariat consulted Steering Group members on how Project UK’s governance structure, Terms of Reference, and decision-making processes could be more clearly defined. Valuable feedback from a range of participants has helped improve structure and consistency across all FIP Steering Groups. The final Terms of Reference will be publicly available on the new Project UK website when it launches.

Communications and branding

The Secretariat is working hard to develop Project UK branding and communications tools. After consultation with all Steering Groups, Project UK now has a logo, and the Secretariat has developed a full set of branding guidelines, and is in the process of developing a website to better support communication around Project UK and its goals.

ICES areas covered by Project UK





Round 1 FIPs

Channel scallop, South West crab and lobster, South West monkfish, and North Sea plaice and lemon sole

The first round of fisheries to participate in Project UK have now reached the end of their third year. Some key changes across Round 1 FIPs are summarised as follows:

- **EMFF grant concluded** – The generous EMFF grant, which funded Cefas, Bangor University and University of York to undertake a variety of research tasks to address knowledge gaps concerning the environmental impacts of the Project UK fisheries, has now concluded.
- **Fishery Management Plans in progress** – All the FIP Steering Groups have begun to develop their own Fishery Management Plans (FMPs). These plans will help to build structured, comprehensive strategies that demonstrate how each fishery adheres to the MSC Standard. The Steering Groups hope that these will contribute to the requirements for species-specific management plans outlined in the new draft UK Fisheries Bill.
- **Steps towards MSC assessment** – Some Steering Groups have started considering steps needed to move the fishery into MSC assessment.

- **New Steering Group chairs** – Several FIPs are now chaired by Steering Group members, rather than the MSC, and over the next year the Secretariat encourages more members to move into chair or co-chair roles.
- **Funding commitments continue** – Funders have renewed their commitment to contributing to Round 1 for the remainder of the FIP timeline.

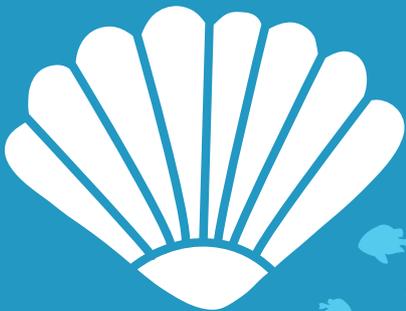
Updates on each of the Round 1 FIPs are detailed below. Over the next year the Secretariat intends to apply for external funding from several sources in order to support the actions highlighted across the FIP Action Plans, and to support the FIPs in transforming the research undertaken so far into demonstrable changes on the water.





Channel scallops

 SPECIES	King scallop <i>Pecten maximus</i>
 AREA	English Channel (VII d-e)
 GEAR TYPE	Dredge



Brixham

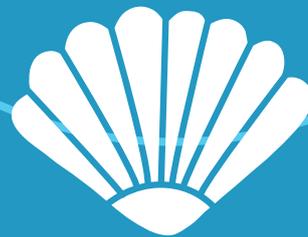
Brixham is the second largest port for landings of scallops by UK vessels into major ports in England

Source: MMO monthly sea fisheries statistics, 2019

34%

From 2002 to 2018 effort in ICES sub-area VII increased by 34%

Source: MMO UK sea fisheries statistics, 2018



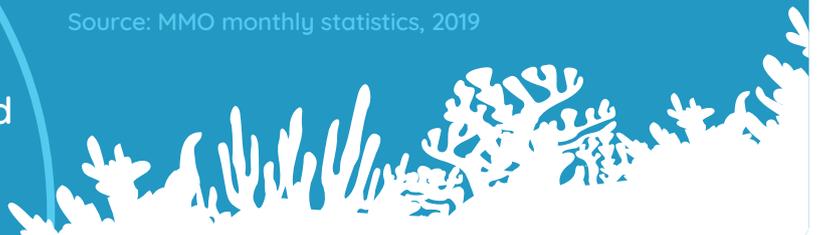
+282%

Between 2018 and 2019 there was a 282% increase in **landings** by UK vessels abroad, the largest increase in all major fisheries

Source: MMO monthly statistics, 2019

97%

Almost 97% of **scallops landed** in the UK are dredged





Key progress

The Channel scallop FIP Action Plan identifies 11 actions to address over the five-year duration of the FIP. These actions cover 18 of the MSC Standard performance indicators (see Appendix on MSC processes) and have multiple milestones associated with them. The Steering Group made progress on several of these milestones over the past year, including:

1. An improved understanding of scallop stock status;
2. A study of catch composition; and
3. The impacts of dredge gear on habitats.

Stock status

One of this fishery's key milestones is to identify scallop stock boundaries in the English Channel. This is now complete. The Scallop Industry Consultation Group (SICG) Project Steering Board arranged industry-funded sampling surveys that enabled four separate stock boundaries to be established by scientists at the International Council for the Exploration of the Sea (ICES).

Figure 1 shows the newly established stock boundaries in the English Channel.

With the improved understanding of the stock boundaries, a review of stock status scores against the MSC Standard for each of the four stock units shows the following scores (see Appendix on MSC processes for more information on the scoring):

- 7.e.I, Inshore Cornwall: **60-79**
- 7.e.L, Lyme Bay: **<60**
- 7.e.O, Offshore: **≥80**
- 7.d.N, Eastern North: **<60**

This shows that the offshore stock status would meet the MSC Standard without any conditions (≥ 80), and the Inshore Cornwall stock would meet the standard with a condition for improvement (60-79). A new milestone in the Action Plan has been triggered for the two stocks that scored less than 60. This will address stock rebuilding and the establishment of appropriate reference points for sustainable stock management. These scientifically established reference points help fishery managers understand the levels at which a stock is being fished, and at what point management measures should be introduced to control the harvest level. The next step will be to use the knowledge of the new stock boundaries to improve management.

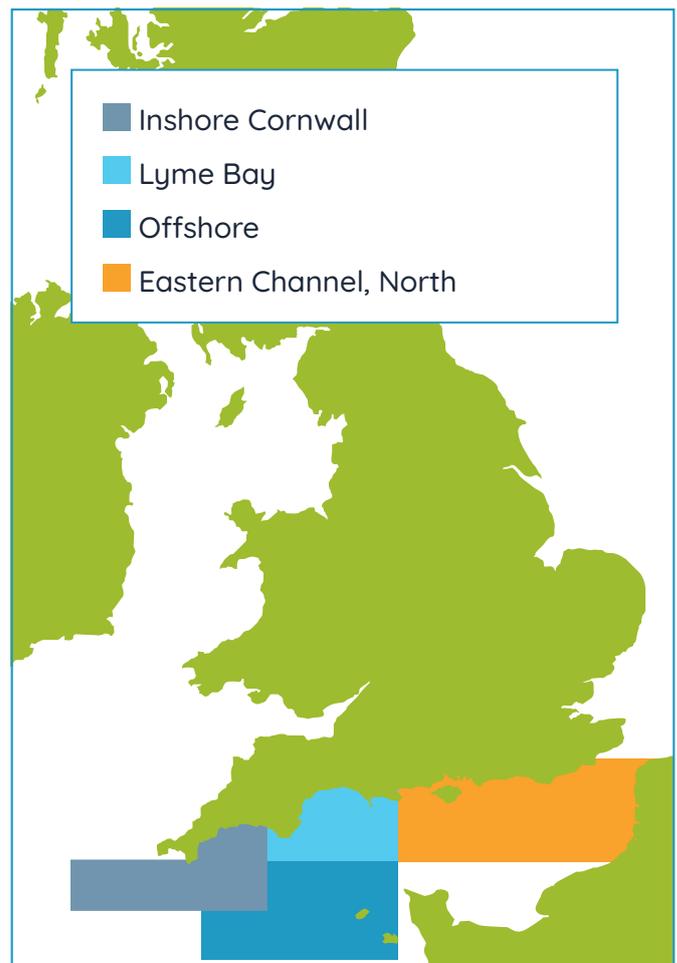


Figure 1. Newly established stock boundaries in the English Channel



Harvest Strategy

The Scallop Industry Consultation Group (SICG) has developed a draft harvest strategy together with harvest control rules for scallops. The SICG submitted their proposals to the UK Devolved Administrations at the end of 2019. However, Year 3 of the Action Plan requires a harvest strategy to be agreed by fishery managers, and for harvest control rules to be defined and related to reference points – actions that are not yet complete. Although this is currently behind target in the FIP Action Plan, significant progress has been made, and the Steering Group hopes that the milestones will align again by the end of Year 4.

Catch composition

Project UK commissioned Cefas to study the catch composition of the scallop dredge fishery in the English Channel. The outcomes of this study will help determine the presence and volume of other species caught in this fishery (known as primary and secondary species in the MSC Standard, based on whether there is management in place for those species), which is required for an MSC assessment (see Appendix on MSC processes for more information).

Cefas found that catch composition was less diverse in the Eastern English Channel (32 species) than the Western English Channel (61 species)¹. Scallop fisheries are relatively targeted, with over 90% of catch comprising king scallop, but this fishery could potentially capture a wide range of other species as bycatch. A high proportion of the potential bycatch identified in this region consists of species that have management measures associated with them, and therefore would be categorised as a primary species in an MSC assessment.

1. Bell, E & S. Mangi (2018). Project UK Fisheries Improvements: Task 4. Report to MSC by CEFAS. 15pp, plus appendices.

The study concluded with a recommendation to develop a comprehensive bycatch recording program. This should include a focus on the number of skates and rays discarded, which are not currently quantitatively assessed. These records would make the dataset more robust.

Habitat impacts

Two years of postgraduate research on the effects of dredging on habitats in the Channel, hosted by Bangor University, has now reached completion. The research represents a significant step towards addressing all aspects of the habitat component of the FIP Action Plan.

The research identified a range of sensitive species, from the pink sea fan, which has a 50-year life expectancy, to the Arctic quahog, with a 500-year life expectancy. The Bangor Habitat Impacts Tool assessed the impact of the fishery on seabed habitats and the overlap of fishing on 29 selected species.

Research results showed:

- **Longer-lived species are more sensitive** to the impacts of scallop dredging;
- **One habitat type showed overlap with fishing grounds** in excess of that permitted by the MSC Standard. To meet the MSC Standard, the fishery will need to demonstrate that appropriate management is in place to mitigate its impact on this habitat;
- **Overall, the English Channel is not negatively impacted** by scallop dredging, but there are exceptions in localised areas that are at higher risk;
- **Dredging can be intense at a local scale**, but overall habitat impacts for this fishery are low due to the large areas that are not dredged.



The research concluded with recommendations for possible habitat management measures, specifically managing the intensity and distribution of fishing effort, through the use of spatial management. The Steering Group will discuss the findings of the report and decide how to develop habitat management measures that are appropriate for the fishery and aligned with the requirements of the MSC Standard.

Year 4: Priorities and challenges for Channel scallop

Overall, the Channel scallop FIP continues to make progress against its Action Plan. While several milestones have progressed during Year 3, some actions are now behind target. The priorities and challenges are listed below, and correspond to the three principles of the MSC Standard:

Principle 1: Sustainable fish stocks

- A gap analysis of available stock information revealed the need for more information on the larval interaction between dredged and un-dredged areas. This forms a new milestone in the Action Plan.
- The Steering Group also identified a need to assess EU landings data on scallop fishing in the Channel to identify the volume of scallops removed by fishing fleets from other Member States.

Principle 2: Minimising environmental impact

- Over the next year, the Secretariat will develop grant proposals to fund a more in-depth analysis of catch data. Research from Year 3 identified the catch composition; the next step is to calculate the biomass of the bycatch. This will then allow the identification of certain types of bycatch, known as primary and secondary 'main' species, which is required for a full MSC assessment.
- An additional milestone has been added to review alternative measures for minimising any unwanted catch of primary and secondary species.
- Good progress has been made to develop an endangered, threatened and protected species (ETP) strategy. A full review of the ETP list will be undertaken in Year 4 to help understand whether new designations of protected species would result in an extended list of ETP species, specifically for invertebrates.

Principle 3: Effective fisheries management

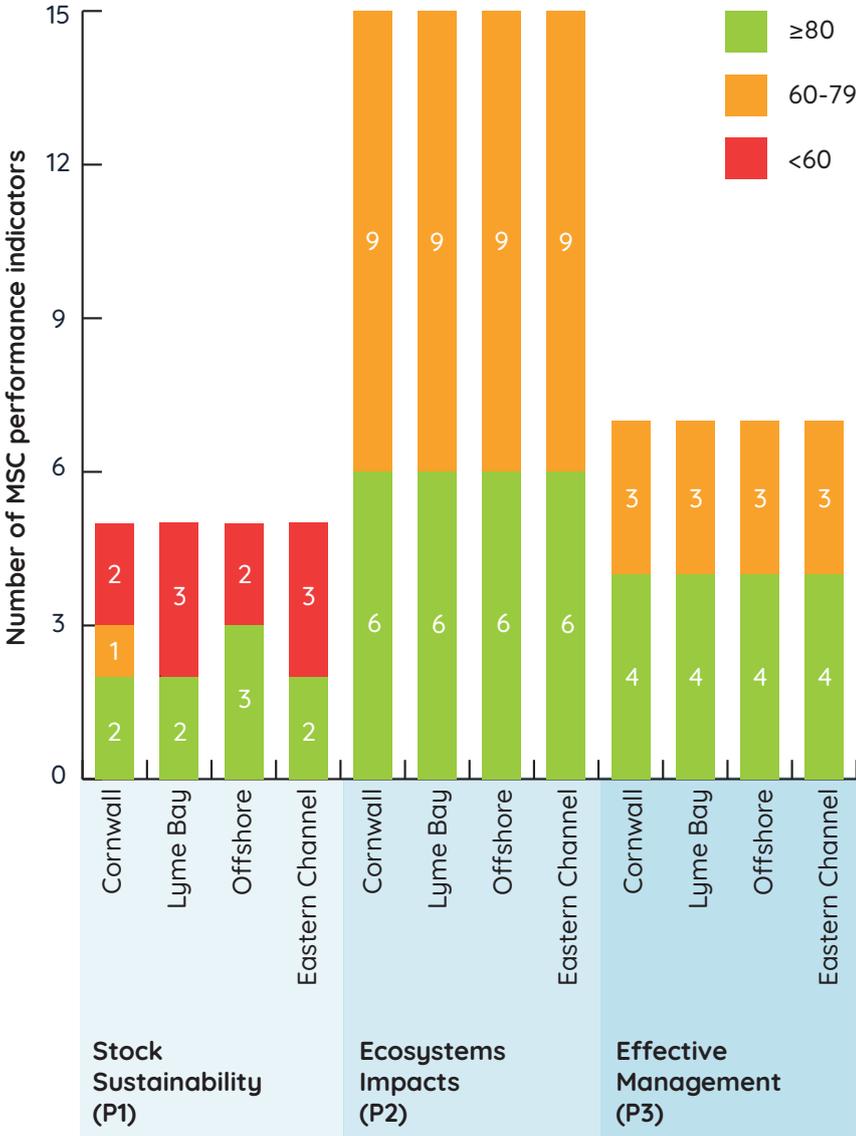
- The most appropriate form of management (such as Total Allowable Catch, effort or spatial management) for scallops is yet to be agreed by fishery managers. This will continue to be taken forward by the Scallop Industry Consultation Group.

**TOWARDS
HEALTHY
SUSTAINABLE
SEAS**



MSC Performance Indicators

Scoring levels across MSC Performance Indicators for each Channel scallop fishery at the end of Year 3.





Monkfish

 SPECIES	Monkfish <i>Lophius piscatoris</i> , <i>Lophius budegassa</i>
 AREA	Western Seas and Channel (VIIb-k, VIIIa/b/d)
 GEAR TYPE	Beam trawl, demersal trawl, trammel/tangle net

The eggs of monkfish are released in what are known as ‘veils’ and are buoyant



2

There are **two species of monkfish** commonly caught in UK waters: the white-, and black-bellied monkfish, *Lophius piscatoris* and *Lophius budegassa*

2019

In 2019 the value of monkfish was £3,110/tonne

Source: MMO monthly sea fisheries statistics, 2019

£53m

In 2019 the total value of **Monkfish landings** into the UK and abroad by UK vessels was worth roughly £53m

Source: MMO monthly sea fisheries statistics, 2019

20%

In ICES Area VII, the UK has approximately 20% of the available monkfish quota with 7,420t

Source: MMO UK sea fisheries statistics, 2018



Newlyn & Brixham

The **two largest ports** for Monkfish by weight in England are Newlyn (1137t) and Brixham (730t)

Source: MMO UK sea fisheries statistics, 2019



Key progress

The South West monkfish Action Plan identifies 11 actions to address over the five-year duration of the FIP, and these actions cover 17 of the MSC Standard performance indicators. As for other FIPs, each action consists of multiple milestones. The Steering Group made progress on several of these milestones over the past year, including:

1. Improved understanding of stock status;
2. Harvest strategy;
3. A review of secondary species;
4. A review of impacts of the fishery on habitats; and
5. Development of a draft Fishery Management Plan.

Stock status

There are two species of monkfish that coexist over much of their range: the black-bellied monkfish *Lophius budegassa*, and the white-bellied monkfish, *Lophius piscatorius*. ICES categorise different species based on the information available for providing advice on stock status. White-bellied monkfish is designated as a **Category 1 species** (which means the stocks are assessed with quantitative data), whereas black-bellied monkfish is a **Category 3 species** (which means trends are identified through survey-based assessments). The amount of data available for stock assessments has an impact on the outcome of an MSC assessment. Category 3 species, like black-bellied monkfish, may be assessed using a more precautionary approach, known as the Risk Based Framework, in a full MSC assessment.

Harvest Strategy

The two species have an identical external appearance, and therefore it is very difficult to identify whether a catch consists of white-bellied monkfish, black-bellied monkfish, or both. Project UK submitted a Fisheries Science Partnership proposal to Cefas to investigate the feasibility of separating the two species on-board. However, the sorting process added significant delays to activity on-board. Initial results indicate that skippers require further time and support to adjust to new e-logs and grading machines so that the process of separating the species becomes part of their normal routine. Cefas concluded that species-specific recording is best practice and that it would be worth continuing the on-board species separation, where possible. A full report is due in Summer 2020.





Catch composition

Project UK commissioned Cefas² to review the catch composition for this fishery, in order to identify secondary species. The review noted that three species of ray (cuckoo, blonde and undulate) are most at risk of being caught as bycatch.

The study highlighted that data collection could be improved by using catch data provided by the fishing industry together with new technologies (such as Remote Electronic Monitoring). This will provide a more robust data set, as required in an MSC assessment. The potential introduction of shorter tow times was identified as the only viable additional alternative measure to reduce skate and ray mortality, and this had already been adopted by many vessels to improve the quality of the catch. Scientific studies show that skate and ray species have high survivability rates when returned to the water and can be legally discarded under the Survivability Exemption.

Additional information gathered through the Steering Group acknowledged that as trawl gear generally targets bottom-living species, the risk of catching marine mammals and seabirds is relatively low.

Habitat impacts

Project UK commissioned Cefas³ to undertake a study of the impacts of trawl gear on the habitat. Cefas found that although the fishing effort of the English Channel monkfish fleet overlaps with several sensitive habitats, the overlap was low and the fishery would likely meet the MSC Standard for this performance indicator.

The study recommended that coarse sediment habitats should be avoided, as they deplete rapidly and recover slowly from fishing activity. Because of the sensitivity of coarse sediment habitats, they are often protected within the Marine Conservation Zone network. Monkfish, however, prefer habitats with sandy, soft sediments, and the fishermen consulted explained that habitats with coarse sediments are not targeted by the fishery.

Habitat impacts would be better understood if all vessels, including those under 12m, reported using e-logbooks and carried a location monitoring device. However, there is a lack of information on the activities of under-12m vessels which, at the time of the study, were not obliged to report logbooks or use satellite tracking systems. To further aid habitat management, fishermen could be informed of the locations of vulnerable habitats and also report any vulnerable habitats they encounter.



2. Ribeiro Santos, A. (2019). Project UK Fisheries Improvements. Task 1. Plaice & lemon sole main secondary species Report to MSC by CEFAS. 52pp.
3. Katara, I. (2019). Project UK Fisheries Improvement. Task 2. Habitat assessment. Report to MSC by CEFAS. 26pp.



Fishery Management Plan

The remaining actions are mainly related to the continued development of a comprehensive Fishery Management Plan (FMP) to use as a tool for preparing the fishery for full assessment. The Secretariat worked with the relevant Producer Organisations to draft the management plan, and the next steps are for the FMP to be shared with Defra, as the legislative body, for their review and feedback. This will ensure the fishery can align any management measures to meet their requirements, as well as meeting the needs of the MSC's indicators for effective fisheries management.

Year 4: Priorities and challenges for South West monkfish

The South West monkfish FIP continues to make progress against its Action Plan, but some actions are now behind target. The priorities and challenges are listed in relation to the three principles of the MSC Standard:

Principle 1: Sustainable fish stocks

- The Secretariat has commissioned Dr Paul Medley to work with Cefas to review the stock assessment requirements and harvest control rules, especially for black-bellied monkfish. This will identify any additional work the Steering Group needs to consider undertaking to ensure the fishery can achieve the MSC Standard.
- Further engagement with the industry on recording the two monkfish species separately is needed, if this fishery is to be MSC certified.

Principle 2: Minimising environmental impact

- A review of spatial measures to reduce impacts on vulnerable habitats and species, with a focus on coarse sediments, is planned. Defra will be requiring all licensed British fishing boats under 12m to install and maintain inshore vessel monitoring systems (iVMS) when fishing in English waters (date to be confirmed). Combined with the Marine Management Organisation's catch reporting for vessels under 10 metres in length, the installation of iVMS will provide the government and fisheries management authorities with a greater understanding of fishing activity in English waters. The Steering Group will build this information into the habitat management strategy.
- A full review of the ETP species list will be undertaken in Year 4 to help understand if new protected species designations would extend the list, with a focus on invertebrate species. Such a review is considered good practice during an MSC assessment, and the outcomes will be incorporated into the Fishery Management Plan.

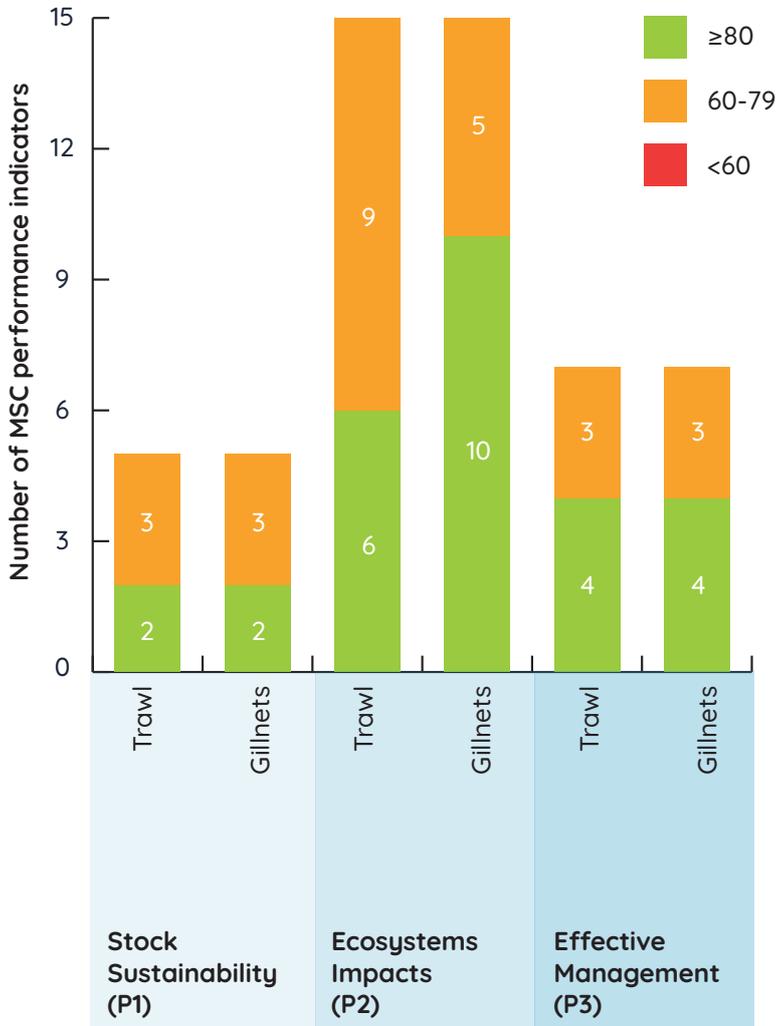
Principle 3: Effective fisheries management

- The stock assessment outcomes and harvest control rules will be incorporated into the Fishery Management Plan. The plan will also include finalisation of management actions to reduce interactions with juvenile monkfish, skates and rays (especially ETP species).



MSC Performance Indicators

Scoring levels across MSC Performance Indicators for each monkfish fishery at the end of Year 3.

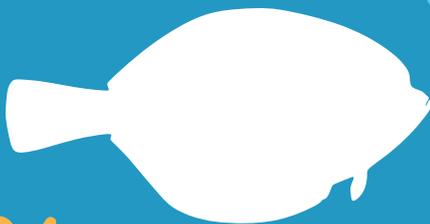




Plaice and Lemon Sole

 SPECIES	Plaice <i>Pleuronectes platessa</i> Lemon Sole <i>Microstomus kitt</i>
 AREA	North Sea (IV and III.a)
 GEAR TYPE	Demersal trawl, seine

Both fish are right eyed meaning that both eyes (and mouth) are situated on the right-hand side of the fish



36%

The **price of plaice** per tonne rose 36% to £1,820 for UK vessels landing into the UK in 2018

Source: MMO monthly fisheries statistics, 2018

£7.7m

Landings of **lemon sole** were worth £7.7m to the UK economy in 2018

Source: MMO UK sea fisheries statistics, 2018

Lemon Sole

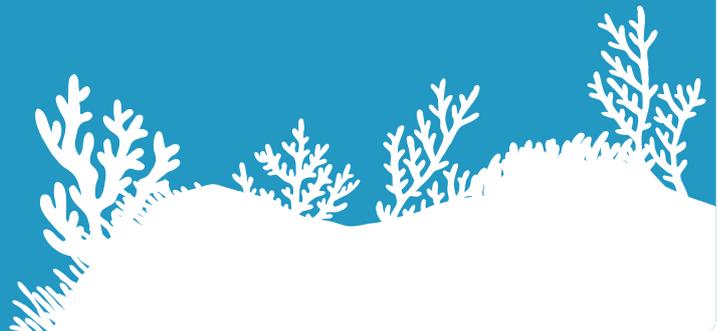
Lemon sole is currently managed as a joint Total Allowable Catch with witch in ICES Areas IV and IIa



UK

The UK has the **second largest quota** for plaice in ICES Areas II and IV, after the Netherlands

Source: MMO UK sea fisheries statistics, 2018





Key progress

The plaice and lemon sole Action Plan identifies seven actions to address over the five-year duration of the FIP, which together cover 16 of the MSC Standard performance indicators. As for all FIPs, each action consists of multiple milestones. The Steering Group made progress on several of these milestones over the past year, including:

1. Stock status;
2. Harvest strategy;
3. Catch composition;
4. Impacts of gear on habitats; and
5. Progress towards a Fishery Management Plan

Stock status

The FIP has come up against some unexpected challenges around ICES stock assessments as a result of the most recent ICES advice. For lemon sole, there has been a change in the ICES assessment process, and this has resulted in a change in scientific advice for fishing reference points. However, the independent consultants re-scored this indicator as part of this annual review and the stock status score continues to meet SG80 – the unconditional pass score in an MSC assessment (see Appendix on MSC processes).

Harvest Strategy

With change to a single species total allowable catch (TAC) unlikely in the next two years, alternative approaches are required to ensure the fishery can meet the standard requirements with an unconditional pass (SG80). These will focus on additional measures in line with the North Sea multi-annual plan (MAP) for bycatch species. Lemon sole is part of a mixed fishery, but is not targeted directly, so is managed as bycatch. Some progress has been made in exploring what additional harvest strategy approaches and associated harvest control rules would be most appropriate, and a survey is being developed to improve understanding of the location of lemon sole hotspots and how these vary seasonally.

Catch composition

Project UK commissioned Cefas⁴ to review the catch composition data for this fishery to identify secondary species, which is necessary for an MSC assessment. Cefas found the following bycatch species and proportions for each gear type:

- **Otter trawls >100mm:** Haddock (27%), cod (16%), saithe (11%), plaice (10%), whiting (9%), anglerfish (8%), hake (6%), *Nephrops* (5%).
- **Otter trawls 70-99mm:** *Nephrops* (49%), whiting (14%), plaice (8%), haddock (6%) anglerfish (6%).
- **Demersal seines:** Haddock (37%), cod (18%), whiting (17%).

4. Ribeiro Santos, A. (2019). Project UK Fisheries Improvements. Task 1. Plaice & lemon sole main secondary species Report to MSC by CEFAS. 52pp.



The report focused on *Nephrops* due to its significant presence within the catch composition and suggested that for data-limited stocks a Productivity and Susceptibility Analysis (PSA) could be applied. This analysis examines the risks fishing poses to an ecosystem and allows species to be ranked according to their vulnerability.

The management of *Nephrops* is also being considered by the Project UK Round 2 FIP, which aims to address data deficiencies and implement relevant management measures to ensure sustainable harvest of the stocks. It is important to ensure these FIP actions and timelines align where possible.

The plaice and lemon sole fishery is a mixed species fishery, meaning that cod, whiting and a range of other species are caught in large numbers alongside plaice and lemon sole. Recently the North Sea cod stock dropped below safe biological levels, causing ICES to advise a significant reduction in the cod Total Allowable Catch (TAC) in 2019.

In an MSC assessment, cod would be listed as a primary species in this fishery, because it has management measures in place. The change in ICES advice has resulted in a reduced score for the FIP according to the MSC Standard (see Appendix on MSC processes). A cod recovery strategy is in place and the Steering Group will monitor future ICES advice for this species. Whiting, which is also listed as a primary species for this FIP, has also seen stocks fall, but they currently remain within safe biological levels, so the score has not changed.

Habitat impacts

Project UK commissioned Cefas⁵ to review the interactions between the trawl gears used in this fishery (beam and otter) and the habitat. Relative Benthic Status (RBS) is an indicator of the risk of depletion of benthic habitats. It combines information on the time it takes a habitat to recover (e.g. from fishing impacts) with the magnitude of the disturbance. For this fishery, the RBS values indicate that the impact of the vessels on commonly encountered habitats is low. The study found that:

- The fishing effort of North Sea plaice and lemon sole vessels overlapped with more than 20% of communities of sea pens, sponges and cup corals in the North Sea. These habitats are considered to have low recoverability and, based on MSC Standard, overlap must be lower than 20%.
- In sandy habitats, beam trawling has a severe initial impact but the habitat recovers quickly.
- Otter trawls have a delayed effect on sandy habitats, in terms of both initial impact and subsequent recovery. The patterns are similar for these gear types in muddy-sand habitats.
- Cefas recommended that all vessels, including those under 12m, reported e-logbooks and carried a vessel monitoring system (VMS) to record location and improve the data for impact estimates.

The study had a margin of error because VMS 'pings' are at two-hour intervals whereas the fishing activity might have taken less time, meaning that some activity may not have been picked up in the analysis. The results could also show bias due to lack of information on the distribution of effort for under-12m vessels as they are not obliged to report logbooks or use VMS.

5. Martinez, R. & Katara, I. (2019). Project UK Fisheries Improvement. Task 2. Habitat assessment Plaice, lemon sole. Report to MSC by CEFAS. 42pp.



Additionally, Fisheries Innovation Scotland provided a grant in 2019 for Project UK to commission an expert on the habitat aspects of an MSC assessment, Dr. Gudrun Gaudian. She reviewed management measures currently in place to identify how these address the MSC Standard requirements. The Steering Group will use the two habitat reports to confirm whether any additional habitat management actions are needed in this fishery. Early results indicate there could be a condition on the certification (i.e. that it would score 60-79 in an assessment) due to the overlap of vessel activity with Marine Protected Areas (Central Fladden, East of Gannet and Montrose Fields), specifically in relation to sea pens. The assessment would require proof of active avoidance and compliance with all North Sea Marine Protected Area measures to meet the unconditional pass mark (SG80).

Fishery Management Plan

The remaining actions in the Action Plan are to continue development of a comprehensive Fishery Management Plan (FMP), which will be used as a tool for preparing the fishery for full MSC assessment, if the group chooses to go for MSC certification. The Steering Group has been working on the draft FMP, and the next steps are for the FMP to be shared with Defra, as the legislative body, for their review and feedback. This will ensure the fishery can align any management measures to meet their requirements, as well as meeting the needs of the MSC's indicators for effective fisheries management.

Year 4: Priorities and challenges for plaice and lemon sole

Overall, the plaice and lemon sole FIP continues to make progress against its Action Plan. However, while several milestones have progressed during Year 3, some actions are now behind target.

The MSC Unit of Assessment defines exactly what is being assessed against the Fisheries Standard. Amongst other things, the fishery needs to have a defined fishing area. After some debate around total allowable catch (TAC) area versus ICES advice area for lemon sole, the Steering Group is considering whether the Unit of Assessment should include ICES Area 7d (Eastern English Channel), as the ICES advice for Area 4 (North Sea, included in the Unit of Assessment) also covers Area 7d. This could have implications for data collection as the Steering Group will need to identify how to fill gaps in information resulting from the decision to include the additional area.

The priorities and challenges are listed in relation to the three principles of the MSC Standard:

Principle 1: Sustainable fish stocks

- The key action for the coming year is to progress the development of the harvest strategy and harvest control rules for the fishery. This is essential as the introduction of a single-species lemon sole TAC is now unlikely to happen in the remaining two years of the FIP. To meet the MSC Standard, the harvest strategy and harvest control rules will need to detail what measures would be introduced if the stock falls below safe biological limits, and when they will be used, to ensure ongoing delivery of the North Sea multi-annual plan objectives.



Principle 2: Minimising environmental impact

- The Steering Group agreed that a full review of the ETP list will be undertaken in Year 4 to help understand if new designations of protected species would result in an extended list of ETP species, specifically for invertebrate species. This additional ETP review is considered good practice during an MSC assessment, and the outcomes of the review will be incorporated into the Fishery Management Plan.

Principle 3: Effective fisheries management

- The remaining tasks will feed into the continued development of the FMP. These will contribute to the management of the fishery by the UK as it continues to operate under the North Sea Demersal multiannual plan during its transition out of the EU. General management will need to be reviewed when the UK ceases operating under the EU's Common Fisheries Policy. Some delays are expected as a result of EU exit, which will impact the availability of fishery managers being able to provide feedback to the Steering Group on the FMP.
- The FMP would help the fishery prepare for full MSC assessment following completion of the FIP.

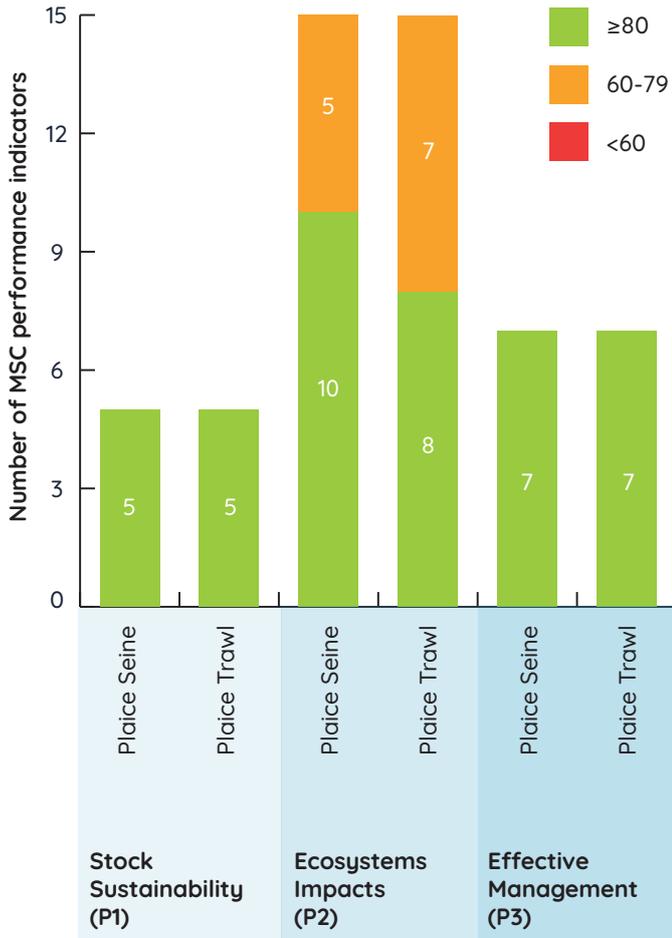




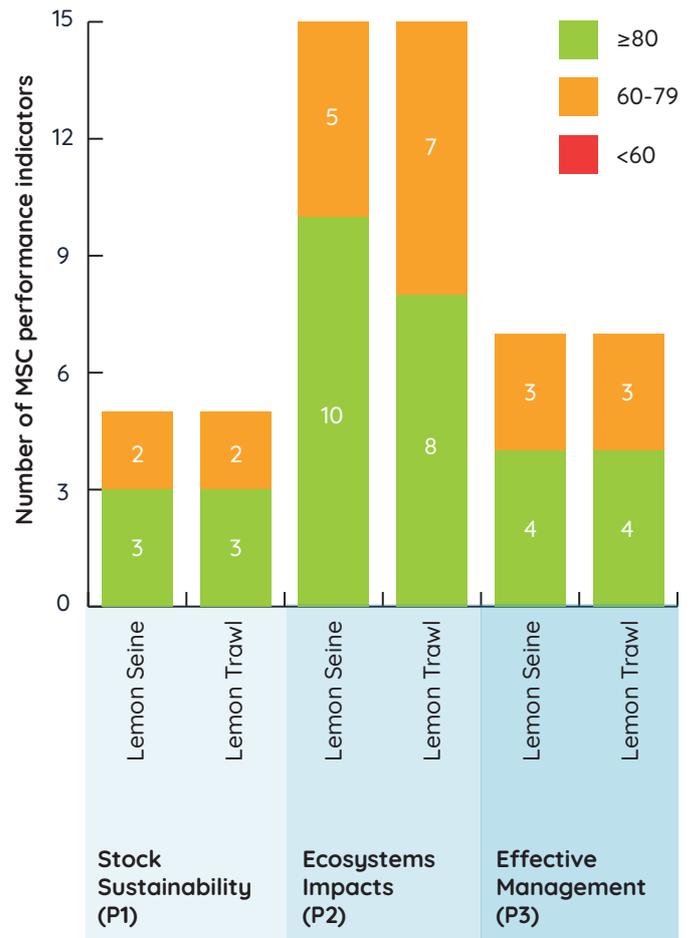
MSC Performance Indicators

Scoring levels across MSC Performance Indicators for each plaice and lemon sole fishery at the end of Year 3.

Plaice



Lemon Sole





Crab and Lobster

 SPECIES	Brown/edible crab <i>Cancer pagarus</i> European lobster <i>Homarus gammarus</i>
 AREA	Western Channel & Celtic Sea (Vlle-g)
 GEAR TYPE	Pots/traps

Newlyn

Newlyn is the **third largest port** for landings by UK vessels into major ports in England for both crab and lobster

Source: MMO monthly sea fisheries statistics, 2019

12%

While only accounting for 2% of the weight of shellfish landings, **lobsters** formed 12% of the value of the UK fleet

Source: MMO UK sea fisheries statistics, 2018

Lobsters

In 2018 lobsters were the **highest value seafood** by weight at over £14 per kg

Source: MMO UK sea fisheries statistics, 2018

2019

In 2019, the total amount of **crab landed** into the UK by UK vessels was 29,348t and 3,222t for lobsters

Source: MMO monthly sea fisheries statistics, 2019

Crabs

Female crabs can spawn an egg mass of between 1 and 4 million eggs with each reproductive cycle

54%

Nationally, **landings of crabs** have increased by 54% since 1996 to 35,000t in 2018

Source: MMO UK sea fisheries statistics, 2018



Key progress

The crab and lobster Action Plan identifies six actions to address over the five-year duration of the FIP, and these actions cover nine of the MSC Standard performance indicators. Each action consists of multiple milestones. Progress on this fishery has been mixed over the last year. Despite some obstacles, progress has been made on:

1. Documenting an endangered, threatened and protected species strategy for the fishery; and
2. Developing a draft Fishery Management Plan

Endangered, threatened and protected species

Project UK commissioned Cefas⁶ to review the interactions of the fishery with endangered, threatened and protected (ETP) species and identified two areas of concern: marine mammal interactions, and ghost fishing. The report noted that there could be a risk of cetaceans becoming entangled in crab and lobster vertical lines. However, Steering Group members reported that whale interactions in the South West pot fishery are very low, as there are no specific routes for whale migration in the English Channel. In relation to incidental bycatch (ghost fishing), pots in this fishery use escape hatches to allow non-target species to escape.

The study made the following recommendations:

- To introduce mitigation measures to minimise the chances of ETP species interacting with pot fishing gear, such as: sinking excess vertical line slack, reducing the amount of unused line, or increasing the number of pots per string to reduce the overall number of buoyed vertical lines. With regards to this, some management measures are already in place in the UK, for example an excess of rope floating on or near the surface is not permitted.
- To create an official, centralised reporting scheme to fully document any cases of entanglement by ETP species and help fill the remaining knowledge gap.

Since the completion of the Cefas report, the Steering Group developed a comprehensive best practice guide to ETP interactions and set up a reporting system that will collect data on any interactions.

Fishery Management Plan

As part of a management sub-group, the Inshore Fisheries and Conservation Authorities (IFCAs) and the Marine Management Organisation (MMO) have documented each of their current harvest strategy and harvest control rules within the Fishery Management Plan.



6. Wynne (2018). Task 3. Interactions between Endangered Threatened or Protected species (ETP) and crab/lobster static fishing gear. Prepared by CEFAS. 9pp, plus appendices.



Year 4: Priorities and challenges for South West crab and lobster

Overall, the South West crab and lobster FIP continues to make some progress against its Action Plan. The main obstacles are around the increased prices being offered by some international markets, leading to lower participation in the FIP, because there is already a price premium through those markets. While several milestones have progressed during Year 3, other actions are now behind target. The priorities and challenges are listed in relation to the three principles of the MSC Standard:

Principle 1: Sustainable fish stocks

- The main challenge has been the development of a harvest strategy that encompasses both inshore and offshore management of the fishery. This has been affected by the formation of the UK-wide Shellfish Industry Advisory Group (SIAG) in early 2020 (see Principle 3).

Principle 2: Minimising environmental impact

- The Steering Group identified knowledge gaps around the type and quantity of bait species being used in the fishery. This has generated an additional milestone, and an immediate review is required to determine if these bait species need to be considered as primary or secondary species in an MSC assessment. This review will also evaluate the species' stock status and management.

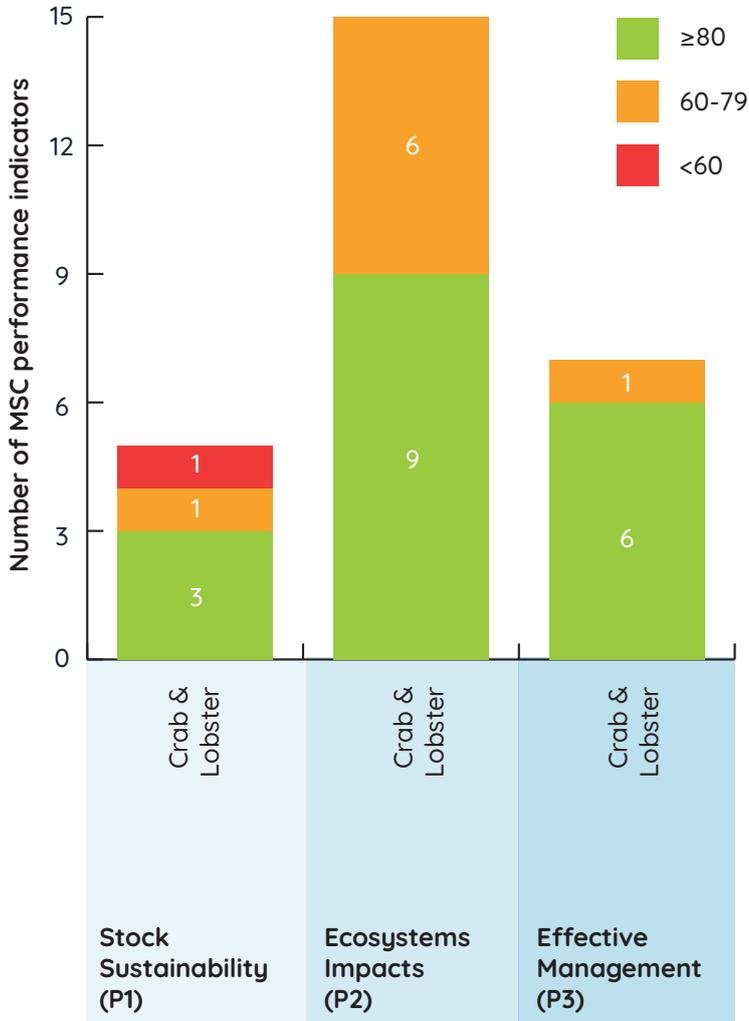
Principle 3: Effective fisheries management

- The recently-established Shellfish Industry Advisory Group (SIAG), which some Project UK members also sit on, intends to use a co-management approach to develop species-specific Fishery Management Plans (FMPs) for crab and lobster in the UK. This is a positive development. Defra is also intending to produce a 'Shellfish Strategy' to complement the new Fisheries Bill's intention to develop species-based management plans.
- However, if SIAG is working to an alternative timeline, it risks delaying the progress of this FIP, which only has two years left. The Steering Group needs to establish how it can work with SIAG in relation to harvest strategy development, and whether to also continue developing a harvest strategy for the South West. This could then be aligned with SIAG's plan as it develops.
- Ideally, the next steps are to review the outcome of what Defra and SIAG agree on in relation to reduced fishing effort, then use those details in the management being developed by this FIP to implement regionally with local fishermen.
- The remaining tasks are related to developing a comprehensive Fishery Management Plan (FMP) and using this as a tool for preparing the fishery for full assessment if desired by the Steering Group.



MSC Performance Indicators

Scoring levels across MSC Performance Indicators for each crab and lobster fishery at the end of Year 3.





Round 2 FIPs

Based on the successful model demonstrated in the first round of Project UK FIPs, an additional two UK-wide species have been included in Round 2: scallops and *Nephrops*.

These two FIPs each include three fishery areas around the UK, so are a larger scale than the first round of FIPs. The pre-assessments and FIP Actions Plans were signed off in Spring/Summer 2019 by Steering Groups. Their first annual review has just been completed, slightly ahead of the full first year, to ensure alignment with Round 1 timelines. The independent consultants for both rounds of FIPs are the same and a harmonisation exercise was completed to ensure that there is no duplication of effort.

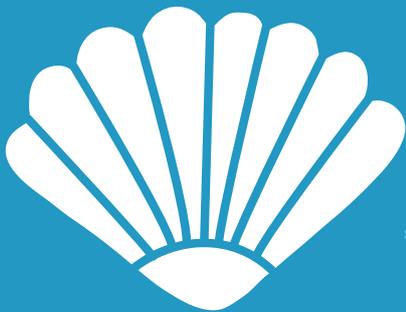
Over the course of this first year the Steering Groups developed a joint environmental sub-group (ESG) to focus on data collection and analysis of the interactions of each fishery with its environment. In relation to the MSC Standard, it focusses on areas relating to minimising environmental impacts (Principle 2). The ESG has worked with NGOs and statutory bodies to develop a comprehensive endangered,

threatened and protected species (ETP) list. The Secretariat also secured funding from The Fishmongers' Company for three Masters student projects focussing on the fishery interactions with ETP species and habitats. Over the next year there will be a focus on the management of both species, with the intention to create regional Management Working Groups to focus on bespoke management solutions.



UK scallops

 SPECIES	King Scallop <i>Pecten maximus</i>
 AREA	North Sea, West of Scotland, Irish Sea (IV, VIa, VIIa)
 GEAR TYPE	Dredge



£84.3m

Scallops are the **fourth most valuable** wild-caught seafood export, worth approximately £84.3m

Source: Seafish export factsheet, 2019

King scallops

are found on clean firm sand and fine gravel and in currents, which provide good feeding conditions

27,948t

In 2019, 27,948 tonnes of scallop were **landed into the UK** by UK vessels

Source: MMO monthly sea fisheries statistics 2019

6%

The **value of scallops landings** by UK vessels into the UK rose by 6% in 2018 to £2,407 per tonne

Source: MMO monthly sea fisheries statistics 2018



Exports

The **largest export markets** for scallops from the UK are France (£49.6m), Italy (£15.3m) and Spain (£9.7m)

Source: Seafish export factsheet 2019



Key progress

The UK scallop FIP Action Plan identifies 15 actions to address over the five-year duration of the FIP, and these actions cover 20 of the MSC Standard performance indicators. Each of these actions consist of multiple milestones, which the Steering Group has made good progress on during Year 1, and the FIP is on target. There is some overlap between this FIP and the Channel scallop FIP, both in the Steering Group membership, and to harmonise the management of these FIPs where possible. The Scallop Industry Consultation Group has developed UK-wide management options, which will allow for a more cohesive strategy across the UK and ensure no duplication of effort.

Stock status

The International Council for the Exploration of the Sea (ICES) has expert species-specific working groups that share expertise. The Scallop Assessment Working Group (WGScallop) seeks to develop and improve stock assessment methods for scallops and increase understanding of scallop populations and fisheries. WGScallop undertook a gap analysis for stock assessment areas and knowledge gaps around biological sampling and survey design. Current stock boundaries are agreed annually by this working group, and it was agreed that the current stock assessment areas are appropriate for the FIP. The ICES working group reviews its Terms of Reference every three years, and the most recent version focusses on the Irish Sea and had led to the provision of advice on defining the Irish Sea stock boundary.

Marine Scotland Science has confirmed that it will be conducting three stock surveys for Shetland, the East Coast and the West Coast, and has already completed a scallop survey for the Clyde.

Harvest strategy

The Scallop Industry Consultation Group (SICG) has made significant progress in proposing a harvest strategy and associated harvest control rules for UK scallops. Proposals are currently under consultation by Defra and Marine Scotland, although their response has been delayed by the shift in focus to tackle the coronavirus pandemic. The proposals to introduce both fleet management and fishery management to the UK scallop fishery will ensure a robust harvest strategy and control rules are in place, as required by the FIP Action Plan.

Endangered, threatened and protected species

The environmental sub-group has progressed a comprehensive list of endangered, threatened and protected (ETP) species, including Scottish priority marine features and an assessment of species likely to interact with dredge gear. In addition, Masters research at the University of York, funded by The Fishmongers' Company, is mapping potential ETP interactions and documenting the risks posed by dredge gear.

Habitat impacts

A three-year research programme (PhD studentship) at Heriot-Watt University started in January 2020 to examine the dredge impacts on habitats, including the use of the Bangor University Habitat Impacts Tool. Substantial progress is expected by Autumn 2021.



Year 2: Priorities and challenges for UK scallops

Overall, the UK scallop FIP is making good progress against its Action Plan, and all actions are currently on target. The priorities and challenges for the next year are listed in relation to the three principles of the MSC Standard:

Principle 1: Sustainable fish stocks

- Significant work remains on agreeing the most appropriate form of management (TAC, effort, spatial management) and ensuring an inclusive approach that can be agreed by all stakeholders across this Unit of Assessment, including inshore and remote fleets (e.g. Scottish islands). Good representation of these fleets and the relevant management authorities on the Steering Group will maximise the progress and successful delivery of these actions. These actions have been discussed at length in Steering Group meetings and will require further consideration in Year 2.
- Year 2 should also see the production of updated scallop stock assessments based on comprehensive surveys conducted in 2019, which were undertaken for all Scottish stocks.

Principle 2: Minimising environmental impact

- Much of the work undertaken by the PhD student, Masters students, and further research provided by the Steering Group will feed into a Scale Intensity Consequence Analysis (SICA), to help the group understand the overarching impact of the fishery on the ecosystem as a whole. This work depends on the timely delivery of the other environmental actions in order to use best available data for the assessment.

Principle 3: Effective fisheries management

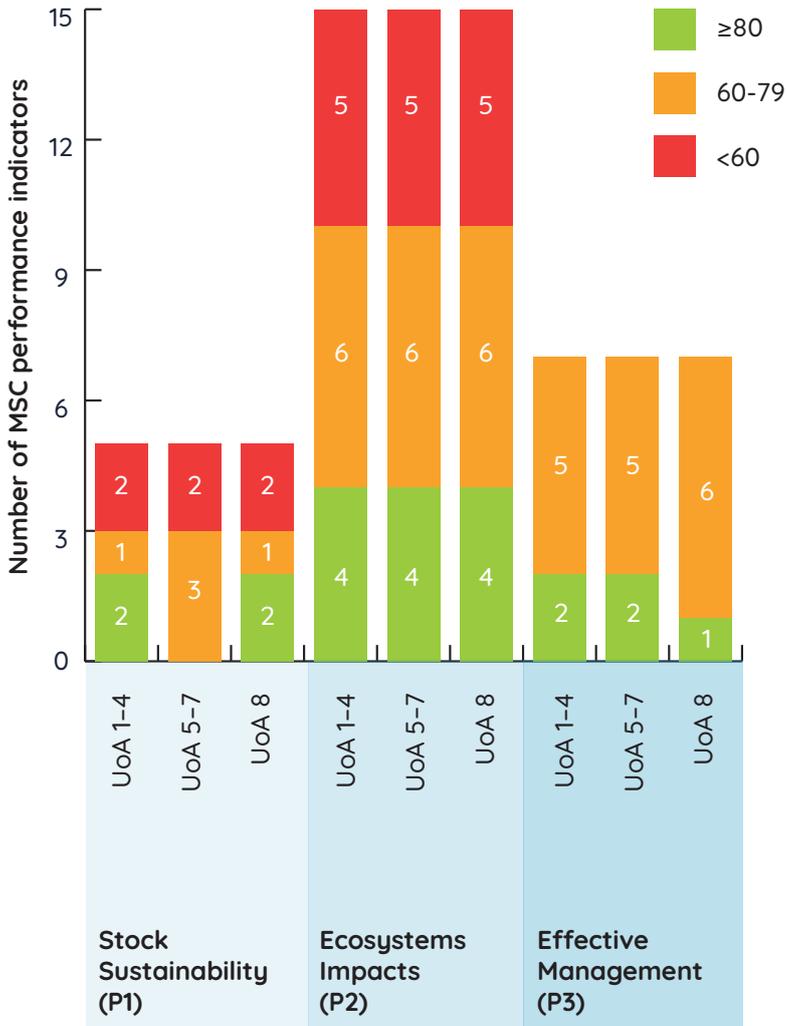
- There are multiple actions related to the management of the fishery that need to be addressed through the development of a Fishery Management Plan (FMP). The first draft of the FMP is in progress and is being led by a newly formed Management Focus Group.





MSC Performance Indicators

Scoring levels across MSC Performance Indicators for each scallop dredge fishery at the end of Year 1.

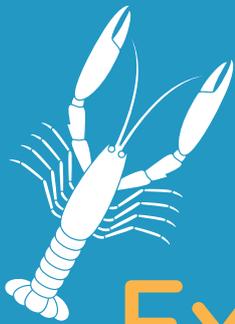


Unit of Assessment	Stock
UoA 1	West of Kintyre
UoA 2	North West
UoA 3	North East
UoA 4	East Coast
UoA 5	Clyde
UoA 6	Orkney
UoA 7	North Sea (English East Coast)
UoA 8	Irish Sea



Nephrops

 SPECIES	<i>Nephrops Nephrops norvegicus</i>
 AREA	North Sea, West of Scotland, Irish Sea (IV, VIa, VIIa)
 GEAR TYPE	Demersal trawl, creel



Export

Globally the **three largest export markets** for *Nephrops* are: France (£39.9m), Spain (34.8m) and Italy (22.5m)

Source: Seafish 2019 UK Seafood Export Factsheet Provisional Data

£112.5m

Nephrops is the UK's most valuable wild-caught seafood export, worth £112.5m in 2019

Source: Seafish 2019 UK Seafood Export Factsheet Provisional Data

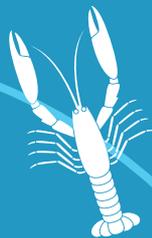
Summer

The **largest landings** of *Nephrops* occur during summer months

37%

In 2019 there was a 37% increase in the **landings of *Nephrops*** into the UK by UK vessels, with 33,970 tonnes landed

Source: MMO monthly sea fisheries statistics 2019



Nephrops are found in muddy sediment in which they build complex burrows at depths of **between 20 and 800m¹**

¹Bell, M.C., Redant, F. and Tuck, I., 2006. *Nephrops* species. Lobsters: biology, management, aquaculture and fisheries, 506, pp.412-461.



Key progress

The UK *Nephrops* FIP Action Plan identifies 11 actions to address over the five-year duration of the FIP, and these actions cover 14 of the MSC Standard performance indicators. Each of these actions consists of multiple milestones, on which the Steering Group have made good progress during Year 1, and the FIP remains on target.

Stock status

A summary of *Nephrops* stock status as of April 2020 shows that the latest ICES advice, either from 2018 or 2019, varies across each functional unit (individual population). There are 12 functional units, which show the following trends:

- None have defined the scientific reference limit for a healthy, spawning stock (B_{lim});
- Nine have identified the value at which specific management measures should be taken if the stock falls below a certain level ($B_{trigger}$);
- Nine have defined a proxy value for fishing pressure than can be applied to achieve the maximum sustainable yield (FMSY), which is based on the harvest rate; and
- All have defined a maximum harvest rate, some of which are based on a comparable functional unit.

Nephrops stocks status in the UK meets the unconditional pass (SG80) in the MSC Standard for all but two of the functional units. When reviewing the level of UK landings from each functional unit, 91% of UK landings come from functional units meeting the unconditional pass mark or above.

Harvest strategy

During Year 1, Project UK commissioned a consultant to undertake a Harvest Strategy Development Project to review the options for managing *Nephrops* stocks at functional unit level. It has been agreed by the Steering Group that the following management approaches are not workable:

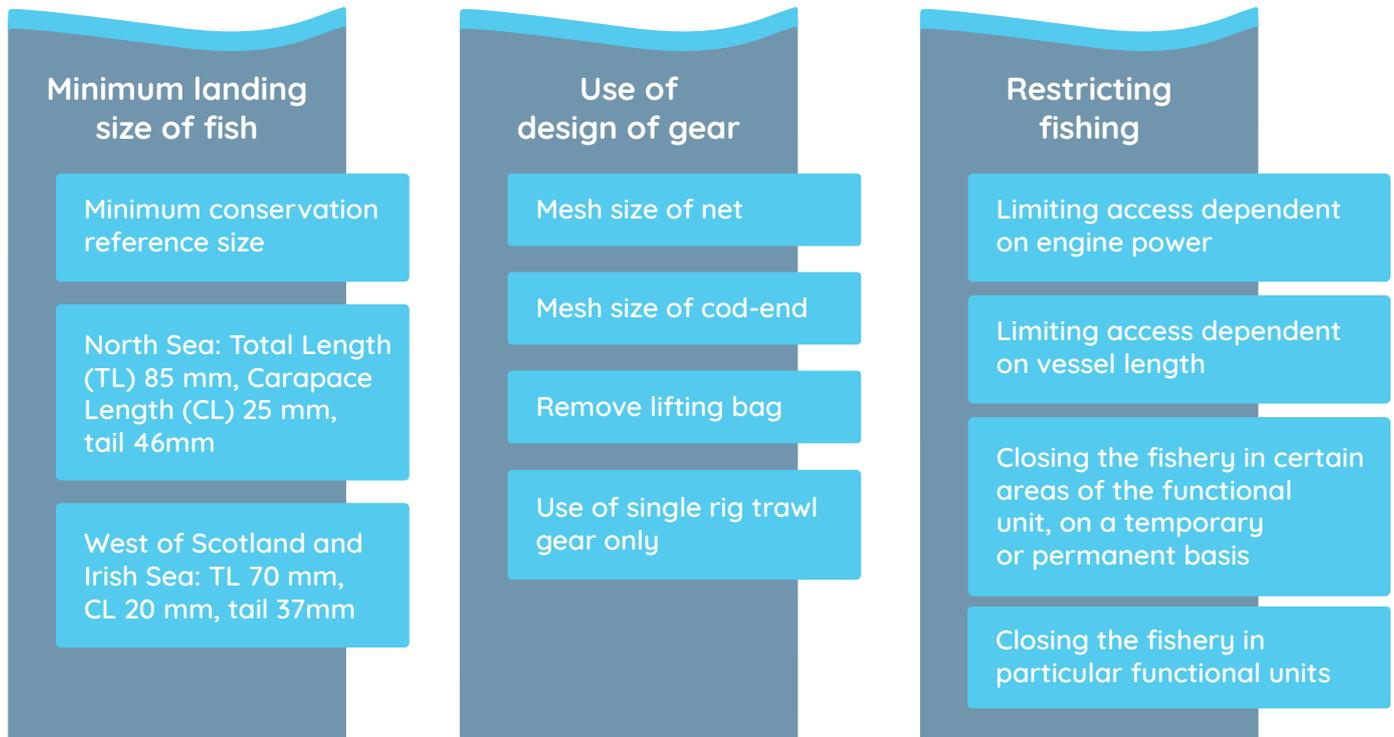
- Total allowable catches (TACs) at functional unit level; and
- Effort control (i.e. days at sea) at functional unit level.

The direction of the harvest strategy and harvest control rules is therefore now focused on development of technical measures that would be implemented if specific trigger points are reached. This solution can offer more flexibility to fishermen. Examples of technical measures include defining minimum landing sizes, regulation of engine power, changing gear design, and implementing spatial and/or temporal fishing restrictions.

However, determining appropriate technical measures can be complex, and there are some risks of indirect consequences, as well as a risk of decreasing fishing efficiency. The Harvest Strategy Development Project included a 'toolbox' of suggested measures (Figure 2). The Steering Group agreed that it should be for local management groups to decide which measures are most appropriate for their functional units. Moving forward, a new milestone has been added to the FIP Action Plan to establish regional management groups that will discuss and agree appropriate technical measures for their regions and functional units.



Figure 2: The technical measures toolbox.



Endangered, threatened and protected species

The environmental sub-group has progressed a comprehensive endangered, threatened and protected (ETP) species list. The list includes Scottish priority marine features (PMFs) and an assessment of species likely to interact with demersal trawl gear and creels. This list has been circulated to relevant authorities: the Department of Agriculture, Environment and Rural Affairs (DAERA) in Northern Ireland, Scottish Natural Heritage, and the UK's Joint Nature Conservation Committee (JNCC). They provided comprehensive feedback on which ETP species might interact with the fishery. This list will need to be aligned with the list from the plaice and lemon sole FIP, as there is an overlap both of vessels and fishing area.

Habitats

A Masters student at University of York, funded by The Fishmongers' Company, is examining the impacts of multiple gear types (trawl and creel) on habitats, using a range of approaches, including the Bangor University Habitat Impacts Tool.



Year 2: Priorities and challenges for *Nephrops*

Overall, the *Nephrops* FIP is making good progress against its Action Plan, and all actions are currently on target. The priorities and challenges for the next year are listed in relation to the three principles of the MSC Standard:

Principle 1: Sustainable fish stocks

- Significant work remains on documenting the harvest strategy for each functional unit and developing an appropriate suite of technical measures for each, which would be triggered if specific reference points are met. It is important that this process ensures an inclusive approach that can be agreed by the appropriate stakeholders across these Units of Assessment, including inshore and remote fleets (e.g. Scottish islands) where relevant. Good representation of these fleets on the Steering Group will maximise the progress and successful delivery of these actions.

Principle 2: Minimising environmental impact

- The FIP will need to monitor progress in the ICES benchmarking process for whiting and cod, which are main primary species for the trawl Units of Assessment and are currently causing low scores for the relevant performance indicators due to low TACs and their potential to be choke species.
- The Scottish White Fish Producers Association (SWFPA) secured funding for a recording protocol to record, analyse and monitor ETP interactions with the fishery. This work was identified in the FIP Action Plan and will contribute to an improved score if the fishery goes into MSC assessment.

Principle 3: Effective fisheries management

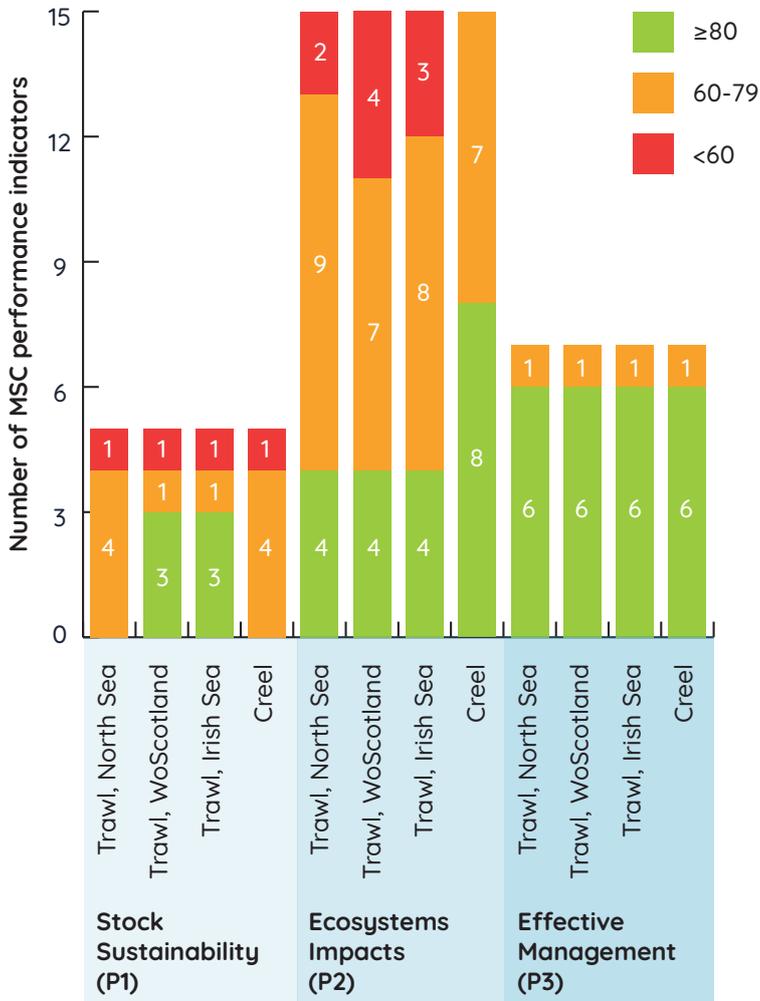
- Principle 3 will focus on how the *Nephrops* fisheries are implementing the Landing Obligation. With the current issues around EU exit and a new Fisheries Bill on the horizon, a potential new political regime could alter what compliance looks like in UK fisheries.





MSC Performance Indicators

Scoring levels across MSC Performance Indicators for each *Nephrops* fishery at the end of Year 1.





Concluding remarks

Both rounds of Project UK FIPs continue to make good progress towards reaching a level where they could successfully pass an MSC assessment, should they wish to take this route. Despite the challenges that will come from EU exit and coronavirus, the Steering Groups will continue to focus on moving forward key aspects of the FIP Action Plans. These include:

- Finalising Fishery Management Plans ready for consultation with fishery managers.
- Consideration of client groups ready to take responsibility for moving the fishery through MSC assessment.
- Delivery of research by PhD and Masters students to improve understanding of fishery interactions with the environment.
- Improved communication of the aims of Project UK amongst wider stakeholders who may become involved in future FIPs.
- Development of management measures, through regional Management Working Groups to focus on bespoke management solutions.

Project UK is an ambitious project and its aims could not be achieved without the drive and commitment of Steering Group members and funders. The Secretariat looks forward to continuing working with Steering Group members, whose expert input provides an invaluable contribution in realising the success of Project UK.





Appendix:

MSC processes

MSC definition of a credible FIP

To meet the MSC definition of a credible Fishery Improvement Project, the project must:

- Conduct an initial **gap analysis** against the MSC Standard (MSC pre-assessment).
- Produce an **Action Plan** inclusive of activities, budgets, roles and responsibilities, that is linked to the MSC performance indicators and scoring guideposts and is ultimately capable of delivering an unconditional pass against the MSC Standard.
- **Regularly report progress** against the Action Plan.
- Have a **mechanism** to verify and provide assurance about the robustness of the process and progress being made in the FIP (i.e. pre-assessment and progress reports prepared or reviewed by an MSC assessor or an independent technical consultant).
- Have a **pre-determined limit to the amount of time** spent as a FIP, which should generally be no longer than five years.
- **Aim** to reach a level where the fishery could choose to enter full MSC assessment and achieve MSC certification through a transparent, third-party process, to verify the success of the FIP.

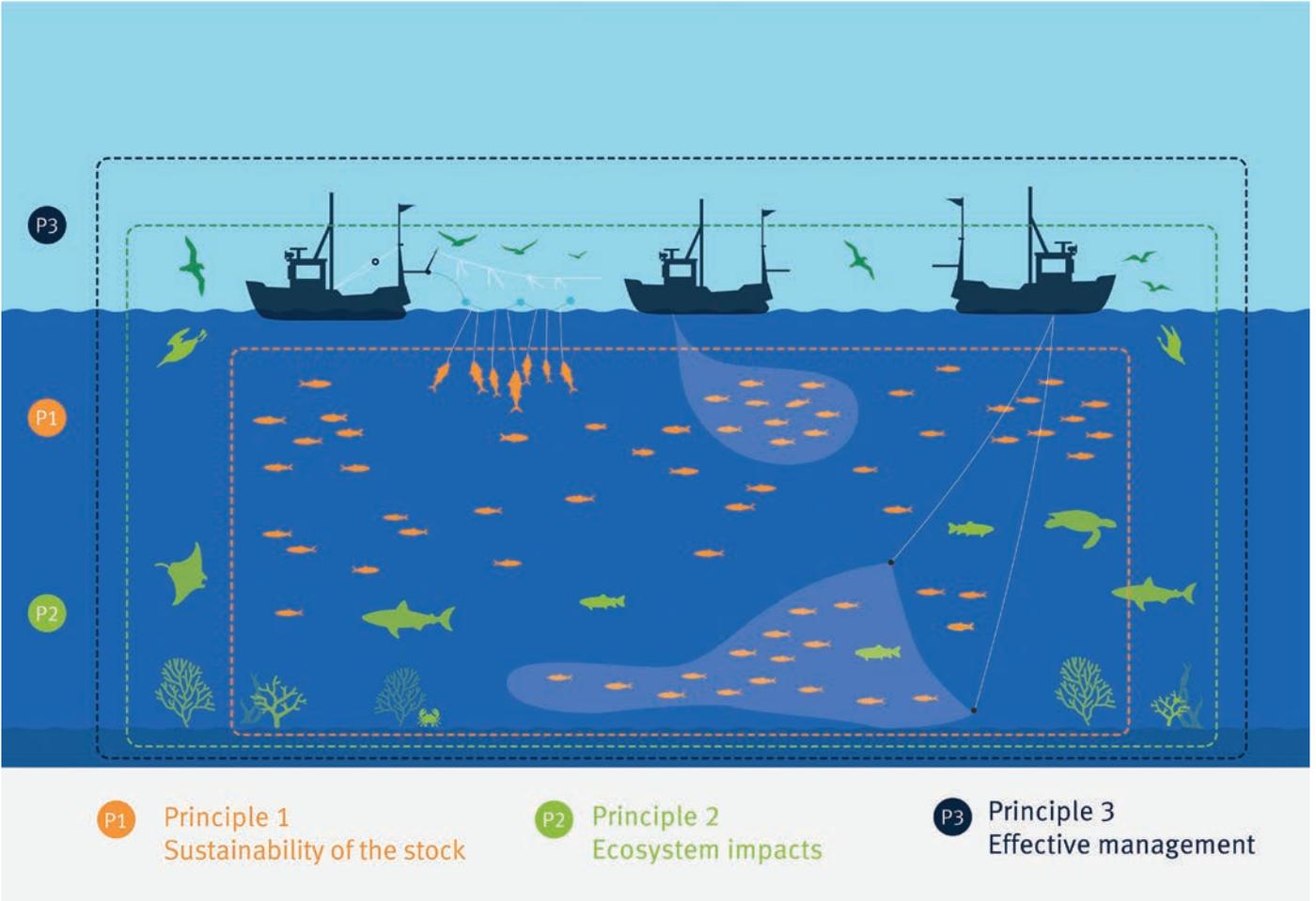
MSC Fisheries Standard (MSC Standard)

The MSC Fisheries Standard is used to assess whether a fishery is well-managed and sustainable. Fisheries are assessed by accredited independent certifiers called Conformity Assessment Bodies (CABs) – also called certification bodies.

The MSC Fisheries Standard has three core principles (Principles 1, 2, and 3) that every fishery must meet:

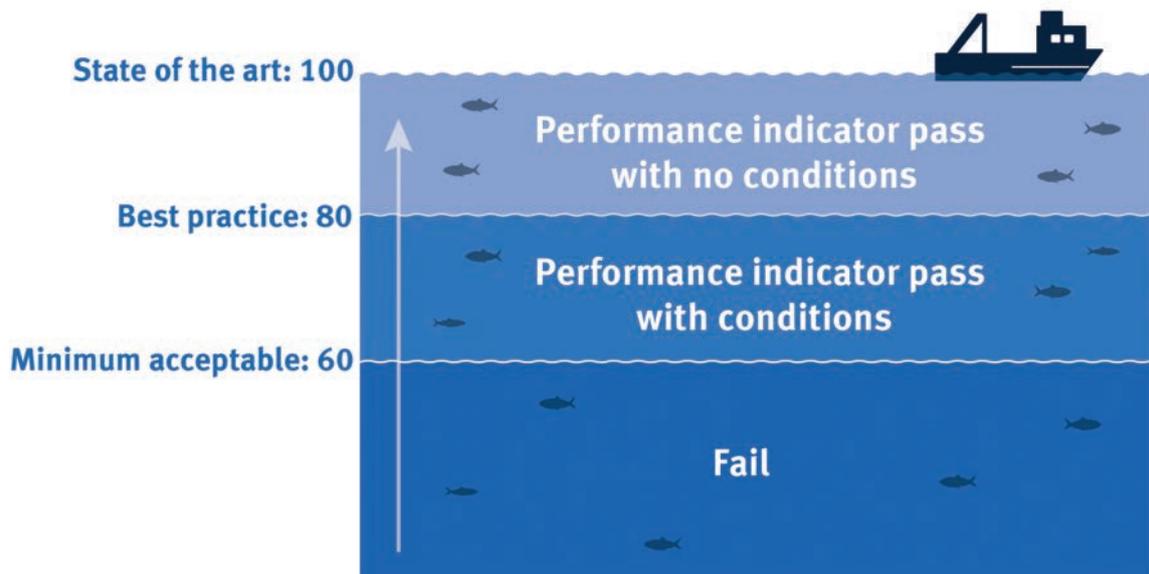
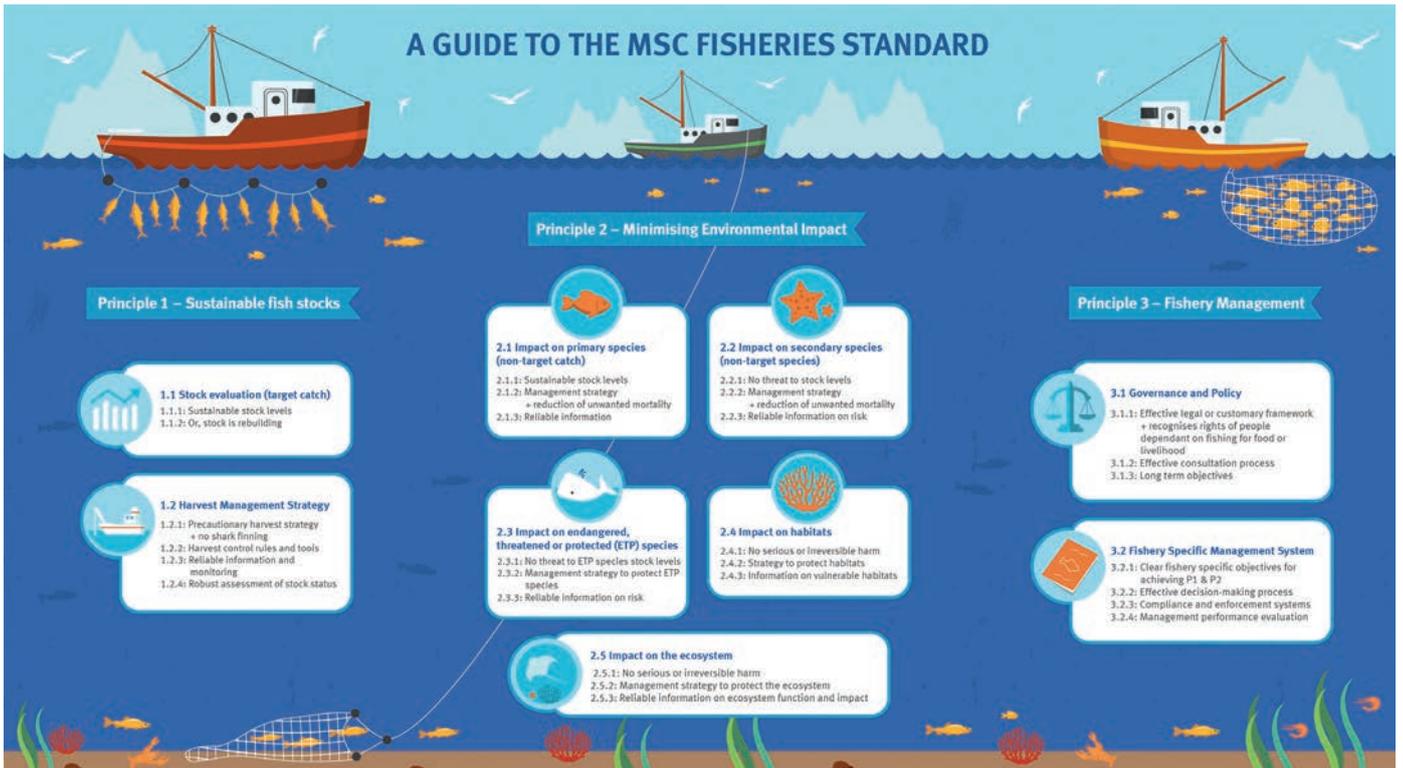
- 1. Sustainable fish stocks:** Fishing must be at a level that ensures it can continue indefinitely and the fish population can remain productive and healthy.
- 2. Minimising environmental impact:** Fishing activity must be managed carefully so that other species and habitats within the ecosystem remain healthy.
- 3. Effective fisheries management:** MSC certified fisheries must comply with relevant laws and be able to adapt to changing environmental circumstances.





There are 28 performance indicators that sit under the three principles of the MSC Fisheries Standard. A fishery is assigned a score for each performance indicator, where 60 is the minimum acceptable performance, 80 is global best practice and 100 is state of the art performance.

To become certified, a fishery must score at least 60 for each of the 28 performance indicators. If a fishery scores between 60 and 79 for any performance indicator, it will be required to take appropriate action as a condition of certification. This action needs to improve the performance of the fishery so that it scores 80 or above for that indicator. The timeframe to make these improvements is typically five years or less. The fishery must also score an average score of 80 across all performance indicators under each of the three principles.





Glossary

Much of the glossary terms were sourced and can be found in the MSC-MSCI Vocabulary document here: tinyurl.com/MSCdefinitions. Unless stated otherwise, these terms are as defined by the MSC.

B_{lim}

Limit reference point for spawning stock biomass (SSB), defined by ICES.

B_{trigger}

Value of spawning stock biomass (SSB) that triggers a specific management action, defined by ICES.

Bycatch Species

Organisms that have been taken incidentally and are not retained (usually because they have no commercial value).

Ecosystem

Referred to as the fisheries impact on the wider ecosystem structure and function, including consideration of the removal of the target stock, the impacts of the fishery on both the ecosystem's inherent health and balance (e.g. structure, trophic relationships and biodiversity) and the impact on the services provided by the ecosystem.

ETP

Endangered, Threatened or Protected (ETP) species are 'in scope' species that are recognised by national threatened species legislation or species that are listed in binding international agreements such as the Convention on International Trade in Endangered species (CITES). Species classified as 'out-of scope' (amphibians, reptiles, birds and mammals) that are listed in the IUCN Redlist as vulnerable (VU), endangered (EN) or critically endangered (CE) are recognised as ETP species.

FIP

Fisheries Improvement Project. Multi-stakeholder initiatives that aim to help fisheries work towards sustainability.

Fish Stock

The living resources in the community or population from which catches are taken in a fishery. Use of the term fish stock implies that the particular population is a biological distinct unit. In a particular fishery, the fish stock may be one or several species of fish or other aquatic organisms.

Habitat

The chemical and bio-physical environment, including biogenic (made by organisms) structure, where fishing takes place.

Harvest Control Rule (HCR)

A set of well-defined pre-agreed rules or actions used for determining a management action in response to changes in indicators of stock status with respect to reference points.

Harvest Strategy (HS)

The combination of monitoring, stock assessment, harvest control rules and management actions, which may include a management plan.

Main primary or secondary species

Species that form a significant part of the total catch weight, accounting for more than 5% of the total catch weight, or 2% of the total catch weight if they are deemed a less resilient species.

Maximum Sustainable Yield (MSY)

The highest theoretical equilibrium yield that can be continuously taken (on average) from a stock under existing (average) environmental conditions without affecting significantly the reproduction process.



Minor primary or secondary species

Applies to both Primary and Secondary species, these are species that are more rarely caught in the fishery accounting for less than 5% of the total catch weight, or 2% of the total catch weight if they are deemed a less resilient species.

Priority Marine Feature (PMF)

A variety of habitats and species that are a priority for conservation in Scotland's seas, which were developed by Marine Scotland, the Joint Nature Conservation Committee (JNCC) and Scottish Natural Heritage (SNH).

Primary species

Species caught in the fishery that are not the targeted stock (not covered by Principle 1) or ETP but are managed by tools and measures that are intended to achieve stock management objectives.

Productivity and Susceptibility Analysis (PSA)

Used as the 'Level 2' analysis in the Risk Based Framework. This semi-quantitative approach examines several attributes of each species that contribute to or reflect its productivity or susceptibility, in order to provide a relative measure of the risk to the scoring element from fishing activities.

Reference Points

Biological reference points; stock status reference points used to define management action in response to stock status.

Risk Based Framework (RBF)

Used for assessing data-poor fisheries – this is a framework of assessment tools for scoring 'outcome' Performance Indicators in cases where insufficient information is available to score a fishery using the default Scoring Guideposts. See PSA and SICA for examples of tools.

Secondary species

Species caught in the fishery that are not the targeted stock (not covered by Principle 1) or ETP. Are not considered 'primary' as they are not managed to achieve stock management objectives; or are species that are out of scope of the of the program, but where the definition of ETP species is not applicable.

Scale Intensity Consequence Analysis (SICA)

Scale Intensity Consequence Analysis (in relation to using the RBF) – used as the 'Level 1' analysis in the RBF. This qualitative approach identifies the activities mostly likely to be associated with 'worst case' impacts on any species, habitat or ecosystem. A SICA is best conducted with the participation of a diverse group of stakeholders who are able to provide a range of knowledge about the fishery under assessment.

Spawning stock biomass (SSB)

Total weight of all sexually mature fish in the stock.

Steering Group

A collaborative group made up of NGOs, government, retailers and supply chain to help drive forward improvements identified in each FIP.

Unit of Assessment (UoA)

The target stock(s) combined with the fishing method/gear and practice (including vessel type/s) pursuing that stock, and any fleets, or groups of vessels, or individual fishing operators or other eligible fishers that are included in an MSC fishery assessment. In some fisheries, the UoA may be further defined based on the specific fishing seasons and/or areas that are included.

Vulnerable Marine Ecosystem (VME)

These are ecosystems that are classified as vulnerable due to their respective characteristics and processes; such as rarity, fragility, life-history dependency by various species, structure complexity and the functional significance of the ecosystem. See FAO guidelines for more information. www.fao.org/in-action/vulnerable-marine-ecosystems/en



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