PROJECT UK

DELIVERING FISHERY IMPROVEMENTS IN THE NORTH EAST ATLANTIC

UK: Round 1 Western Seas & Channel Monkfish fishery

Year 5 report

May 2022

POSEIDON

AQUATIC RESOURCE MANAGEMENT

Report Information

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1. Introduction

1.1 Introduction

Project UK includes 12 fisheries, through eight FIPs. These fisheries were selected by the supply chain because they bring commercial, economic, and cultural benefits to UK communities. As part of Project UK, these FIPs address 61 individual actions. These actions address multiple milestones across a five-year period, representing best practice in working towards an environmentally sustainable future.

The first round of FIPs[1] to participate in Project UK (Channel scallop, monkfish, plaice & lemon sole, and crab & lobster) were launched in 2017. So far, these fisheries have made demonstrable progress against their Action Plans, focusing on developing and documenting robust stock management and mitigating environmental impacts.

With these five year FIPs coming to their end in April 2022, there is a need to review their overall progress to date and agree on the next steps to be taken. In the case of this monkfish FIP, the stakeholders have agreed to extend the FIP by two more years to April 2024. As a result these next steps will be embedded into a new Action Plan for Year 6-7 of the FIP. It should be noted that the review will not only look at Performance Indicators (PIs) covered by the FIP actions but will review all 22 PIs in the current (version 2.1) MSC Fisheries Standard to determine whether anything has changed since the pre-assessments were conducted in 2016.

The **Marine Stewardship Council** (MSC) has contracted **Poseidon Aquatic Resource Management Ltd to** provide technical advice to the FIPS and conduct annual benchmarking of progress against the action plans. This contract also covers this final review and action plan update.

1.2 Structure of the report

This report has been divided into three main parts:

1. **Annual review and benchmarking**: this assesses what progress has been made over the past year in addressing the actions in this FIP up to the end of the original five year FIP timescale.
2. **Revised pre-assessment**: this section acknowledges that there may have been stock-related, fisheries-dependent or external changes (e.g. Brexit) that may impact the original pre-assessment scoring, especially for those PIs that might have scored above 80 and therefore were exclude from the FIP action plan. This part of the review conducts a rapid pre-assessment of the full assessment tree to ensure that these changes are detected and new actions, if necessary, raised.
3. **Action plan extension**: this provides a revised action plan that (i) extends any remaining unclosed actions over the extension period and (ii) introduced new actions, if necessary, that have resulted in changes to the fishery since the pre-assessments in 2016.

[1] Following the success of Round 1, the UK scallop and Nephrops FIPs were launched in 2019. Each includes three fishery areas around the UK (North Sea, West of Scotland, and Irish Sea), and so operate on a larger scale than Round 1 FIPs.

2. Annual Review and Benchmark

2.1 Annual Review

Fishery name: Western Seas & Channel Monkfish MON *Lophius piscatorius* & Anglerfish ANK *L. budegassa*

Start date: 25 March 2018

Fishery location:
Western Seas and Channel (VII b-k, VIII a/b/d)

Fishing methods:

Gear	Spp.	UoA #
Demersal trawl OTB	MON	1
	ANK	2
Beam trawl TBB	MON	3
	ANK	4
Gillnets GN	MON	5
	ANK	6

Annual reviews:
End Year 1: March 2018 Completed 30 April 2022
End Year 2: March 2019
End Year 3: April 2020
End Year 4: March 2021
End Year 5: March 2022
End Year 6: March 2023
End Year 7: March 2024

Project leaders:
Project UK Fisheries Improvements – Stage 1

Improvements recommended by: POSEIDON AQUATIC RESOURCE MANAGEMENT

Overview of the Action Plan:

Two species of monkfish (also called anglerfish), *Lophius piscatorius* (MON) and *L. budegassa* (ANK), are caught in important commercial fisheries in the western Channel and Western Approaches. The gillnet UoA is composed of (i) trammel nets (>220 mm mesh size) GTR and (ii) a combination of set gillnets (anchored) GNS, gillnets and entangling nets (not specified) GEN and gillnets (not specified) GN, all >220 mm.

Although monkfish species are separate stocks, they are managed together through a shared TAC. ICES' advice is provided for both species separately but only *L. piscatorius* has reference points and uses a precautionary, MSY approach. ICES considers *L. budegassa* to be a Category 3 stock where management is essentially based on recent trends, rather than well-defined harvest rules. Under P1, this Action Plan therefore seeks to address this through better single species management, a reduction in unwanted target catches (of both species) through the development of alternative management measures and the introduction of probabilistic analysis of stock assessment e.g. include confidence limits.

In P2, a major part of the plan is developed to improve the major weakness of the fisheries identified by the pre-assessment, the management of secondary species caught in these fisheries. This will cover other fish as well as out of scope species such as seabirds, esp. for the gillnet fisheries, as well as ETPs. The Action Plan also looks at reducing the impact of these fisheries – specifically the demersal and beam trawl segments – on habitats, especially VMEs. The plan also calls for a Scale Intensity Consequence Analysis (SICA) analysis of the impact of beam trawling on the ecosystem.

Under P3, the plan includes the development of a fisheries-specific management plan with explicit short and long-term objectives. This will set out a clear harvest strategy and harvest control rules for both species of anglerfish. It also calls for external evaluation of the management of these anglerfish fisheries, possibly though a final pre-assessment before the FIP is concluded and the fisheries might be considering entering into full MSC assessment process.

Colour code in tables below: Principle 1 | Principle 2 | Principle 3

Summary Report (End Year 5)

Introduction

This report marks the finish of a five year Fisheries Improvement Project (FIP) for the UK Western Seas & Channel Monkfish / Anglerfish (*Lophius piscatorius* and *L. budegassa*) fishery. The report provides a review of the progress made to date and what further actions need to be taken over the two year FIP extension agreed by stakeholders (until March 2024. **It is important to note that the benchmark scoring is based on the new pre-assessment and therefore masks some of the progress made under the FIP.** This report has been prepared by Tim Huntington of Poseidon.

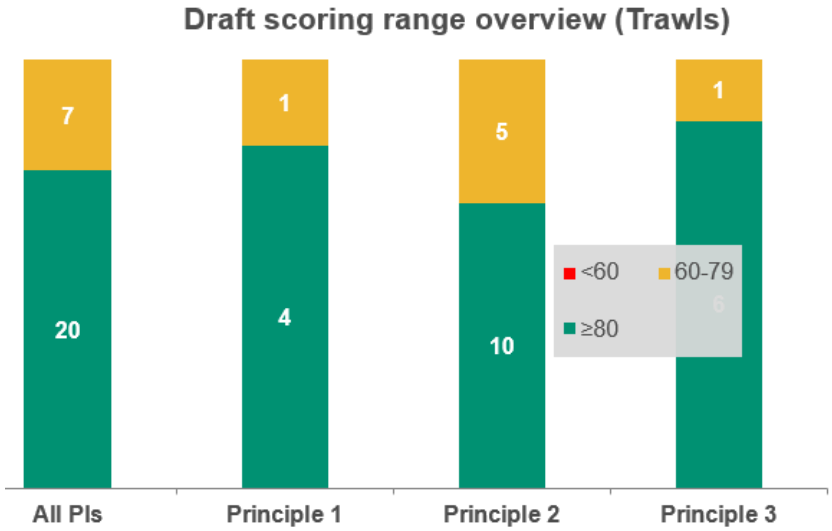
Main Findings

Principle 1: Based on the recent (2020) stock assessments, the stocks of both species of monkfish appear to be in good condition. The stock assessment of the white monkfish (MON) is robust and should achieve ≥80. The stock assessment of ICES data category III black-bellied monkfish (ANK) is less certain but should have a full stock assessment within the next two years and be included in the mixed fisheries management approach covering MSY of multiple species (MON is currently included). However continuing uncertainty over how to account for the catches of the two different monkfish species still exist and have been exacerbated by new knowledge on the level of hybridisation between these two species.

Principle 2: Although Year 4 of the FIP saw a comprehensive catch composition analysis of the three gears (Ribeiro-Santos, 2021) that allowed the closing out of the remaining secondary species management and information conditions, following the new pre-assessment they have been re-instated to address the management and information of secondary main species such as gurnards, pouting and cuttlefish (for the mobile gears only). The one component which has seen limited progress is P2.4 habitats, although the MMO is proposing introduction of management measures for MPAs by 2024.

Principle 3: In Year 4 Borges (2021) in her external review of the fisheries management under P3 suggests that P3.1.1 (Legal and customary framework), P3.1.2 (Consultation, roles & responsibilities) & P3.2.3 (Compliance and enforcement) are all down-graded from a pass (≥80) to a conditional pass (60-79), mainly due to changes resulting from the UK's exit from the EU e.g. the effectiveness of the UK-EU bilateral negotiation on fishing opportunities for shared stocks, and the role and function of the Specialised Committee on Fisheries. As a result of progress in developing UK fisheries management outside of the EU all the P3 PIs now score at or above 80, except P3.2.3 which scores 60 – 69 due to uncertainties over the effectiveness of enforcing the landings obligation.

The **pre-assessment findings** (see **Section 3**) suggest that thirteen actions will need to be undertaken over the next two years (see Action Plan in **Section 4**). It should be noted that these actions build upon the substantive work conducted by the FIP to date but are more detailed and reflect the individual Scoring Issue (SI) scores in the new pre-assessment.



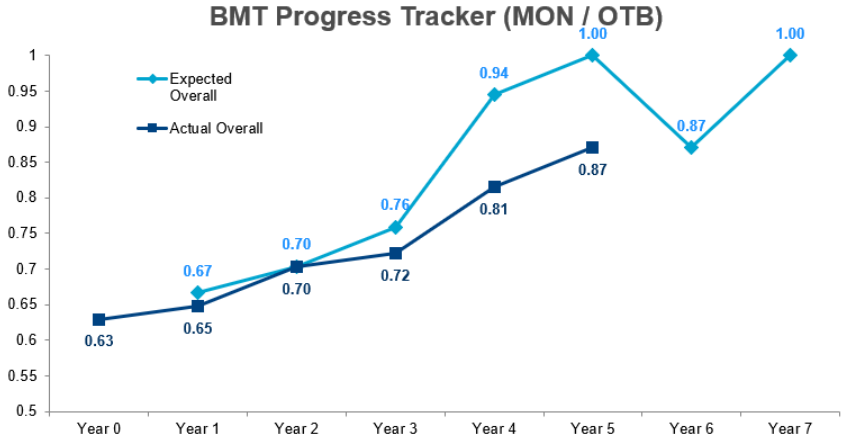
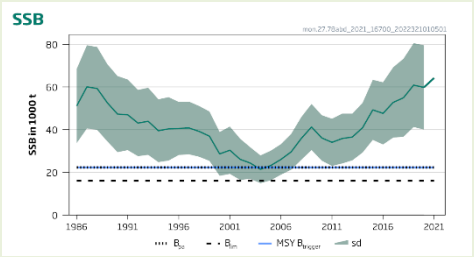
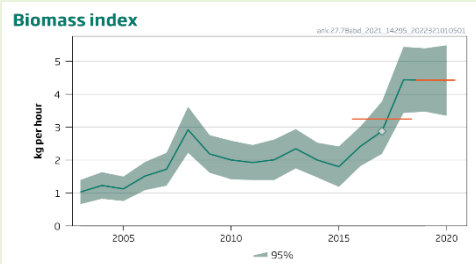
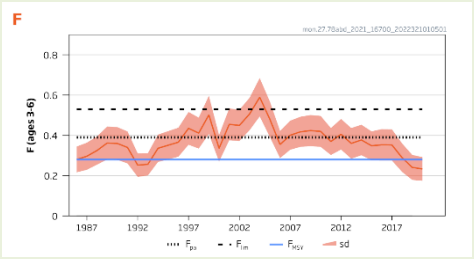
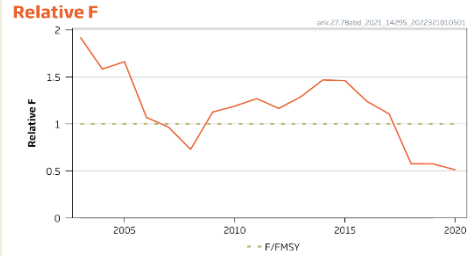


Table 1: Action Plan

Standard requirement	Lead & partners	Timescale / milestones	Progress / outcome
Action 1: Stock status (1.1.1) & Assessment of stocks (1.2.4) **Overview** Review new ICES analytical approach to ensure it is sufficient and appropriate for both species of monkfish. Development of probabilistic analysis of stock assessment e.g. include confidence limits. **Performance indicators** 1.1.1 Stock status: ***L. piscatorius* ≥80** ***L. budegassa* 60-79** 1.2.4 Assessment of stock status: ***L. piscatorius* ≥80** ***L. budegassa* 60-79** Requirement at SG80: 1.1.1: It is highly likely that the stock is above the PRI and is at or fluctuating around a level consistent with MSY. 1.2.4: The assessment takes uncertainty into account.	Action lead: Lisa Readdy as representative of CEFAS and the ICES Working Group Partners: NWWAC & SWWAC members Resources: Engagement with ICES AC and WGs over stock assessment methodologies	**1a. Yr 2:** Review of ICES analytical approach for *Lophius* spp. to determine appropriateness and its ability to take into account uncertainty.	**1.1.1: On target (Y1 60-79, actual 60-79)** **1.2.4: On target (Y1 60-79, actual 60-79)** There have been various inputs over 2018 / 2019, inc. a joint call (LR, TH, JP & external specialists) on 18 January 2019. Fishing mortality estimates are available up to 2014, with most data from French, Irish and Spanish sources. In addition, there are eight years of Fisheries Science Partnership (FSP) data. A future FSP route may not be possible, so now looking at an alternative observer programme approach. *L. piscatorius* has been a Category 1 stock since 2018 *and L. budegassa* Cat 3. In 2019 there no changes in category after adding 1 year of data. Is a length-based assessment converting length to age using cohort analysis. *L. budegassa* uncertainty not fully taken into account – no proxy reference point for biomass for fishing mortality and biomass. Also very flat trends which don't readily fit models. It is difficult stock to apply ICES models- no contract in the data. There is a need to confirm biological analyses to move to a length-based analysis. *L. budegassa* is the only issue, with FR survey not fully completed, so needed to be extrapolated. Some ES & FR biological research on biology and genetics, which will assist benchmarking, and assist stock assessment methodology. Probably in three years' time. Uncertainty is mainly around the sampling schemes / levels and specifically for *L. budegassa* related to the survey index. For *budegassa*, there is a need to find proxy reference points that take uncertainty into account. This is already achieved *for L. piscatorius*, as uncertainty is known and taken into account in reference points (so no further action required for this species).
		1b. Yr 3: Evidence of a move towards a probabilistic stock assessment with confidence limits and that uncertainty is taken into account.	**1.1.1: Behind target (Y3 target ≥ 80, actual 60-79)** **1.2.4: Behind target (Y3 target ≥ 80, actual 60-79)** Action now limited to *L. budegassa*. WG Monk have new reference points for *L. budegassa* (ICES, 2018), but still a F_{MSY} proxy but working on biomass reference points methodology (for all Cat 3 stocks). See Lisa briefing (by email). Still Cat III, and precautionary. There is an ICES WG meeting in May 2020 to consider developing a Category 1 assessment for *L. budegassa*. If sufficient progress has been made by the WG then benchmarks will be developed but it is expected that the June advice for *L. budegassa* would still be based on a Cat. 3 assessment. The WG is looking into reference points for mortality. The group discussed the levels of uncertainty in the analysis: Cat.1 takes into account uncertainty in its assessment but Cat.3 uses two independent fishery surveys to give a survey-based trend. LR informed the group that survey-based trend assessments tend to be quite noisy but if *L. budegassa* were to become Cat.1 the levels of uncertainty in data would dramatically reduce. No landings data included, apart from quantitatively and from rather disparate sources.
		1b. Yr 4-5: Evidence of a move towards a probabilistic stock assessment with confidence limits and that uncertainty is taken into account (continued from Year 3)	**1.1.1: MON Complete (target ≥ 80, actual ≥ 80). ANK behind target (target ≥ 80, actual 60-79)** **1.2.4: MON Complete (target ≥ 80, actual ≥ 80). ANK behind target (target ≥ 80, actual 60-79)** Both species underwent a stock assessment in 2020. The *Lophius piscatorius* spawning stock biomass (SSB) is well above the B_{MSY} trigger and continued to trend upwards. Fishing mortality F has been trending down for 10 years and has been below F_{MSY} since 2017. The black-bellied anglerfish *(L. budegassa*) biomass index continues to climb and F is well below the F_{MSY} proxy. However ICES again warn that the management of catches of the two anglerfish species under a combined species total allowable catch (TAC) prevents effective

Standard requirement	Lead & partners	Timescale / milestones	Progress / outcome

control of the single-species exploitation rates and could lead to the overexploitation of either species. As *L. budegassa* can make up more than 15% of the catch, it would need to be certified if the catch is to be labelled.

Lophius piscatorius (MON)	*Lophius budegassa (ANK)*
Spawning stock biomass (SSB)	**Biomass index**
	
Fishing Mortality (F)	**Relative Fishing Mortality**
	
Source: ICES (2021)	Source: ICES (2021)

Progress is being made on a full stock assessment for *L. budegassa*, with a benchmark for 2022 (at the earliest) and ready for stock assessment in 2023. There is no other work on Cat 3 spp. reference points for *L. budegassa*. *L. budegassa* still needs a biomass reference point and the WG has been unable to estimate one in 2020 because the data are insufficient to do so. As mentioned above the TAC applies to both species combined. ICES has a problem with this, and management has been slow in fixing it. This is fixable in terms of asking the ICES if they could explicitly state when they would have a significant concern over this (probably when indicators are moving in different directions), and what they would then recommend this to be done. If well-defined, this could be incorporated into the HCR and would cover this issue while the TAC is sorted out.

Hybridisation between the two species is still a potential issue. Aguirre-Sarabia *et al* (2021) found i) that white anglerfish is composed by a single panmictic population throughout the Northeast Atlantic, challenging the three-stock based management, ii) that a fraction of specimens classified as white anglerfish using morphological

Standard requirement	Lead & partners	Timescale / milestones	Progress / outcome
			characteristics are genetically identified as black anglerfish (*L. budegassa*) and iii) that the two *Lophius* species naturally hybridize leading to a population of hybrids of up to 20% in certain areas. This suggests that the species are more difficult to tell apart than previously thought and there is hybridisation meaning that separating the species will be difficult even if agreement to do this can be reached. Solving the separation issue may have to wait until the research is complete, which would only then allow a stock assessment on *L. budegassa* which could take many years. These results need to be reviewed to see if it will be possible to see to what extent this natural mixing occurs and what it might mean for certification. Hybrids probably sterile but need to check. Progeny become either one species or the other, not a second generation hybrid. Close kin analysis could give potential hybrid stock assessment, including an absolute estimate of biomass. This would give an idea of what the limit refence points might be. Is an IPI issue (2% and 15%) mixing. Genetics study is really important to clarify this but might allow another way through. If there were no over-fishing for a long period (e.g. 8 years – reflects regeneration time) then possible to pass e.g. by 2025 when F might be below FMSY for 8 years), but still recent history of over-fishing (see F on graphs on previous page). If contrast is flat, then difficult to use the current data / model. Could move forward in 2023 if suitable reference points and stock in good condition. Could be six years before the stock could re-generate. Is some evidence that above PRI, so could get away with condition with status. But highly weighted, so may affect overall assessment. Essentially it is possible to move towards certification but might take some time as uncertainty over stock assessment (either via genetics or formal stock assessment). In summary awaiting bench marking and stock assessment over 2022 / 2023 to see if ANK can be moved to a data category 1 species with a robust stock assessment that will allow stock-related reference points to be identified. New documentation: • **ICES (2020a).** White anglerfish (*Lophius piscatorius*) in Subarea 7 and in divisions 8.a–b and 8.d (southern Celtic Seas, Bay of Biscay). ICES Advice on fishing opportunities, catch and effort. Bay of Biscay and the Iberian Coat, Celtic Seas, Greater North sea, and Oceanic Northeast Atlantic ecoregions. Published 30 June 2020. 13 pp. • **ICES (2020b).** Black-bellied anglerfish (*Lophius budegassa*) in Subarea 7 and divisions 8.a–b and 8.d (Celtic Seas, Bay of Biscay). ICES Advice on fishing opportunities, catch and effort. Bay of Biscay and the Iberian Coat, Celtic Seas, Greater North sea, and Oceanic Northeast Atlantic ecoregions. Published 30 June 2020. 13 pp. • **Aguirre-Sarabia, I., N. Díaz-Arce, I. Pereda-Agirre I. Mendibil, A. Urtizberea, H. Gerritsen, F. Burns, I. Holmes, J. Landa, I. Coscia, I. Quinconces, M. Santurtún, A. Zanzi, J. Martinsohn & N. Rodríguez-Ezpeleta (2021).** Evidence of stock connectivity, hybridization and misidentification in white anglerfish support the need for adopting a genetics-informed fisheries management approach. *bioRxiv* 2021.02.10.430581; doi: https://doi.org/10.1101/2021.02.10.430581 • **Medley, P (2021).** Monkfish alternative certification options (v2). Internal memo.

Standard requirement	Lead & partners	Timescale / milestones	Progress / outcome
Action 2: Harvest strategy (1.2.1) **Overview** Review of alternative measures to minimise the mortality of any catch of anglerfish species, resulting in a formal assessment for consideration by MAs. **Performance indicator** 1.2.1 Harvest strategy: **≥80** Requirement at SG80: The harvest strategy is responsive to the state of the stock and the elements of the harvest strategy work together towards achieving stock management objectives reflected in PI 1.1.1 SG80. The harvest strategy is achieving its objectives (although may not be fully tested). **There is a regular review of alternative measures of minimising mortality of unwanted catch.**	Action leads: Seafish – Gus Caslake & Paul Trebilcock (Jim Portus & Andy Pillar) Partners: CEFAS, Industry, NWWAC & SWWAC members Resources: Engagement with main fisheries & MAs.	**2a**. Yr 0.5 (6 months) Development of review ToR and launch of review.	**Complete (Y1 60-79, actual 60-79)** The review was undertaken by Gus Caslake (Seafish) and Paul Trebilcock (CFPO). A report dated 2 March 2018 was made available to assessor. Mark Bell to look at evidence of juvenile monk from fully documented fisheries. Is there some evidence on sizes from landing notes. Possible avenue for an MSc student. Gill nets – needs to be include in Gus' paper. Needs to include seal depredation.
		2b. Yr 1: Review compiled and results utilised in management options advice.	**Complete (Y1 60-79, actual 60-79)** The draft paper (Caslake & Trebilcock, March 2018) included a useful review of the effectiveness of different technical measures to reduce juvenile monkfish bycatch for a variety of gears relevant to these UoAs. It mentioned possible management approaches, inc. effort restrictions, but fell short of recommending and specific approaches which could be taken by the FIP to reduce the catch of unwanted (e.g. under-size) monkfish.
		2c. Yr 2: Evidence that review results have been considered and utilised in management advice where appropriate.	**Complete (target ≥ 80, actual ≥ 80)** The response to this action is based around Caslake & Trebilcock (2018) and its recommendations. In March 2019 the report was updated with a matrix of relative change and recommendations. It was noted by the SG that UoA gear already much larger than regulation minima (a point that needs noting in the FMP). There was some discussion on different management approaches, and it was noted that there has been a lot of work already been done on monkfish gear selectivity (both trawls and gillnets), and not much more can be done without seriously sacrificing the gear's performance (see matrix in alternative measures report). This could probably be demonstrated by the historical increase in monkfish tail sizes (note there is no MLS). The main driver for selectivity is probably the sole. It is noted that the Landing Obligation means all monkfish and other quota species will be landed and therefore not considered unwanted catch. Andy Pillar in a review noted that this is a mixed trawl fishery for sole / mixed demersals and that increased mesh size is not possible. Looking at survivability, which is probably high, as mostly on conveyers with water pumps, many fitted retrospectively via EMFF. Otherwise tow times are already short (1.5 – 2.5 hour tows). It is noted that there already is a Good Practice Guide (2016) for the Channel & West Sustainable Trawling Group (all 3 POs) and good practice Guidelines drafted. In summary, the review concluded that no alternative measures are available at this time, and this should be reviewed in due course when new options may become available. The timing of this should be reflected in the FMP. The final recommendations have been reviewed by Paul Trebilcock of the CFPO and the reduced trawl times recommendations found to be acceptable. All needs to be embedded in the FMP.

Standard requirement	Lead & partners	Timescale / milestones	Progress / outcome
Action 3: Harvest control rules and tools **Overview** Improve the understanding of the stocks of *Lophius piscatorius* and *L. budegassa*, with commercial catch sampling of separate species, aiming to improve estimates of species mortality and SSB for stock assessments to improve understanding on a risk basis and, if necessary, refine management. **Performance indicators** 1.2.2 Harvest control rules and tools: **60-79** Requirement at SG80: Well-defined HCRs are in place that ensure exploitation rate is reduced as PRI is approached and stock is expected to be consistent or above MSY. HCRs are likely to be robust to the main uncertainties. Available evidence indicates that tools in use are effective in achieving exploitation rates required under HCR.	Action leads: CEFAS Partners: MMO, Defra & Industry, Seafish Resources: Engagement with ICES, MAs and the NWWAC	**3a.** Yr 1. Review experience of the South Africa trawl fishery of hake (*Merluccius* spp. for lessons learned on managing a 2-species complex. Consider whether the RBF approach for *L. budegassa* is appropriate.	**Complete (target 60-79, actual 60-79)** A review was made of a number of different fisheries (RSA hake, Canada 3LN redfish, various salmon fisheries) with similar issues over Inseparable / Practically Inseparable (IPI) Fisheries. This suggested that, so long as there is a precautionary harvest policy, catch and abundance monitoring, biennial stock assessments, harvest control rules, and management actions for both species in the fishery, it should achieve SG 80 for 1.2.1. However, it is noted that the review focussed mainly on harvest strategy (PI 1.2.1) rather than PI 1.2.2 (HCRs, this action).
		3b. Yr 1: Engagement with MA & ICES.	**Complete (target 60-79, actual 60-79)** Still looking at this via observer programme to progress forward analysis. FSP trip was undertaken but did not include species identification. Working with CEFAS. FSP funding submissions in January 2019.
		3c. Yr 2: Proposals for species-specific catch accounting from industry on how they want to do that. Develop proposal & funding to collecting this data. E.g. adding species specific information to logbooks.	**On target (target 60-79, actual 60-79)** *L. budegassa* is difficult to separate as catch reporting is mixed. There are two methods of catch sampling: 1) on-board science observers (understand wanted / unwanted catch) and (2) port sampling (measure length and ID species, if membrane is still left on. Observer and port data then raised to total landings. Catch sampling based on species combined, therefore could miss length info- gaps in data. France, Spain and Portugal also contribute to data but using different system- land separately. No evidence has demonstrated engagement with the MA. Whilst still on target, progress is slow.
		3d. Yr 3: Take our position to the MMO whether self-sampling is possible / acceptable.	**On target (target 60-79, actual 60-79)** FSP Project to see if self-sampling could be achieved (Forster, 2020). Rob Forster CEFAS lead (CEFAS has held 2 workshops with industry), Andy Pillar also engaged. Catches landed, sold and graded separately. Early results indicated that inspected landings were 90% accurate but as the trial was only five trips, the data collected was not sufficient to draw strong conclusions. Benefits to the industry not that obvious and unlikely that this would be taken up voluntarily. It was concluded that in terms of best practice, **it will be worth continuing the work but will need to give skippers time and support to adjust to new e-logs and grading machines before the process of separating the species becomes the norm**. However need to make fishers aware that this would be important to support potential MSC certification. New documentation: • **Forster, R. (2020).** Fisheries Science Partnership project: Exploring the potential to record species specific monkfish landings data. Cefas report, June 2020. 16 pp + appendices
		3e. Yr 4: HCR Implementation of HCR.	**On target (target 60-79, actual 60-79)** Although on target, there is still considerable uncertainty on how to address species-specific catch accounting, especially given the specific uncertainty over the level of hybridisation.
		3f. Yr 5: Provide evidence that indicates the tools in use are appropriate and effective in achieving exploitation rates required by the HCR e.g. evidence that exploitation rate has been reduced if required.	**Behind target (target ≥ 80, actual 60-79)** ***L. piscatorius***: MON fishing pressure below FMSY and SSB well above MSY Btrigger (SIa). Robust to most uncertainties (SIb). But with ANK not included in mixed fisheries assessment may not score >80 in SIc. ***L. budegassa***: ANK has proxy FMSY and has been below in recent years, so also good (SIa). Stock status has some uncertainties (SIb). But with ANK not included in mixed fisheries assessment may not score >80 in SIc. In summary, the inclusion of ANK in the mixed fishery management (MON is already included) as a result of the benchmarking / stock assessment is the ideal outcome.

<table>
<tr><th>Standard requirement</th><th>Lead & partners</th><th>Timescale / milestones</th><th>Progress / outcome</th></tr>
<tr>
<td rowspan="2">Action 4: Secondary species: Outcome status
Overview
A MSC risk-based framework assessment should be undertaken using the Productivity-Susceptibility Analysis (PSA) tool for all main secondary species.
Trammel net/tangle net only: analysis of the outcome of ‘out of scope’ species impacted by gillnets, e.g. seabirds, marine mammals and reptiles.
Performance indicators
2.2.1: ≥80
<u>Requirement at SG80:</u>
Main secondary species are highly likely to be above biologically based limit OR If below biologically based limits, there is either evidence of recovery or a demonstrably effective partial strategy in place such that the UoA does not hinder recovery and rebuilding.</td>
<td rowspan="2"><u>Action leads</u>: Steering group to employ consultant, subject to funding
MSC to investigate funding
<u>Partners</u>: Industry
<u>Stakeholders</u>: RSPB
<u>Resources</u>: Expertise to categorise main and minor secondary catch. And to conduct a detailed PSA on these species.
Expertise to assess impact on ‘out of scope’ species in gillnet fisheries</td>
<td>4a. Yr. 1: Scoping of (i) PSA and (ii) out of scope analyses.</td>
<td>On target (target <60, actual <60)
PSA undertaken by CEFAS but not completed until June 2018 and presented at June meeting. Note that this is linked to Actions 5 and 6. It was also noted that there is no action lead at the moment. The out of scope analysis is for GTN only.</td>
</tr>
<tr>
<td>4b. Yr. 2 - 5: Implementation of (i) PSA and (ii) out of scope analyses.</td>
<td>Complete (target ≥ 80, actual ≥ 80)
The Productivity-Susceptibility Analysis (PSA) analysis of secondary main bycatch species was completed in 2019 (Ribeiro Santos, 2019) and has been added to the FMP. According to the PSA scores, most of the secondary species have medium risk (between 2 and 3) for all the three gear types. No part of the catch was classified as high risk. The species with highest of PSA scores (Medium risk) were the skates and rays species – cuckoo ray, blonde ray and undulate ray caught by gill netters. They have lower productivity than the teleost fish and have high level of spatial and ecological overlap with the fishery. However, there is sufficient evidence that suggests that these species demonstrate a resilience to fishing pressure due to their survivability potential if discarded. The species with lowest PSA score which means that are less vulnerable to fishing pressure of the monkfish fisheries are the invertebrate species, cuttlefish and edible crab. They have geographically widely spread distribution and are highly productive. The new catch composition analysis identified a number of main primary and secondary species (see Ribeiro Santos, 2021). These have been evaluated in terms of their status and management as follows:
<table>
<tr><th colspan="2" rowspan="2">Component / Spp.</th><th colspan="3">Gear</th><th rowspan="2">Status</th></tr>
<tr><th>OTB</th><th>TBB</th><th>GNN</th></tr>
<tr><td rowspan="3">1°</td><td>Haddock</td><td>●</td><td></td><td></td><td>Good. Fishing pressure is above F_{MSY}, but below F_{pa} and F_{lim}, & that the spawning-stock size is above MSY $B_{trigger}$, B_{pa}, and B_{lim}</td></tr>
<tr><td>Hake</td><td></td><td></td><td>●</td><td>Very good. 5 times MSY Btrigger and fished below FMSY</td></tr>
<tr><td>Sole</td><td></td><td>●</td><td></td><td>Mixed (see Dover sole scoping)</td></tr>
<tr><td rowspan="11">2°</td><td>SS catshark</td><td>●</td><td>●</td><td></td><td>No assessment but considered abundant. PSA ≥80</td></tr>
<tr><td>Megrims</td><td>●</td><td></td><td></td><td>Good. Fishing above F_{MSY} since 2019 & above stock reference points.</td></tr>
<tr><td>Gurnards</td><td>●</td><td>●</td><td></td><td>No assessment. PSA ≥80</td></tr>
<tr><td>Spider crab</td><td>●</td><td></td><td>●</td><td>No assessment</td></tr>
<tr><td>Pollack</td><td></td><td></td><td>●</td><td>No assessment</td></tr>
<tr><td>Brown crab</td><td></td><td></td><td>●</td><td>Mixed (see SW crab & lobster FIP).</td></tr>
<tr><td>Turbot</td><td></td><td></td><td>●</td><td>No assessment. PSA ≥80</td></tr>
<tr><td>Blonde ray</td><td></td><td></td><td>●</td><td>No assessment. PSA 60-79, but medium-high post-discard survivability so likely to achieve SG 80.</td></tr>
<tr><td>Cuttlefish</td><td></td><td>●</td><td></td><td>Low risk, but uncertain. PSA ≥80. More work being done by Cefas on stocks.</td></tr>
<tr><td>Plaice</td><td></td><td>●</td><td></td><td>Good. Fished below FMSY and stock is probably above MSY $B_{trigger}$</td></tr>
<tr><td>Whiting pout</td><td></td><td>●</td><td></td><td>No assessment. PSA ≥80</td></tr>
</table>
</td>
</tr>
</table>

Standard requirement	Lead & partners	Timescale / milestones	Progress / outcome
Action 5: Secondary species: Management strategy **Overview** Following Action #4 above, a review of alternative management measures for both in scope and out of scope main species. **Performance indicators** 2.2.2: **≥80** Requirement at SG80: Management strategy in place, evaluated and implemented. Review of alternative measures.	Action leads: Steering group to employ consultant, subject to funding MSC to investigate funding Partners: Industry Stakeholders: Seafish, NWWAC & SWWAC members Resources: Expertise to undertake the review and identify potential mitigation measures	**5a.** Yr. 3: Based on PSA, conduct review of alternative management measures.	**On target (target 60-79, actual 60-79)** Need to focus on alternative measures to reduce skates and ray mortality. Note that some skates and rays have TACs (and could therefore be considered as primary species in a full assessment). See Seafish Bristol channel work on survivability of discarded skates and rays (Smith & Catchpole, 2015). They have high survivability so will be discarded (under the Survivability exemption). There is a link with Action 7 (some are ETPs). Need to involve Shark Trust. In summary, need to examine whether there are any practical alternative management measures to reduced ray /skate catch levels. This is probably not necessary, given (i) their shape and (ii) their high survivability post-discard anyway. A shorter tow time may be the only viable option (see Action 2).
		5b. Yr. 4-5: Mainstreaming of alternative measures into management, if necessary.	**Complete (target ≥ 80, actual ≥ 80)** Based on an analysis of alternative measures available to the fisheries for the target species (Caslake & Trebilcock, 2018) and an analysis of post-discard survival for elasmobranchs (see FMP) no further measures are required.

Standard requirement	Lead & partners	Timescale / milestones	Progress / outcome
Action 6: Secondary species: Information **Overview** Following Action #4 above, a review and where necessary, improvements to, information needs will be conducted. For both in and out of scope species. **Performance indicators** 2.2.3: **≥80** Requirement at SG80: Information adequacy for assessment of impact on main and minor secondary species, and for a management strategy.	Action leads: MMO. With CEFAS. Partners: Industry Stakeholders: Seafish, NWWAC & SWWAC members Resources: Expertise to undertake the review and identify potential information sources / requirements.	**6a.** Yr. 3: Based on PSA, conduct review current information sources on in and out of scope secondary species.	**On target (target ≥ 80, actual ≥ 80)** This action is being addressed in Year 3. See Ribeiro Santos (2018) "*There is a need to develop directed studies to monitoring ETP bycatch and rare species and a need to develop statistically sound sampling programmes with the objective of monitor catches of those species e.g. skate & rays*". Most TAC species must be landed (some exceptions). Non-TAC species can be discarded, esp. if high survivability. All discards from non-TAC spp. have to be recorded. Discards not recorded in many cases but is required. Skates and rays can be discarded, but if >50 kg per trip, need to record by species and volume (doesn't count against quota). Otherwise landed, retained and recorded (if TAC species). Not observed, so less reliable (Is under the DCF, so 1% observer coverage). Need to demonstrate (i) we can quantify them and (ii) show survival levels. Essentially need to do complete catch composition analysis and allocation of species to 2.1, 2.2 & 2.3. Other sources include Project Neptune. Maybe skewed to cuttlefish which has evolved since the FIP was started. In summary, **there is a need to again review the catch composition of this fishery** (primary, secondary & ETP), with a particular focus on skates and rays. Also assess survivability to show net fishing mortality. Info for CEFAS.
		6b. Yr. 4-5: Where necessary, develop new information sources on in and out of scope secondary species.	**Completed (target ≥ 80, actual ≥ 80)** Based on a new report to the FIP (Ribeiro Santos, A., 2021) the landings, discards and proportion of each species and species category (Primary, Secondary, 'Out-of-scope and ETP) were assessed. The top 20 species (95% of the total catch) for each gear were provided in the report and the complete list of species was provided in excel format, as supplementary material. Based on the average between both years (2018 and 2019) the main primary species (based on the average between both years) caught for each gear type included: • Otter trawl (OTB_>=80mm): white monkfish (*L. piscatorius*, 11%) and haddock (*Melanogrammus aeglefinus*, 7%) • Beam trawls (TBB_>=80mm): White monkfish (*L. piscatorius*, 8%), common sole (*Solea*, 5%) • Netters (tangle/trammel and gillnets >220 mm): White monkfish (*L. piscatorius*, 33%) and hake (*Merluccius merluccius*, 7%) The main secondary species (based on the avg. between both years) caught for each gear type included: • Otter trawl (OTB_>=80mm): Small-spotted catshark (*Scyliorhinus canicula*, 12%), megrims (*Lepidorhombus* spp., 9%), gurnards (*Triglidae* ,8%) and Spider crab (*Maja squinado*, 5%) • Beam trawls (TBB_>=80mm): Cuttlefish (*Sepia* spp., 18%), small-spotted catshark (*Scyliorhinus canicula*, 14%), gurnards (9%), plaice (*Pleuronectes platessa*, 8%) and whiting-pout (*Trisopterus luscus*, 8%). • Netters (tangle/trammel and gillnets >220 mm): Spider crab (M*aja squinado*, 9%), pollack (*Pollachius*, 7%), edible crab (*Cancer pagurus*, 7%), turbot (*Scophthalmus maximus*, 6%), blonde ray (*Raja brachyura*, 5%) and black bellied anglerfish (*L. budegassa*, 5%). A two-year FISP project (starting late summer 2022) will install remote electronic monitoring (REM) on six vessels, with more applying for funding. Analysis by CEFAS. This action is now considered complete.

Standard requirement	Lead & partners	Timescale / milestones	Progress / outcome
Action 7: ETP species **Overview** Information on the nature and scale of impacts on ETPs needs to be assessed. Based on this, appropriate management measures need to be developed. This needs to be embedded in an on-going, risk-based ETP impact monitoring system. **Performance indicators** 2.3.1: **≥80** 2.3.2: **≥80** 2.3.3: **60-79** Requirement at SG80: 2.3.1. Outcome status: Known direct effects of the UoA are highly likely to not hinder recovery of ETP species. 2.3.2. Management: There is a strategy in place, with objective basis for confidence that it will work and regular review of potential effectiveness and practicality of alternative measures to minimise mortality 2.3.3. Information: Some quantitative information is adequate to assess UoA related mortality of ETP species	Action leads: Paul Trebilcock & Ruth Hoban. MSC to explore who can carry out risk assessment with JNCC & MMO Partners: CEFAS, Industry, JNCC , MMO, Seafish Science Advisory Group (SAG) Stakeholders: Seafish, NWWAC & SWWAC members SMRU Resources: Expertise to assess fisheries-related impacts on ETP populations, and to develop both alternative management measures to combat these and a long-term risk-monitoring program.	**7a.** Yr. 1: GIS-based risk assessment. Listing of potential ETPs interacting with UoAs, and then mapping of ETP distribution overlap with UoA fishing effort.	**On target (target 60-79, actual 60-79)** A GIS-based risk assessment was conducted (Page, 2018) and was presented to the February 2018 Steering Group meeting. It is a useful document, although requires further 'ground-truthing', as some of the results (e.g. Northern gannet catches in beam trawls) have been over-represented. The paper was critically reviewed by Simon Northridge of SMRU. It is noted that Project NEPTUNE (National Evaluation of Populations of Threatened and Uncertain Elasmobranch stocks) by CEFAS (Ellis *et al*, 2015) and the CFPO with Defra funding, conducted a 'real-time' reporting of elasmobranch bycatch using three gillnetters and three trawlers (all in UoA). See Ellis *et al* (2015), including PSAs. This has apparently resulted in a real-time spur dog reporting tool, and identification of hotspots and adaptive management, although the latter has not been confirmed.
		7b. Yr. 2: Development of possible management approaches for reducing ETP interactions and impacts, if necessary).	**On target (target 60-79, actual 60-79)** Shark identification guide produced by Seafish (Gus). Lot of work (Stuart Heathington) between CEFAS and SW industry. New paper by Adam Townley (Townley, 2019). New documentation: • Townley, A. (2019). Summary of ETP Species Interactions with the PUKFI Monkfish Fishery and Recommendations for Bycatch Mitigation. Unpublished.
		7c. Yr. 3: Implementation of pilot projects for ETP management approaches.	**On target (target 60-79, actual 60-79)** Townley's paper (2019) reviewed by Steering Group and by industry. No pilot projects identified as necessary.
		7d. Yr. 4: Mainstreaming of ETP management approaches and introduce of the risk-monitoring system.	**2.3.1: On target (target ≥ 80, ≥ 80)** **2.3.1: On target (target ≥ 80, ≥ 80)** **2.3.3: Behind target (target ≥ 80, 60-79)** 2.3.1 A comprehensive literature review on the post-discard survival of elasmobranchs in towed gear has been completed by Chloe North and included in the FMP. 2.3.2 Good handling guide for commonly caught elasmobranchs being prepared by WFPO and approaching the Shark Trust for technical and dissemination assistance. Pingers must be used for GNN for vessels >12 m. 2.3.3 Now a mandatory requirement to record and report cetacean/ seal bycatch. Seafish 'Clean catch' initiative particularly relevant to GNN but needs to be rolled out to other vessels / POs in new Action Plan. It is also noted that a detailed 'interaction log' is being trialled by the Round 2 FIPs to ensure that encounters with ETPs and habitat features (inc. those included in the new Scottish Priority Marine Features listing). New documentation: • Elasmobranch post-discard survival study literature review (Table 1 in FMP).

Standard requirement	Lead & partners	Timescale / milestones	Progress / outcome
Action 8: Habitats **Overview** Bottom and beam trawl only. The spatial scale, intensity and impact on commonly encountered and in particular, VMEs, needs to be quantified. Based on this, appropriate management approaches need to be developed. This needs to be embedded in an on-going, risk-based ETP impact monitoring system. **Performance indicator** 2.4.1: **60-79** 2.4.2: **60-79** 2.4.3: **≥80** Requirement at SG80: 2.4.1. Outcome status: The UoA is highly unlikely to reduce structure and function of commonly encountered habitats to a point where there would be serious harm. 2.4.2. Management: There is a partial strategy in place to achieve Habitat Outcome 80 level. There is some quantitative evidence that management is being implemented and UoA complies with VME related management. 2.4.3. Information: There is reliable information on the spatial extent of interaction and timing and location of use of fishing gear. Adequate information continues to be collected to detect any increase in risk to main habitats.	Action leads: Steering group to employ consultant, subject to funding Lead to be decided for year 2 Partners: CEFAS, Industry, JNCC, MMO, Defra, Seafish Science Advisory Group (SAG) Resources: Expertise to assess fishers-related impacts on habitats, and to develop both alternative management measures to combat these and a long-term risk-monitoring program.	**8a.** Yr. 1: Identification of interactions with common & VME habitats, and consequences for associated communities.	**On target (target 60-79, actual 60-79)** Study by CEFAS (bottom and beam trawls only). CPUE broadly static. Number of vessels reduced slightly in 2016.
		8b. Yr 2: Development of possible management approaches for reducing habitat interactions and impacts.	**On target (target 60-79, actual 60-79)** First version of CEFAS study available (Katara, 2019). Used Relative Benthic Status as a main metric, showing 70% recoverability within a year. But no <12 m data, but inshore areas have been intensively studied by IFCAs. Habitat mapping fairly coarse. Values are metanalyses, so not specific to area / gear. ICES working group on Fisheries Benthic Impact and Trade-offs (WGFBIT). Showed impacts mainly on gravel areas. However SG suggested that coarse sediments not really targeted (prefer sandy, soft sediments) and that most coarse sediments tend to be protected. Should be represented by MCZ network.
		8c. Yr 3: Implementation of pilot projects for habitat management approaches.	**On target (target 60-79, actual 60-79)** RBS index in CEFAS report (Katara, 2019) says <80% recoverability, but only over a year, so likely to be >80% over 5 – 20 years, e.g. (i.e. within the recovery time specified within MSC methodology). Report included data caveats, lack of spatial analysis (e.g. MCZs). It was noted that the impact of abandoned, loss of discarded gillnets was discussed at the SG meeting on 13 May 2020, as the Fisheries Standard may be revised to include 'ghost gear'. It was decided that the current management was sufficient and impacts low in the dynamic SW waters. Much data from FANTARED and subsequent studies e.g. Brown *et al*, 2005.
		8d. Yr. 4-5: Mainstreaming of habitat management approaches and introduce of the risk-monitoring system.	**2.4.1: Behind target (target ≥ 80, actual 60-79)** **2.4.2: Behind target (target ≥ 80, actual 60-79)** **2.4.3: On target (target ≥ 80, ≥ 80)** It was agreed that further GIS analysis was not cost-effective and that clarification on the (i) management of VMEs in marine protected areas (MPAs) and (ii) management of mobile impact on coarse gravel (a commonly encountered habitat) was also necessary. Discussions with MMO, JNCC and Natural England to better understand current and emerging VME / other habitat protection is key. One argument is if there is no statutory protection of VMEs then current practise is acceptable, but this is unlikely to be acceptable to eNGOs and would challenge PI 2.4.1 and 2.4.2 scoring. WFPO are engaging with Bangor University (Jan Hiddink) to assess impacts and management options. A new Consequence Spatial Analysis (CSA) as part of an Environmental Risk Assessment of south-west mixed fisheries is being undertaken for otter trawling and beam trawling (Ananad, 2021). The results will be published in late April 2022. Initial result indicate that otter trawling has 9 high risk and 7 medium risk habitats (out of 32 habitats) and beam trawl 2 high risk and 3 medium risk habitats out of 24 habitat. It was noted that otter trawls have a larger footprint than the other gear types, they therefore posed a high or medium risk to the most habitat types as the overall CSA risk score is driven largely by the 'Spatial overlap' attribute It is understood from Defra that "*IFCAs continue to assess the need for MPA management measures in their districts – so far, over 90 MPAs have byelaws in place to protect sensitive habitats against bottom-towed fishing gear. For offshore sites (and those within 6-12nm), the MMO intends to apply management measures in all MPAs within three years - see https://www.gov.uk/government/news/consultation-on-marine-protected-areas. In 2020 the Secretary of State announced his intention to pilot HPMAs. We will be able to confirm timelines for HPMAs once the government response is published" (Helen hunter, pers. comm., 20 April 2021)*. This suggests that management measures will be in place on MPAs by, say, mid 2024 and not before and that a confident pass

Standard requirement	Lead & partners	Timescale / milestones	Progress / outcome
			for PI 2.4.2 may not be possible before this date. Industry prefer evidence-based needs for managed use of MPAs and want to avoid both voluntary approaches (seen as lightweight and may precipitate unnecessary regulation) or blanket, precautionary bans on all MPA areas. iVMS is being rolled out with 8 – 9.99 m English vessels fishing in English waters equipped by 16 May 2022, 6-7.99 m by August 2022 and below 6 m by 12 Dec 2022. But still issues over iVMS use in compliance. Focus could be on <12 m bottom trawlers. But are not well represented by POs. MPA sub-group (NE, Cefas, MMO, Defra & D&SIFCA from scallops FIP. Presentation by Matt S. **Recent publications;** • Anand, S. (2021). Environmental Risk Assessment of South West mixed fisheries: Habitats. Summary of Consequence Spatial Analysis methodology & information/ Seafish, Sept.2021. 26 pp.

<table>
<tr><th>Standard requirement</th><th>Lead & partners</th><th>Timescale / milestones</th><th>Progress / outcome</th></tr>
<tr>
<td rowspan="4">Action 9: Ecosystem: Outcome status (2.5.1)
Overview
Beam trawl only.
Based on Actions #7 and #8, conduct a Scale Intensity Consequence Analysis (SICA) analysis of beam trawling in the UoA.
Performance indicator
2.5.1: 60 - 79
Requirement at SG80:
2.5.1. Outcome status: The UoA is highly unlikely to disrupt the key elements underlying ecosystem structure and function to a point where there would be a serious or irreversible harm.</td>
<td rowspan="4">Action leads: Steering group to employ consultant subject to funding
MSC to investigate funding
Partners: CEFAS, Industry, JNCC, Seafish SAG
Resources: Expense in ecosystem analysis and use of the RBF and SICA tools.</td>
<td>9a. Yr. 1: Constitute expert group and conduct SICA analysis of main ecosystems impacted by beam trawls</td>
<td>On target (target 60-79, actual 60-79)
SICA analysis (beam trawl only) presentation of Lambert et al (2019) by Gladys Lambert (CEFAS).</td>
</tr>
<tr>
<td>9b. Yr. 2: Based on the SICA results, identify and recommend further research and management actions that reduce ecosystem disruption to acceptable levels.</td>
<td>On target (target 60-79, actual 60-79)
Inshore activity: it is noted that iVMS for all vessels >8 m will be introduced by 2022 & D&SIFCA is currently trialling technology (10 min ping rate). Now in byelaw. Also helps with gear conflicts. Notable increase in compliance. Also helping manage MPA areas e.g. whether to keep areas open or closed.
Offshore: >12 m vessels ping rate only 2 hours, which is insufficient for 15 min tows. OK for effort management but is limiting for habitat management. Not needed until full management rules are available for MCZs. Need to keep eye on the Kingfisher Project.</td>
</tr>
<tr>
<td>9c. Yr. 3: Recommendations made and disseminated.</td>
<td>On target (target 60-79, actual 60-79)
This action is delayed until Year 4.</td>
</tr>
<tr>
<td>9d. Yr. 4-5: Recommendations made and disseminated.</td>
<td>Behind target (target 60-79, actual 60 - 79)
MMO provided data on the number of vessels operating the three gears (data for 2019 shown below)
By length class
<table>
<tr><th rowspan="2">Gear type</th><th colspan="3">Length class</th></tr>
<tr><th>12m & Under</th><th>Over 12m</th><th>Total</th></tr>
<tr><td>Beam trawl</td><td>19</td><td>302</td><td>321</td></tr>
<tr><td>Bottom trawl</td><td>298</td><td>310</td><td>608</td></tr>
<tr><td>Gillnets</td><td>418</td><td>157</td><td>575</td></tr>
<tr><td>Totals</td><td>735</td><td>769</td><td>1,504</td></tr>
</table>
By ICES fishing area worked
<table>
<tr><th rowspan="2">Gear type</th><th colspan="12">ICES area</th></tr>
<tr><th>27.7.b</th><th>27.7.c</th><th>27.7.d</th><th>27.7.e</th><th>27.7.f</th><th>27.7.g</th><th>27.7.h</th><th>27.7.j</th><th>27.7.k</th><th>27.8.a</th><th>27.8.b</th><th>27.8.d</th><th>Total</th></tr>
<tr><td>Beam trawl</td><td></td><td></td><td>18</td><td>171</td><td>58</td><td>24</td><td>50</td><td></td><td></td><td></td><td></td><td></td><td>321</td></tr>
<tr><td>Bottom trawl</td><td>25</td><td>32</td><td>62</td><td>318</td><td>43</td><td>36</td><td>31</td><td>37</td><td>24</td><td></td><td></td><td></td><td>608</td></tr>
<tr><td>Gillnets</td><td>1</td><td>2</td><td>62</td><td>302</td><td>105</td><td>41</td><td>34</td><td>19</td><td>5</td><td>1</td><td>1</td><td>2</td><td>575</td></tr>
<tr><td>Total</td><td>26</td><td>34</td><td>142</td><td>791</td><td>206</td><td>101</td><td>115</td><td>56</td><td>29</td><td>1</td><td>1</td><td>2</td><td>1,504</td></tr>
</table>
This shows that the majority of beam trawlers are >12 m Eurocutters with VMS. Only a handful of beam trawlers are 8-12 m vessels mainly target sole & plaice, with limited monk catch. Most are in Devon & Severn and may already have VMS installed. Only 4 m beams are allowed in <12 nm, but vessels very limited in number.
Around half the bottom trawlers and most of the gillnetters are <12 m and are unlikely to VMS installed. The <12 m bottom trawlers mainly (n=218) work in 7e, with some in 7d (n=48) and 7f (n=32). The <12 m gillnetters also mainly (n=267) work in 7.e, as well as 7f (n=84) and 7d (n=62) with the remainder (n=5) in 7g, 7h & 7j.
The key issue for this PI is the ability to clearly demonstrating the footprint of the demersal gears, esp. in relation to sensitive areas. This suggests that the successful roll-out of iVMS will be critical here.</td>
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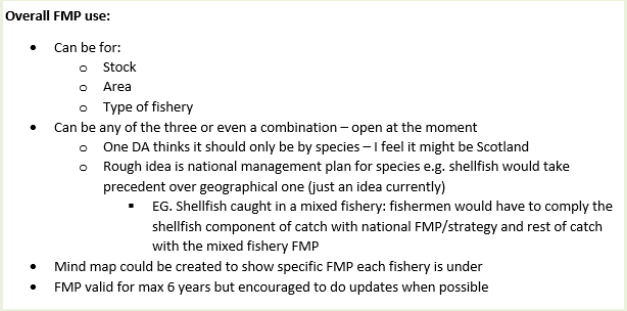
Standard requirement	Lead & partners	Timescale / milestones	Progress / outcome
Action 10: Fishery-specific objectives (3.2.1) and Decision-making processes (3.2.2) **Overview** Development of a fisheries-specific management plan that includes explicit short and long-term objectives. This should formalise the existing harvest strategy and harvest control rules for both species of anglerfish. **Performance indicator** 3.2.1 Fishery-specific objectives: **60-79** 3.2.2 Decision-making processes: **60-79** Requirement at SG80: Short and long term objectives, which are consistent with achieving the outcomes expressed by MSC's Principles 1 and 2, are explicit within the fishery-specific management system. There are established decision-making processes that result in measures and strategies to achieve the fishery-specific objectives	Action leads: Nathan de Rozarieux & fishing industry as represented by PT, JP & AP Partners: NWWAC & SWWAC members, Defra, CEFAS, Industry Resources: Expertise in developing fisheries management plans / harvest strategies	**10a.** Yr 2: Scoping for inclusion of *Lophius* spp. in a formal fisheries management plan (or inc. in a mixed fisheries MP). Development of a Position Paper.	**On target (target 60-79, actual 60-79)** No action so far but agreed no position paper was required. Looking at a larger area and might not be possible for NWWAC areas. Group needs to flag monkfish with Defra. Since 2012 (CFP review) MSY, via ICES advice. TAC consistent with MSY. One year rolling plans as part of the multi-annual plan.
		10b. Yr 2: Tasking the inclusion of *Lophius* spp. in a formal fisheries management plan (or inc. in a mixed fisheries MP).	**On target (target 60-79, actual 60-79)** Nathan De Rozarieux agreed to produce scoped FMP by next meeting e.g. with resources for completing sections. Matt will act as a facilitator……
		10c. Y3: Draft FMP with short and long-term objectives.	**On target (target 60-79, actual 60-79)** Will divvy up FMP amongst different groups. Still work in progress. Now includes the Western PO.
		10d. Yr. 4-5: Final FMP with short and long-term objectives.	**3.2.1 Behind target (target ≥ 80, actual 60-79)** **3.2.2 On target (target ≥ 80, ≥ 80)** Defra is preparing a 'strawman' for an FMP which is now undergoing internal consultation with the Devolved Administrations (DAs) and others. There is also a new Defra policy working group established to discuss the big issues identified from internal feedback. Defra FMPs will look similar to the MSC template, will possibly be web-based, moving away from PDF to make them more interactive and searchable (see Draft structure (Stella Bartolini, Defra, pers. comm.). At present the FMP lacks any definitive long-term and short-term objectives. New documents: • **Borges, L (2021).** • External review of the South West monkfish fishery management system. Report to Project UK Fisheries Improvements (14 pp.) Actions ○ Implement Borges (2021) recommendations e.g.: the Secretariat to work with Defra to develop long and short-term objectives for this fishery e.g. precautionary & MSY-related objectives  **Overall FMP use:** • Can be for: ○ Stock ○ Area ○ Type of fishery • Can be any of the three or even a combination – open at the moment ○ One DA thinks it should only be by species – I feel it might be Scotland ○ Rough idea is national management plan for species e.g. shellfish would take precedent over geographical one (just an idea currently) ▪ EG. Shellfish caught in a mixed fishery: fishermen would have to comply the shellfish component of catch with national FMP/strategy and rest of catch with the mixed fishery FMP • Mind map could be created to show specific FMP each fishery is under • FMP valid for max 6 years but encouraged to do updates when possible

Standard requirement	Lead & partners	Timescale / milestones	Progress / outcome
Action 11: 3.2.4 Monitoring & Evaluation **Overview** External evaluation of the management of these anglerfish fisheries. **Performance indicator** 3.2.4 Monitoring and management performance evaluation **≥80** Requirement at SG80: There are mechanisms in place to evaluate key parts of the fishery-specific management system, inc. the occasional external review	Action leads: Gus Caslake as representative of the Seafish SW panel Partners: CEFAS, Industry Stakeholders: Seafish, NWWAC & SWWAC members Resources: Expertise in the evaluation of fisheries management regimes	**11a.** Yr 3: ToR developed and contractor identified.	**On target (target 60-79, actual 60-79)** Find out when next ICES benchmarking is (count as an external review). Fishery Progress in Year 3? JP to find out.
		11b. Yr 4: External review report completed and recommendations made available to FIP	**Completed (target ≥ 80, actual ≥ 80)** For P1, intermittent independent benchmarking is undertaken by ICES working groups e.g. WKANGLER (ICES, 2018). For fisheries-specific management and independent review was conducted by Lisa Borges of fishfix (Portugal) in 2021 (Borges, 2021). New documents: • Borges, L (2019). External review of the South West monkfish fishery management system. Report to Project UK Fisheries Improvements (14 pp.)

2.2 Benchmarking tool

Figure 1: BMT (UoA 1 MON (Otter trawl))

Note: based on new pre-assessment scores and revised Action Plan targets

Principle	Component	Performance Indicator	Pre-Assessment Year 0	Actual Year 1	Actual Year 2	Actual Year 3	Actual Year 4	Actual Year 5	Actual Year 6	Actual Year 7	Expected Year 1	Expected Year 2	Expected Year 3	Expected Year 4	Expected Year 5	Expected Year 6	Expected Year 7
1	Outcome	1.1.1 Stock status **(Action 1)**	60-79	60-79	60-79	60-79	≥80	≥80	---	---	60-79	60-79	≥80	≥80	≥80	≥80	≥80
		1.1.2 Stock rebuilding	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	Management	1.2.1 Harvest Strategy **(Action 2)**	60-79	60-79	≥80	≥80	≥80	≥80	---	---	60-79	≥80	≥80	≥80	≥80	≥80	≥80
		1.2.2 Harvest control rules & tools **(Action 3)**	60-79	60-79	60-79	60-79	60-79	60-79	---	---	60-79	60-79	60-79	60-79	≥80	60-79	≥80
		1.2.3 Information and monitoring	≥80	≥80	≥80	≥80	≥80	≥80	---	---	≥80	≥80	≥80	≥80	≥80	≥80	≥80
		1.2.4 Assessment of stock status	60-79	60-79	60-79	60-79	60-79	≥80	---	---	60-79	60-79	≥80	≥80	≥80	≥80	≥80
2	Primary species	2.1.1 Outcome	≥80	≥80	≥80	≥80	≥80	≥80	---	---	≥80	≥80	≥80	≥80	≥80	≥80	≥80
		2.1.2 Management	≥80	≥80	≥80	≥80	≥80	≥80	---	---	≥80	≥80	≥80	≥80	≥80	≥80	≥80
		2.1.3 Information	≥80	≥80	≥80	≥80	≥80	≥80	---	---	≥80	≥80	≥80	≥80	≥80	≥80	≥80
	Secondary species	2.2.1 Outcome **(Action 4)**	<60	<60	≥80	≥80	≥80	≥80	---	---	60-79	≥80	≥80	≥80	≥80	≥80	≥80
		2.2.2 Management **(Action 5)**	<60	<60	<60	60-79	≥80	60-79	---	---	<60	<60	60-79	≥80	≥80	60-79	≥80
		2.2.3 Information **(Action 6)**	60-79	60-79	60-79	60-79	≥80	60-79	---	---	60-79	60-79	60-79	≥80	≥80	60-79	≥80
	ETP species	2.3.1 Outcome **(Action 7)**	60-79	60-79	60-79	60-79	≥80	≥80	---	---	60-79	60-79	60-79	≥80	≥80	≥80	≥80
		2.3.2 Management **(Action 7)**	60-79	60-79	60-79	60-79	60-79	≥80	---	---	60-79	60-79	60-79	≥80	≥80	≥80	≥80
		2.3.3 Information **(Action 7)**	60-79	60-79	60-79	60-79	≥80	≥80	---	---	60-79	60-79	60-79	≥80	≥80	≥80	≥80
	Habitats	2.4.1 Outcome **(Action 8)**	<60	60-79	60-79	60-79	60-79	60-79	---	---	60-79	60-79	60-79	≥80	≥80	60-79	≥80
		2.4.2 Management **(Action 8)**	60-79	60-79	60-79	60-79	60-79	60-79	---	---	60-79	60-79	60-79	≥80	≥80	60-79	≥80
		2.4.3 Information **(Action 8)**	60-79	60-79	60-79	60-79	≥80	≥80	---	---	60-79	60-79	60-79	≥80	≥80	≥80	≥80
	Ecosystem	2.5.1 Outcome **(Action 9)**	60-79	60-79	60-79	60-79	≥80	60-79	---	---	60-79	60-79	60-79	60-79	≥80	60-79	≥80
		2.5.2 Management	≥80	≥80	≥80	≥80	≥80	≥80	---	---	≥80	≥80	≥80	≥80	≥80	≥80	≥80
		2.5.3 Information	≥80	≥80	≥80	≥80	≥80	≥80	---	---	≥80	≥80	≥80	≥80	≥80	≥80	≥80
3	Governance and Policy	3.1.1 Legal and customary framework	≥80	≥80	≥80	≥80	60-79	≥80	---	---	≥80	≥80	≥80	≥80	≥80	≥80	≥80
		3.1.2 Consultation, roles and responsibilities	≥80	≥80	≥80	≥80	60-79	≥80	---	---	≥80	≥80	≥80	≥80	≥80	≥80	≥80
		3.1.3 Long term objectives	≥80	≥80	≥80	≥80	≥80	≥80	---	---	≥80	≥80	≥80	≥80	≥80	≥80	≥80
	Fishery specific management system	3.2.1 Fishery specific objectives **(Action 10)**	60-79	60-79	60-79	60-79	60-79	≥80	---	---	60-79	60-79	60-79	60-79	≥80	≥80	≥80
		3.2.2 Decision making processes **(Action 10)**	60-79	60-79	60-79	60-79	60-79	≥80	---	---	60-79	60-79	60-79	≥80	≥80	≥80	≥80
		3.2.3 Compliance and enforcement	≥80	≥80	≥80	≥80	60-79	60-79	---	---	≥80	≥80	≥80	≥80	≥80	60-79	≥80
		3.2.4 Management performance evaluation **(Action 11)**	60-79	60-79	60-79	60-79	≥80	≥80	---	---	60-79	60-79	60-79	≥80	≥80	≥80	≥80
Total number of PIs equal to or greater than 80			10	10	12	12	17	20			10	12	14	24	27	20	27
Total number of PIs 60-79			14	15	14	15	10	7			16	14	13	3		7	
Total number of PIs less than 60			3	2	1						1	1					
Overall BMT Index			0.63	0.65	0.70	0.72	0.81	0.87			0.67	0.70	0.76	0.94	1.00	0.87	1.00

Figure 2: BMT (UoA 2 ANK (Otter trawl))

Note: based on new pre-assessment scores and revised Action Plan targets

Principle	Component	Performance Indicator	Pre-Assessment Year 0	Actual Year 1	Actual Year 2	Actual Year 3	Actual Year 4	Actual Year 5	Actual Year 6	Actual Year 7	Expected Year 1	Expected Year 2	Expected Year 3	Expected Year 4	Expected Year 5	Expected Year 6	Expected Year 7
1	Outcome	1.1.1 Stock status **(Action 1)**	60-79	60-79	60-79	60-79	<60	60-79	---	---	60-79	60-79	≥80	≥80	≥80	60-79	≥80
		1.1.2 Stock rebuilding	---	---	---	---	---	---	---	---	---	---	---	---	---	---	≥80
	Management	1.2.1 Harvest Strategy **(Action 2)**	60-79	60-79	≥80	≥80	≥80	60-79	---	---	60-79	≥80	≥80	≥80	≥80	60-79	≥80
		1.2.2 Harvest control rules & tools **(Actic**	60-79	60-79	60-79	60-79	60-79	60-79	---	---	60-79	60-79	60-79	60-79	≥80	60-79	≥80
		1.2.3 Information and monitoring	≥80	≥80	≥80	≥80	≥80	60-79	---	---	≥80	≥80	≥80	≥80	≥80	60-79	≥80
		1.2.4 Assessment of stock status	60-79	60-79	60-79	60-79	60-79	60-79	---	---	60-79	60-79	≥80	≥80	≥80	60-79	≥80
2	Primary species	2.1.1 Outcome	≥80	≥80	≥80	≥80	≥80	≥80	---	---	≥80	≥80	≥80	≥80	≥80	≥80	≥80
		2.1.2 Management	≥80	≥80	≥80	≥80	≥80	≥80	---	---	≥80	≥80	≥80	≥80	≥80	≥80	≥80
		2.1.3 Information	≥80	≥80	≥80	≥80	≥80	≥80	---	---	≥80	≥80	≥80	≥80	≥80	≥80	≥80
	Secondary species	2.2.1 Outcome **(Action 4)**	<60	<60	≥80	≥80	≥80	≥80	---	---	60-79	≥80	≥80	≥80	≥80	≥80	≥80
		2.2.2 Management **(Action 5)**	<60	<60	<60	60-79	≥80	60-79	---	---	<60	<60	60-79	≥80	≥80	60-79	≥80
		2.2.3 Information **(Action 6)**	60-79	60-79	60-79	60-79	≥80	60-79	---	---	60-79	60-79	60-79	≥80	≥80	60-79	≥80
	ETP species	2.3.1 Outcome **(Action 7)**	60-79	60-79	60-79	60-79	≥80	≥80	---	---	60-79	60-79	60-79	≥80	≥80	≥80	≥80
		2.3.2 Management **(Action 7)**	60-79	60-79	60-79	60-79	60-79	≥80	---	---	60-79	60-79	60-79	≥80	≥80	≥80	≥80
		2.3.3 Information **(Action 7)**	60-79	60-79	60-79	60-79	≥80	≥80	---	---	60-79	60-79	60-79	≥80	≥80	≥80	≥80
	Habitats	2.4.1 Outcome **(Action 8)**	<60	60-79	60-79	60-79	60-79	60-79	---	---	60-79	60-79	60-79	≥80	≥80	60-79	≥80
		2.4.2 Management **(Action 8)**	60-79	60-79	60-79	60-79	60-79	60-79	---	---	60-79	60-79	60-79	≥80	≥80	60-79	≥80
		2.4.3 Information **(Action 8)**	60-79	60-79	60-79	60-79	≥80	60-79	---	---	60-79	60-79	60-79	≥80	≥80	60-79	≥80
	Ecosystem	2.5.1 Outcome **(Action 9)**	60-79	60-79	60-79	60-79	≥80	60-79	---	---	60-79	60-79	60-79	60-79	≥80	60-79	≥80
		2.5.2 Management	≥80	≥80	≥80	≥80	≥80	≥80	---	---	≥80	≥80	≥80	≥80	≥80	≥80	≥80
		2.5.3 Information	≥80	≥80	≥80	≥80	≥80	≥80	---	---	≥80	≥80	≥80	≥80	≥80	≥80	≥80
3	Governance and Policy	3.1.1 Legal and customary framework	≥80	≥80	≥80	≥80	60-79	≥80	---	---	≥80	≥80	≥80	≥80	≥80	≥80	≥80
		3.1.2 Consultation, roles and responsibili	≥80	≥80	≥80	≥80	60-79	≥80	---	---	≥80	≥80	≥80	≥80	≥80	≥80	≥80
		3.1.3 Long term objectives	≥80	≥80	≥80	≥80	≥80	≥80	---	---	≥80	≥80	≥80	≥80	≥80	≥80	≥80
	Fishery specific management system	3.2.1 Fishery specific objectives **(Action**	60-79	60-79	60-79	60-79	60-79	≥80	---	---	60-79	60-79	60-79	60-79	≥80	≥80	≥80
		3.2.2 Decision making processes **(Actio**	60-79	60-79	60-79	60-79	60-79	≥80	---	---	60-79	60-79	60-79	≥80	≥80	≥80	≥80
		3.2.3 Compliance and enforcement	≥80	≥80	≥80	≥80	60-79	60-79	---	---	≥80	≥80	≥80	≥80	≥80	60-79	≥80
		3.2.4 Management performance evaluatic	60-79	60-79	60-79	60-79	≥80	≥80	---	---	60-79	60-79	60-79	≥80	≥80	≥80	≥80
Total number of PIs equal to or greater than 80			10	10	12	12	16	15			10	12	14	24	27	≥80	≥80
Total number of PIs 60-79			14	15	14	15	10	12			16	14	13	3		12	
Total number of PIs less than 60			3	2	1		1				1	1					
Overall BMT Index			**0.63**	**0.65**	**0.70**	**0.72**	**0.78**	**0.78**			**0.67**	**0.70**	**0.76**	**0.94**	**1.00**	**0.78**	**1.00**

Figure 3: BMT (UoA 3-4 beam trawl (ANK))

Note: based on new pre-assessment scores and revised Action Plan targets

Principle	Component	Performance Indicator	Pre-Assessment Year 0	Actual Year 1	Actual Year 2	Actual Year 3	Actual Year 4	Actual Year 5	Actual Year 6	Actual Year 7	Expected Year 1	Expected Year 2	Expected Year 3	Expected Year 4	Expected Year 5	Expected Year 6	Expected Year 7
1	Outcome	1.1.1 Stock status **(Action 1)**	60-79	60-79	60-79	60-79	≥80	60-79	---	---	60-79	60-79	≥80	≥80	≥80	60-79	≥80
		1.1.2 Stock rebuilding	---	---	---	---	---	---	---	---	---	---	---	---	---	---	≥80
	Management	1.2.1 Harvest Strategy **(Action 2)**	60-79	60-79	≥80	≥80	≥80	60-79	---	---	60-79	≥80	≥80	≥80	≥80	60-79	≥80
		1.2.2 Harvest control rules & tools **(Action 3)**	60-79	60-79	60-79	60-79	60-79	60-79	---	---	60-79	60-79	60-79	60-79	≥80	60-79	≥80
		1.2.3 Information and monitoring	≥80	≥80	≥80	≥80	≥80	60-79	---	---	≥80	≥80	≥80	≥80	≥80	60-79	≥80
		1.2.4 Assessment of stock status	60-79	60-79	60-79	60-79	60-79	60-79	---	---	60-79	60-79	≥80	≥80	≥80	60-79	≥80
2	Primary species	2.1.1 Outcome	≥80	≥80	≥80	≥80	≥80	≥80	---	---	≥80	≥80	≥80	≥80	≥80	≥80	≥80
		2.1.2 Management	≥80	≥80	≥80	≥80	≥80	≥80	---	---	≥80	≥80	≥80	≥80	≥80	≥80	≥80
		2.1.3 Information	≥80	≥80	≥80	≥80	≥80	≥80	---	---	≥80	≥80	≥80	≥80	≥80	≥80	≥80
	Secondary species	2.2.1 Outcome **(Action 4)**	<60	<60	≥80	≥80	≥80	≥80	---	---	60-79	≥80	≥80	≥80	≥80	60-79	≥80
		2.2.2 Management **(Action 5)**	<60	<60	<60	60-79	≥80	60-79	---	---	<60	<60	60-79	≥80	≥80	60-79	≥80
		2.2.3 Information **(Action 6)**	60-79	60-79	60-79	60-79	≥80	60-79	---	---	60-79	60-79	60-79	≥80	≥80	60-79	≥80
	ETP species	2.3.1 Outcome **(Action 7)**	60-79	60-79	60-79	60-79	≥80	≥80	---	---	60-79	60-79	60-79	≥80	≥80	≥80	≥80
		2.3.2 Management **(Action 7)**	60-79	60-79	60-79	60-79	60-79	≥80	---	---	60-79	60-79	60-79	≥80	≥80	≥80	≥80
		2.3.3 Information **(Action 7)**	60-79	60-79	60-79	60-79	≥80	≥80	---	---	60-79	60-79	60-79	≥80	≥80	≥80	≥80
	Habitats	2.4.1 Outcome **(Action 8)**	<60	60-79	60-79	60-79	60-79	60-79	---	---	60-79	60-79	60-79	≥80	≥80	60-79	≥80
		2.4.2 Management **(Action 8)**	60-79	60-79	60-79	60-79	60-79	60-79	---	---	60-79	60-79	60-79	≥80	≥80	60-79	≥80
		2.4.3 Information **(Action 8)**	60-79	60-79	60-79	60-79	≥80	60-79	---	---	60-79	60-79	60-79	≥80	≥80	60-79	≥80
	Ecosystem	2.5.1 Outcome **(Action 9)**	60-79	60-79	60-79	60-79	≥80	60-79	---	---	60-79	60-79	60-79	60-79	≥80	60-79	≥80
		2.5.2 Management	≥80	≥80	≥80	≥80	≥80	≥80	---	---	≥80	≥80	≥80	≥80	≥80	≥80	≥80
		2.5.3 Information	≥80	≥80	≥80	≥80	≥80	≥80	---	---	≥80	≥80	≥80	≥80	≥80	≥80	≥80
3	Governance and Policy	3.1.1 Legal and customary framework	≥80	≥80	≥80	≥80	60-79	≥80	---	---	≥80	≥80	≥80	≥80	≥80	≥80	≥80
		3.1.2 Consultation, roles and responsibilities	≥80	≥80	≥80	≥80	60-79	≥80	---	---	≥80	≥80	≥80	≥80	≥80	≥80	≥80
		3.1.3 Long term objectives	≥80	≥80	≥80	≥80	≥80	≥80	---	---	≥80	≥80	≥80	≥80	≥80	≥80	≥80
	Fishery specific management system	3.2.1 Fishery specific objectives **(Action 10)**	60-79	60-79	60-79	60-79	60-79	≥80	---	---	60-79	60-79	60-79	60-79	≥80	≥80	≥80
		3.2.2 Decision making processes **(Action 10)**	60-79	60-79	60-79	60-79	60-79	≥80	---	---	60-79	60-79	60-79	≥80	≥80	≥80	≥80
		3.2.3 Compliance and enforcement	≥80	≥80	≥80	≥80	60-79	60-79	---	---	≥80	≥80	≥80	≥80	≥80	60-79	0
		3.2.4 Management performance evaluation **(Action 11**	60-79	60-79	60-79	60-79	≥80	≥80	---	---	60-79	60-79	60-79	≥80	≥80	≥80	≥80
Total number of PIs equal to or greater than 80			10	10	12	12	17	15			10	12	14	24	27	15	28
Total number of PIs 60-79			14	15	14	15	10	12			16	14	13	3		12	
Total number of PIs less than 60			3	2	1						1	1					
Overall BMT Index			0.63	0.65	0.70	0.72	0.81	0.78			0.67	0.70	0.76	0.94	1.00	0.78	1.00

Figure 4: BMT (UoA 5-6 gillnets (ANK))

Note: based on new pre-assessment scores and revised Action Plan targets

Principle	Component	Performance Indicator	Pre-Assessment Year 0	Actual Year 1	Actual Year 2	Actual Year 3	Actual Year 4	Actual Year 5	Actual Year 6	Actual Year 7	Expected Year 1	Expected Year 2	Expected Year 3	Expected Year 4	Expected Year 5	Expected Year 6	Expected Year 7
1	Outcome	1.1.1 Stock status (Action 1)	60-79	60-79	60-79	60-79	≥80	60-79	---	---	60-79	60-79	≥80	≥80	≥80	60-79	≥80
		1.1.2 Stock rebuilding	---	---	---	---	---	---	---	---	---	---	---	---	---	---	≥80
	Management	1.2.1 Harvest Strategy (Action 2)	60-79	60-79	≥80	≥80	≥80	60-79	---	---	60-79	≥80	≥80	≥80	≥80	60-79	≥80
		1.2.2 Harvest control rules & tools (Action 3)	60-79	60-79	60-79	60-79	60-79	60-79	---	---	60-79	60-79	60-79	60-79	≥80	60-79	≥80
		1.2.3 Information and monitoring	≥80	≥80	≥80	≥80	≥80	60-79	---	---	≥80	≥80	≥80	≥80	≥80	60-79	≥80
		1.2.4 Assessment of stock status	60-79	60-79	60-79	60-79	60-79	60-79	---	---	60-79	60-79	≥80	≥80	≥80	60-79	≥80
2	Primary species	2.1.1 Outcome	≥80	≥80	≥80	≥80	≥80	≥80	---	---	≥80	≥80	≥80	≥80	≥80	≥80	≥80
		2.1.2 Management	≥80	≥80	≥80	≥80	≥80	≥80	---	---	≥80	≥80	≥80	≥80	≥80	≥80	≥80
		2.1.3 Information	≥80	≥80	≥80	≥80	≥80	≥80	---	---	≥80	≥80	≥80	≥80	≥80	≥80	≥80
	Secondary species	2.2.1 Outcome (Action 4)	<60	<60	≥80	≥80	≥80	≥80	---	---	60-79	≥80	≥80	≥80	≥80	≥80	≥80
		2.2.2 Management (Action 5)	<60	<60	<60	60-79	≥80	60-79	---	---	<60	<60	60-79	≥80	≥80	≥80	≥80
		2.2.3 Information (Action 6)	60-79	60-79	60-79	60-79	≥80	60-79	---	---	60-79	60-79	60-79	≥80	≥80	≥80	≥80
	ETP species	2.3.1 Outcome (Action 7)	60-79	60-79	60-79	60-79	≥80	≥80	---	---	60-79	60-79	60-79	≥80	≥80	≥80	≥80
		2.3.2 Management (Action 7)	60-79	60-79	60-79	60-79	60-79	60-79	---	---	60-79	60-79	60-79	≥80	≥80	60-79	≥80
		2.3.3 Information (Action 7)	60-79	60-79	60-79	60-79	≥80	60-79	---	---	60-79	60-79	60-79	60-79	≥80	60-79	≥80
	Habitats	2.4.1 Outcome (Action 8)	≥80	≥80	≥80	≥80	≥80	≥80	---	---	≥80	≥80	≥80	≥80	≥80	≥80	≥80
		2.4.2 Management (Action 8)	≥80	≥80	≥80	≥80	≥80	≥80	---	---	≥80	≥80	≥80	≥80	≥80	≥80	≥80
		2.4.3 Information (Action 8)	≥80	≥80	≥80	≥80	≥80	≥80	---	---	≥80	≥80	≥80	≥80	≥80	≥80	≥80
	Ecosystem	2.5.1 Outcome (Action 9)	≥80	≥80	≥80	≥80	≥80	≥80	---	---	≥80	≥80	≥80	≥80	≥80	≥80	≥80
		2.5.2 Management	≥80	≥80	≥80	≥80	≥80	≥80	---	---	≥80	≥80	≥80	≥80	≥80	≥80	≥80
		2.5.3 Information	≥80	≥80	≥80	≥80	≥80	≥80	---	---	≥80	≥80	≥80	≥80	≥80	≥80	≥80
3	Governance and Policy	3.1.1 Legal and customary framework	≥80	≥80	≥80	≥80	60-79	≥80	---	---	≥80	≥80	≥80	≥80	≥80	≥80	≥80
		3.1.2 Consultation, roles and responsibilities	≥80	≥80	≥80	≥80	60-79	≥80	---	---	≥80	≥80	≥80	≥80	≥80	≥80	≥80
		3.1.3 Long term objectives	≥80	≥80	≥80	≥80	≥80	≥80	---	---	≥80	≥80	≥80	≥80	≥80	≥80	≥80
	Fishery specific management system	3.2.1 Fishery specific objectives (Action 10)	60-79	60-79	60-79	60-79	60-79	≥80	---	---	60-79	60-79	60-79	60-79	≥80	≥80	≥80
		3.2.2 Decision making processes (Action 10)	60-79	60-79	60-79	60-79	60-79	≥80	---	---	60-79	60-79	60-79	≥80	≥80	≥80	≥80
		3.2.3 Compliance and enforcement	≥80	≥80	≥80	≥80	60-79	60-79	---	---	≥80	≥80	≥80	≥80	≥80	60-79	≥80
		3.2.4 Management performance evaluation	60-79	60-79	60-79	60-79	≥80	≥80	---	---	60-79	60-79	≥80	≥80	≥80	≥80	≥80
Total number of PIs equal to or greater than 80			14	14	16	16	19	17			14	16	19	24	27	19	28
Total number of PIs 60-79			11	11	10	11	8	10			12	10	8	3		8	
Total number of PIs less than 60			2	2	1						1	1					
Overall BMT Index			**0.72**	**0.72**	**0.78**	**0.80**	**0.85**	**0.81**			**0.74**	**0.78**	**0.85**	**0.94**	**1.00**	**0.85**	**1.00**

3. Revised pre-assessment

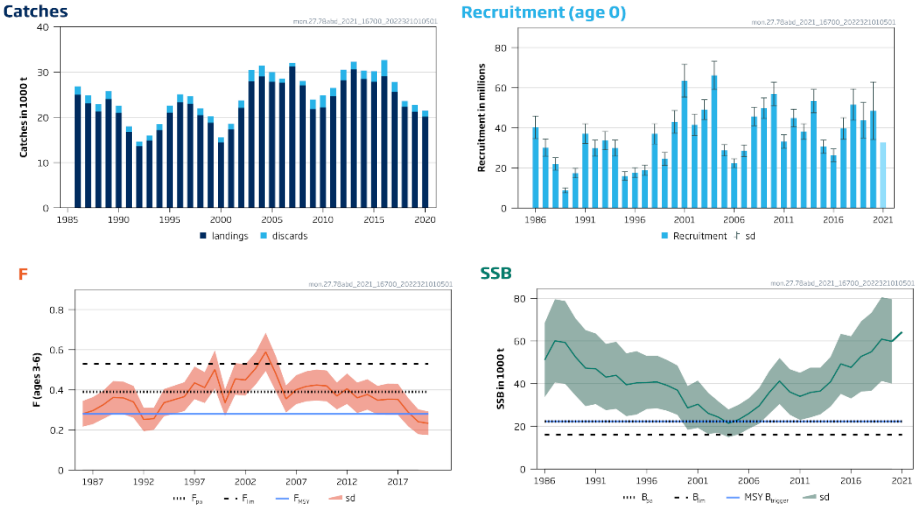
3.1 Summary of Performance Indicator level scores

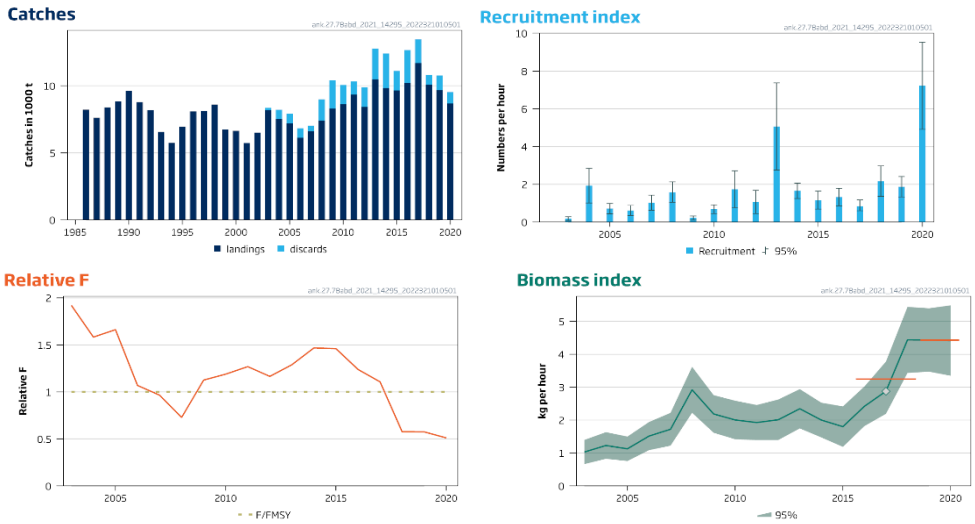
3.1.1 Principle 1

Performance Indicator	Draft scoring range	Data deficient?	Issue	SG60		SG80	
				MON	ANK	MON	ANK
1.1.1 – Stock status	MON: ≥80 ANK: 60-79	MON: N ANK: Y	a	✓	✓	✓	×
			b	-	-	✓	×

Rationale:

L. piscatorius: Not impaired with a high degree of certainty. F is well below F_{MSY} and the SSB well above the MSY $B_{trigger}$, B_{pa}, and B_{lim} and increasing (see below). Recruitment consistent over recent years (ICES, 2021) Certainly meets SG 80, probably SG 100.



Performance Indicator	Draft scoring range	Data deficient?	Issue	SG60		SG80	
				MON	ANK	MON	ANK
L. budegassa: Currently only have fishing mortality reference points (proxy), with relative fishing mortality well below $F_{MSYproxy}$. Recruitment has been reasonably strong over the past 5 – 10 years. Biomass index (in kg/hour) is also increasing from around 4 in 2003 to > 4 since 2018. Based on this (ICES 2021) will met SG 60 in SI (a), but not enough information to meet SG 80. Undergoing full stock assessment with Part 1 benchmarking stage over 2022, data compilation in Autumn 2022. Part 2 will be actual stock assessment expected in Feb 23, completed by March 2023 for assessment working group meeting in May 2023. Have enough to develop an assessment.  Industry can attend the benchmarking. Should include a FIP industry representative.							
1.1.2 – Stock rebuilding	**MON: NA** **ANK: NA**	MON: N ANK: Y	a b	NA NA	NA NA	NA NA	NA NA
Rationale: ***L. piscatorius***: Not applicable. ***L. budegassa***: Although ANK scored < 80, rebuilding is likely not needed so has not been scored.							
1.2.1 – Harvest Strategy	**MON: ≥80** **ANK: 60-79**	MON: N ANK: Y	a b c d e f	✓ ✓ ✓ ✓ N/A ✓	✓ ✓ ✓ ✓ N/A ✓	✓ ✓ - - N/A ✓	× × - - N/A ✓
Rationale: ICES have separate F advisories but combined by EU/UK at quota level. No desire to split TAC, as can be managed via mixed fishery MSY. Mixed fisheries management approach includes MSY of multiple species and at present only includes *L. piscatorius,* there is a likelihood that *L. budegassa* will be included if the benchmark workshop is successful in developing a category 1 stock assessment or if the mixed fisheries model used for the Celtic Sea can successfully integrate category 3 stock assessments. Mixed fisheries models make use of the single species reference points, assessment outputs and fishing patterns to reduce the discrepancy in fishing effort needed between the most and least restrictive catches advised for each species. A number of							

<table>
<tr><th rowspan="2">Performance Indicator</th><th rowspan="2">Draft scoring range</th><th rowspan="2">Data deficient?</th><th rowspan="2">Issue</th><th colspan="2">SG60</th><th colspan="2">SG80</th></tr>
<tr><th>MON</th><th>ANK</th><th>MON</th><th>ANK</th></tr>
<tr><td colspan="8">scenarios are presented showing the trade-offs between catches such providing fishing effort and respective catch levels for the limiting stock, the one not doing well, along with an advised catch level lower than would be estimated from the single species assessment for stocks considered doing well.

L. piscatorius: Mixed fishery approach has been in place and has included MON for last 2 years. Reviewed annually

L. budegassa: ANK not in the mixed fishery model at present. There is a higher likelihood of inclusion in to the mixed fishery management system, with a successful assessment benchmark process scheduled for 2022/23, but inclusion might be delayed into 2024 owing to the complexity of the process to integrate new stocks in to the modelling framework.</td></tr>
<tr><td rowspan="3">1.2.2 – Harvest control rules and tools</td><td rowspan="3">MON: 60-79
ANK: 60-79</td><td rowspan="3">MON: N
ANK: Y</td><td>a</td><td>✓</td><td>✓</td><td>✓</td><td>×</td></tr>
<tr><td>b</td><td>-</td><td>-</td><td>✓</td><td>×</td></tr>
<tr><td>c</td><td>✓</td><td>✓</td><td>×</td><td>×</td></tr>
<tr><td colspan="8">Rationale: Last 5 years quota remained stable.

L. piscatorius: MON fishing pressure below F_{MSY} and SSB well above MSY $B_{trigger}$ (SIa). Robust to most uncertainties (SIb). But with ANK not included in mixed fisheries assessment both species may not score >80 in SIc.

L. budegassa: ANK has proxy F_{MSY} and has been below in recent years, so also good (SIa). Stock status has some uncertainties (SIb). But with ANK not included in mixed fisheries assessment may not score >80 in SIc.</td></tr>
<tr><td rowspan="3">1.2.3 – Information and monitoring</td><td rowspan="3">MON: ≥80
ANK: 60-79</td><td rowspan="3">MON: N
ANK: Y</td><td>a</td><td>✓</td><td>✓</td><td>✓</td><td>×</td></tr>
<tr><td>b</td><td>✓</td><td>✓</td><td>✓</td><td>✓</td></tr>
<tr><td>c</td><td>✓</td><td>✓</td><td>✓</td><td>✓</td></tr>
<tr><td colspan="8">Rationale: New research that shows potential for rehybridization makes this complicated. Smaller fish are more difficult to distinguish (via spine and fin ray counting). MON / ANK ratio is estimated from sampling, but there is some uncertainty in the mainly port-based sampling (there is also some limited on-board sampling. Forster’s work showed there is little that industry can do., esp. with hybrids. Could be possible to use REM cameras e.g. after head and tail removed to show black membrane and test via the new FISP REM project (very obvious for the larger fish, but smaller fish just above MLS is less obvious). REM 6 vessels across different gear types and POs. Is industry-driven. Will need good lighting. Need a representative sample to support port sampling. Need to be aware that the UK only lands a small portion of the total TAC. FR & ESP. separate landings by species in some ports. Genetic studies still on-going (Cefas contributed). Overall, not much more that can be done.

L. piscatorius: Is sufficient information across all SIs to meet SG 80.

L. budegassa: Insufficient information on stock biomass to meet SIa, although this is being addressed over the next year or so. Should meet SG 80 on other SIs.</td></tr>
<tr><td></td><td>MON: ≥80</td><td>MON: N</td><td>a</td><td>-</td><td>-</td><td>✓</td><td>✓</td></tr>
</table>

Performance Indicator	Draft scoring range	Data deficient?	Issue	SG60		SG80	
				MON	ANK	MON	ANK
1.2.4 – Assessment of stock status	ANK: 60-79	ANK: Y	b	✓	✓	✓	✕
			c	✓	✓	✓	✕
			d	-	-	-	-
			e	-	-	✓	✓

Rationale:

L. piscatorius: Used to be issues with the assessment, but much improved. Takes into account uncertainties. Is subject to annual internal review and periodic external review. Reaches SG 80 in all SIs, but as still looking at fine-tuning data assessment mechanisms may not achieve SG 100.

L. budegassa: The current assessment is appropriate for the stock (SIa) but does not yet estimate stock status relative to reference points so does not reach SG 80 in SIb, no account for uncertainties (SIc), although this is likely to change upon reaching a successful conclusion of the upcoming benchmark workshop. Is subject to annual internal review and periodic external review so SG 80 in Sie.

3.1.2 Principle 2

Performance Indicator	Draft scoring range	Data deficient?	Issue	SG60	SG80
2.1.1 – Primary Outcome	**≥80**	No	a	✓	✓
			b	-	-

Rationale: A review of the catch composition of the three UoAs provided by the MMO in March 2021 suggests the following **main** and minor primary species:

Species	Gear type					
	% OTB >80 mm	Class	% TBB >80 mm	Class	% GN >220 mm	Class
Haddock	**7.5%**	**Main**	1.4%	Minor	0.3%	N/A
Hake	1.8%	Minor	0.2%	N/A	**7.3%**	**Main**
Whiting	3.9%	Minor	0.8%	N/A	1.1%	Minor

SIa. Both main species (haddock and hake) are clearly above the PRI level, defined as Blim and are fluctuating around MSY level and met SG 80.

2.1.2 – Primary Management	**≥80**	No	a	✓	✓
			b	✓	✓
			c	-	✓
			d	N/A	N/A
			e	✓	✓

Rationale: All main primary species are managed through a standard harvest strategy applicable to commercial important stocks. Standard monitoring procedures provide data for stock assessment. Stock assessments are undertaken by ICES, which provide the scientific advice, specifically the TAC. The ICES scientific advice has been followed for these stocks, limiting exploitation to sustainable levels. Additional controls are applied, such as seasonal closures of spawning areas. Generic controls, notably

Performance Indicator	Draft scoring range	Data deficient?	Issue	SG60	SG80
mesh size, have been chosen to protect the most important commercial species. The system takes into account the multispecies nature of these fisheries, so different parts of the harvest strategy work together to maintain all main species stocks above their PRI. Al SIs meet SG 80.					
2.1.3 – Primary Information	**≥80**	No	a	✓	✓
			b	-	-
			c	✓	✓
Rationale: Full quantitative information, in the form of landings and discard data, is available to measure the impact of each gear on each stock of main primary species identified. In addition, there are fisheries independent scientific demersal surveys, and catch composition sampling (length, age) for both surveys and commercial catches is carried out, covering all main species. These data are suitable to quantitatively assess the impact of the UoAs being assessed on main primary species with a high degree of certainty. SG 80 is met for the two SIs relent to main species.					
2.2.1 – Secondary Outcome	**≥80**	Yes	a	✓	✓
			b	✓	✓

Rationale: A review of the catch composition of the three UoAs provided by the MMO in March 2021 suggests the following **main** and minor secondary species:

Species	Gear type					
	% OTB >80 mm	Class	% TBB >80 mm	Class	% GN >220 mm	Class
Small-spotted catshark	**11.2**	**Main**	**14.1**	**Main**	0.5	Minor
Megrims nei	**8.7**	**Main**	3.5	Minor	0.05	Minor
Gurnards	**8.4**	**Main**	**9.2**	**Main**	0.12	Minor
Spider crab	**5.2**	**Main**	1.2	Minor	**8.7**	**Main**
Plaice	4.9	Minor	**8.4**	**Main**	0.8	Minor
Cuttlefish	4.7	Minor	**18.0**	**Main**	0.1	Minor
Lemon sole	2.4	Minor	1.6	Minor	<0.1	Minor
Thornback ray	2.2	Minor	0.7	Minor	1.4	Minor
Boarfish	2.1	Minor	0.5	Minor	<0.1	Minor
Pouting	-	Minor	**8.1**	**Main**	<0.1	Minor
Common sole	0.8	Minor	**5.3**	**Main**	1.3	Minor
Pollack	0.1	Minor	<0.1	Minor	**7.3**	**Main**
Edible crab	0.6	Minor	1.3	Minor	**6.9**	**Main**
Turbot	.2	Minor	1.0	Minor	**5.9**	**Main**
Pilchard	<0.1	Minor	<0.1	Minor	4.9	Minor
Blonde ray	1.8	Minor	1.2	Minor	4.5	Minor

The 12 main species are small-spotted catshark, megrims, gurnards, edible and spider crabs, plaice, pouting, common sole, pollack, turbot & cuttlefish. Based on the recent pre-assessment of the Round 3 FIPs in SW waters (Cappell, Scarcella, Gaudian & Huntington, 2022) all these species are likely to meet SG 80. It is noted that some main species are data-deficient e.g. cuttlefish (for TBB).

Performance Indicator	Draft scoring range	Data deficient?	Issue	SG60	SG80
2.2.2 – Secondary Management	**60 – 79 OTB + TBB**	Yes	a	✓	×
			b	✓	×
			c	✓	×
	≥80 GNN		d	✓	✓
			e	-	✓
Rationale: It is unclear whether management strategies exist for different gurnard species. Pouting is thought to have very minimal management measures and cuttlefish are currently not managed at all. While generic management measures may apply e.g. restricted licencing, monitoring of catches, MPAs, technical regulations (i.e. restrictions on gear) and the Landing Obligation it is unclear whether these are effective to the specific species and initial reviews of the Landing Obligation have suggested limited effectiveness. This is not likely meet to SG80 for SIa, SIb or SIc. The small-spotted catshark is a secondary main, but it is highly likely that shark finning is not taking place due to the strict EU regulations in place (EU Regulation No 605/2013), so meets SG 80 for SId. An analysis by Caslake & Trebilcock (2018) suggests that alternative measures are available to the two trawl fisheries for the target species. This is therefore likely to meet SG 80 for SIe.					
2.2.3 – Secondary Information	**60 – 79 OTB + TBB**	Yes	a	✓	✓
			b	-	-
	≥80 GNN		c	✓	×
Rationale: PSA's have been conducted for all secondary main species, both by Ribeiro Santos (2019) and the current project team. These PSAs included the use of quantitative information to assess both productivity and susceptibility scores. As such this should meet SG 80 for SIa. There is sufficient information on the biology of each of the main secondary species (e.g. length at maturity, maximum length, common length, maximum weight, maximum age, distribution, depth range, distribution, life cycle and mating behaviour). According to MRAG Americas (2020), based on availability of biological data and also taking into consideration the lack of spatial extent, especially those species not covered by ICES assessments (such as cuttlefish and gurnards), the two mobile gears would not meet SG 80 for SIc.					
2.3.1 – ETP Outcome	**≥80**	Yes	a	✓	✓
			b	✓	✓
			c	-	✓
Rationale: The common dolphin and harbour porpoise are recorded as bycatch in other gill net fisheries (see for example: Cornish hake fishery). The larger vessels (e.g. >12 m) use acoustic deterrent devise (ADDs, or pingers) and this is highly likely to achieve national and international requirements for the protection of these ETP species. Spurdog (in TBB) and undulate ray (in OTB and TBB) are ETP species that are caught in this fishery. All would be discarded and none landed, with >50% post-discard survival likely. Both are subject to considerable conservation attention at present, including specific work on spurdog management. Likely to met SG 80.					

Performance Indicator	Draft scoring range	Data deficient?	Issue	SG60	SG80
2.3.2 – ETP Management	**≥80 OTB & TBB**	Yes	a	✓	×
			b	✓	✓
			c	✓	×
	60 – 79 GNN		d	-	×
			e	✓	✓
Rationale: The common dolphin and harbour porpoise are recorded as bycatch in other gill net fisheries (for example the Cornish hake fishery) and it is therefore considered here that the UoAs in this Pre-assessment are likely to also interact with these species, albeit rarely. Given over 70% of GN vessels are <12 m and therefore do not need pingers this may fail to reach SG 80 for SIa, SIc & SId. For the elasmobranch species the prohibition on landing and high post-discard survival rate suggests this would meet SG 80 for SIb. The process for reviewing the effectiveness of the mitigation measures in place for managing impacts on groups of ETP species, such as marine mammals and seabirds, is set out in Article 4 and Article 31 of EU Regulation 1241/2019 (transposed and updated post UK leaving EU). In addition to these requirements, Annex XIII of the Regulation requires EU Member States to establish schemes for monitoring both the interactions of fishing vessels with cetaceans (Part A); seabirds (Part B); and marine turtles (Part C) and is likely to meet SG 80.					
2.3.3 – ETP Information	**≥80 OTB & TBB**	Yes	a	✓	✓
	60 – 79 GNN		b	✓	×
Rationale: There is some quantitative information on ETP catches, based on the catch profile estimates, which is adequate to assess UoA related mortality and impact on ETPs and will likely meet SG 80 for SIa. The information available is not sufficient to determine trends and support a strategy to manage ETP interactions. It is not clear whether the observer coverage is sufficient to represent the intensity of all UoA activities, in particular as no records of marine mammal / seabird interactions were available for this pre-assessment, so will failed to meet SG80 for SIb.					
2.4.1 – Habitats Outcome	**60 – 79 OTB & TBB**	Yes	a	✓	×
			b	✓	×
	≥80 GNN		c	✓	-
Rationale: For the two mobile gears, the Round 3 FIP pre-assessment for mixed fisheries in the SW and Celtic Sea (Cappell, Scarcella, Gaudian & Huntington, 2022) suggests that the larger scale location and intensity of all the vessels need to be available in order to correspond these with underlying main habitats and meet SG 80. However this does not meet SG 80 for SIa (commonly encountered habitats) or SIb (VMEs).					

Performance Indicator	Draft scoring range	Data deficient?	Issue	SG60	SG80
2.4.2 – Habitats Management	**60 – 79 OTB & TBB**	Yes	a	✓	✓
			b	✓	×
	≥80 GNN		c	-	×
			d	✓	×
Rationale: The network of designated areas, including MPAs and SACs, and fisheries management measures, together form a partial strategy, that if applied as intended would be expected to meet SG80 for SIa. While measures are likely to work (SI b at SG60 is met), no site-specific management measures have been proposed by Defra for any of the MCZs, other than a generic objective of "Recover to favourable condition" for most of the habitats described and this is likely to fail at SG 80 for SIb, SIc & SId.					
2.4.3 – Habitats Information	**60 – 79 OTB & TBB**	Yes	a	✓	✓
			b	✓	×
	≥80 GNN		c	✓	×
Rationale: There is detailed knowledge in relation to habitat distribution within English inshore and offshore waters - including vulnerable habitats, VMEs. Much of this data is now combined and presented at The EMODnet Seabed Habitats website (http://www.emodnet-seabedhabitats.eu), which provides a single portal for the outputs of the EUSeaMap and MESH projects and includes a seabed habitats mapping portal. This mapping portal also enables OSPAR priority habitats (VMEs) to be mapped. SG80 is met for SIa. There is detailed information available on the spatial and temporal patterns of fleet operations for vessels >12m via VMS, iVMS for smaller vessels is supposedly being rolled out across the UoAs. There is an expanding body of research into the impacts of different gear types onto different seabed types and the resulting rates of recovery. However, reliable information on the spatial extent of interaction and the location of use of the fishing gear is not yet available for <12m vessels. Therefore SIb does not meet SG80. Considering that the habitats management PI requires "information directly about the UoA", this would imply that, although the broad scale level of information of habitat impact may be sufficient, for OTB and TBB (the more impacting gears UoAs) more specific information is required with respect to monitoring of risk and fails to meet SG 80 for SIc.					
2.5.1 – Ecosystems Outcome	**60 – 79 OTB & TBB**	Yes	a	✓	×
	≥80 GNN				
Rationale: The demersal trawl gears UoAs in particular will have to demonstrate restrained impact on the ecosystem, which in terms of the gear types involved, would, for example, be a case of clearly demonstrating the footprint of the demersal gears UoAs as well as demonstrate active gear development / configuration to restrain impact across the wider benthos. SG 80 is not met.					
2.5.2 – Ecosystems Management	**≥80**	Yes	a	✓	✓

Performance Indicator	Draft scoring range	Data deficient?	Issue	SG60	SG80
			b	✓	✓
			c	-	✓
Rationale: There is an increasing focus on ecosystem management at the EU CFP and ICES advisory level, and post leaving the EU, the UK is currently continuing with this approach to marine management. Recent evidence for this includes the issuing of ICES of mixed fisheries advice. This meets SG80 for all SIs.					
2.5.3 – Ecosystems Information	**≥80**	Yes	a	✓	✓
			b	✓	✓
			c	-	✓
			d	-	✓
			e	-	✓
Rationale: The Channel and Celtic Sea ecoregion is a well-studied ecosystem. Good quality information is available for key elements e.g., abiotic & biotic productivity modelling, plankton recording; CEFAS trophic work, habitat mapping & fish stock assessment. The impacts of fisheries on these elements is adequately understood e.g., habitat damage, biomass removal, species size & maturation studies, etc. The nature of impacted communities is understood, e.g. target and bycatch spp. (composition, volume & function), ETP e.g. seal & skates / rays / birds are known; Consequences can be inferred from gear studies, impact assessments (and key elements in some cases), but not many specific studies; Some spatial data, seabird and cetacean surveys, WQ assessments, hydrographic and oceanographic studies. Biodiversity assessments can show ecological risks. Information covers both fisheries-dependent and fisheries-independent variables. This meets SG80 for all SIs.					

3.1.3 Principle 3

Performance Indicator	Draft scoring range	Data deficient?	Issue	SG60	SG80
3.1.1 – Legal and customary framework	**≥80**	No	a	✓	✓
			b	✓	✓
			c	✓	✓
Rationale: The UK has exited the EU with resulting amendments to UK legislation, but retains a robust framework in relation to P1, mainly based on the Marine & Coastal Access Act (2009) and the Fisheries Act (2020), and in relation to P2 through several pieces of legislation that where necessary have been updated to reflect the UK's new position as an independent coastal state. Co-operative roles with the EU are defined in the Trade & Cooperation Agreement and are now established with the Partnership Council and Specialised Committees becoming operational (first meeting in July 2021 set out how the SCF would be organised and operate; second meeting in October 2021 set out a work plan and procedures). This illustrates organised and effective cooperation between devolved administrations for UK stocks – SG80 is met for SIa. In English waters the MMO is the main fisheries management authority established under the Marine and Coastal Access Act (2009) which also sets out an independent appeals mechanism in relation to MMO licensing decisions. The MMO also operates a transparent complaints procedure for complaints against itself or IFCAs. For English inshore waters within 6 nautical miles, Inshore Fisheries and Conservation Authorities (IFCAs) make bylaws, which are also subject to a transparent dispute resolution mechanism with right to appeal. SG80 is met for SIb. The UK Fisheries Act (2020) allows SIc to be met at SG 80.					
3.1.2 – Consultation, roles and responsibilities	**≥80**	No	a	✓	✗
			b	✓	✗
			c	-	✓
Rationale: Defra sets fisheries policy for UK and English waters with the MMO & IFCAs implementing that policy as management authorities. Scientific advice is provided by Cefas on various fisheries matters; by the Joint Nature Conservancy Council (JNCC) for UK offshore waters and by Natural England as statutory consultee on wildlife and habitat conservation matters including protected sites & species. Meets SG8 for SIa. Scientific advice and international collaboration on fisheries science continues with the UK's MoU signed with ICES (UK was always an independent member of ICES) in which Cefas, England's scientific advisory body on fisheries, remains an active participant. Changes to legislation and the development of fishery management plans are subject to UK government consultation processes which provides opportunity for interested parties to be involved Consultation on Joint Fisheries Statements and Fisheries Management Plans, so meets SG 80 for SIb. As described above and evidenced by the ongoing JFS consultation, interested and affected parties are invited to respond to legislative changes, which are then reviewed and considered by the authorities before it can be finalised. SG80 is met for SIc.					

3.1.3 – Long term objectives	**≥80**	No	a	✓	✓
Rationale: The Fisheries Act 2020 has MSY and precautionary objectives in line with the MSC criteria. The JFS (draft currently out for consultation) sets out the fishery policy authorities interpretation of the eight objectives set out in the Act and how they will deliver them. SIa is met at SG 80.					
3.2.1 – Fishery-specific objectives	**60 – 79**	No	a	✓	✓
Rationale: The Fisheries Act and Marine Strategy set environmental objectives that are consistent with achieving P2 outcomes. The (draft) JFS suggests that fishery-specific management for monkfish is currently framed by the Fisheries Act (SG60 is met), which explicitly states objectives that are consistent with achieving Principles 1 & 2. Short-term P1 objectives are in place to review and if necessary change the TAC, so this meets SG 80.					
3.2.2 – Decision making processes	**≥80**	No	a	✓	✓
			b	✓	✓
			c	-	✓
			d	✓	✓
			e	✓	✓
Rationale: Rationale: General fishery management arrangements through Defra, the MMO and the IFCAs are well established for Southwestern waters, which include decision-making processes that are proven to result in measures to achieve fishery-specific objectives. This includes Defra introducing measures following UK/EU negotiations (such as new technical measures for mixed demersal fisheries in the Celtic Sea) (Defra, 2021) and IFCA bylaws to address specific fishery management requirements. SG80 is met for SIa. For monkfish annual TAC decisions show transparent and timely response to serious and other important issues, so SG80 is met for SIb. The UK Fisheries Act is precautionary, so meets SG 80 for SIc. For monkfish information is published on the ICES and EU websites in the form of ICES advice on stock status and the fishing opportunities subsequently agreed in response to this advice so SG80 is met for SId. There is no evidence that the fishery or management system is subject to any legal challenges so SG80 is met for SIe.					

3.2.3 – Compliance and enforcement	**60 - 79**	No	a	x	✓
			b	✓	✓
			c	✓	✓
			d	-	✓

Rationale: The MMO recently revised and updated its Compliance and Enforcement Strategy (MMO, 2020), which sets out its approach to monitoring and enforcement via a risk-based enforcement process. The IFCAs also operate a risk-based enforcement system. However in 2018 the European Commission found limited evidence of the effective implementation of the landing obligation by Member States and that there are concerns about the capacity of national and EU agencies to monitor and enforce compliance with the landing obligation (European Commission, 2018). Statements in the (draft) JFS suggest that UK authorities could introduce additional measures to ensure the MCS system is able to enforce all relevant management measures, strategies and/or rules, but there is no evidence to date that these are applied. The MMO recently revised and updated its Compliance and Enforcement Strategy (MMO, 2020), which sets out its approach to monitoring and enforcement via a risk-based enforcement process. However, we have found no recent evidence on the effectiveness of UK enforcement, including in relation to the LO and consequently SG80 is not met for SIa.

Section 19 of the Fisheries Act (UK Government, 2020) gives the powers to fisheries authorities to apply penalties (including disqualification of holding a license) and fines to those committing offences under the Act. Due legal process is followed to ensure sanctions are consistently applied. SG 80 is met for SIb.

There is some evidence available from the MMO (submission of logbooks, sales notes with corroboration through VMS & inspection) and IFCAs to demonstrate compliance with the management system and the provision of information important to the effective management of the fishery. SG 80 is met for SIc. There has been no evidence provided or identified of systematic non-compliance within these fisheries, so SG80 is met for SId.

3.2.4 – Management performance evaluation	**≥80**	No	a	✓	✓
			b	✓	✓

Rationale: The (draft) JFS states that “the fisheries policy authorities will implement appropriate monitoring against the specified indicators. The effectiveness of the FMPs will be regularly assessed, and the results reported at least every three years as part of the JFS report, as require by the Act. These reports will be laid before the UK’s legislatures. The report will set out the extent to which the policies contained in a FMP have been implemented and have affected sea fish stock levels in the UK.” SG80 is met for SIa.

The (draft) JFS states “Each FMP will be reviewed at least every six years or sooner if relevant evidence, international obligations, or wider events require a change in the policies set out in the FMP.” As the JFS states that “these reports will be laid before the UK’s legislatures” it is assumed that this could be considered as ‘regular external review’, and so SG80 would be met when the JFS is implemented.

4. Action Plan Extension

Standard requirement	Lead & partners	Timescale / milestones	Progress / outcome	Revised milestone
Action 1: Stock status (ANK) **Gear / Spp. / UoA # / Scope** **Demersal trawl OTB** – MON 1 – ; ANK 2 – ✓ **Beam trawl TBB** – MON 3 – ; ANK 4 – ✓ **Gillnets GN** – MON 5 – ; ANK 6 – ✓ **Overview** ANK only: Currently only have fishing mortality reference points (proxy), with relative fishing mortality well below $F_{MSYproxy}$. Recruitment has been reasonably strong over the past 5 – 10 years. Biomass index (in kg/hour) is also increasing from around 4 in 2003 to > 4 since 2018. Based on this will met SG 60 in SI (a), but not enough information to meet SG 80. Undergoing full stock assessment with Part 1 benchmarking stage over 2022, data compilation in Autumn 2022. Part 2 will be actual stock assessment expected in Feb 23, completed by March 2023 for assessment working group meeting in May 2023. **Performance indicator** 1.1.1 Stock status **60 - 79** Requirement at SG80: SIa: It is highly likely that the stock is above the PRI.. SIb: The stock is at or fluctuating around a level consistent with MSY.	Action lead: Lisa Readdy as representative of CEFAS and the ICES Working Group Partners: NWWAC & SWWAC members Resources: Engagement with ICES AC and WGs over stock assessment methodologies	**1a**. Yr 6 & 7: Stock assessment report for ANK published in May 2023	**Target ≥80** **Actions**: • Continued engagement with ICES over the ANK benchmarking and stock assessment process. **Progress**: To be determined.	

Standard requirement	Lead & partners	Timescale / milestones	Progress / outcome	Revised milestone
Action 2: Harvest strategy (ANK) **Gear / Spp. / UoA # / Scope** **Demersal trawl OTB** – MON – 1 – ; ANK – 2 – ✓ **Beam trawl TBB** – MON – 3 – ; ANK – 4 – ✓ **Gillnets GN** – MON – 5 – ; ANK – 6 – ✓ **Overview** ANK only: ICES have separate F advisories but combined by EU/UK at quota level. No desire to split TAC as can be managed via mixed fishery MSY. Mixed fisheries management approach includes MSY of multiple species and at present only includes MON, there is a likelihood that ANK will be included if the benchmark workshop is successful in developing a category 1 stock assessment or if the mixed fisheries model used for the Celtic Sea can successfully integrate category 3 stock assessments. ANK not in the mixed fishery model at present. There is a higher likelihood of inclusion in to the mixed fishery management system, with a successful assessment benchmark process scheduled for 2022/23, but inclusion might be delayed into 2024 owing to the complexity of the process to integrate new stocks in to the modelling framework. **Performance indicator** 1.2.1 Harvest strategy **60 - 79** Requirement at SG80: SIa: The harvest strategy is responsive to the state of the stock and the elements of the harvest strategy work together towards achieving stock management objectives reflected in PI 1.1.1 SG80. SIb: The harvest strategy may not have been fully tested but evidence exists that it is achieving its objectives.	Action lead: Lisa Readdy as representative of CEFAS and the ICES Working Group Partners: NWWAC & SWWAC members Resources: Engagement with ICES AC and WGs over stock assessment methodologies	**2a**. Yr 6 : no milestone	**Target 60-79** **Actions**: • Continued engagement with ICES over the ANK benchmarking and stock assessment process. **Progress**: • To be determined.	
		2ba. Yr 7: ANK included in mixed fishery MSY harvest strategy	**Target ≥80** **Actions:** • Continued engagement with ICES over the ANK benchmarking and stock assessment process, culminating in the inclusion of ANK in the mixed fishery MSY harvest strategy. **Progress**: • To be determined.	

Standard requirement	Lead & partners	Timescale / milestones	Progress / outcome	Revised milestone
Action 3: Harvest control rules and tools **Gear / Spp. / UoA # / Scope** **Demersal trawl OTB** – MON 1 ✓; ANK 2 ✓ **Beam trawl TBB** – MON 3 ✓; ANK 4 ✓ **Gillnets GN** – MON 5 ✓; ANK 6 ✓ **Overview** Last joint quota for the last five years has remained stable. MON fishing pressure below F_{MSY} and SSB well above MSY $B_{trigger}$ (SIa). Robust to most uncertainties (SIb). But with ANK not included in mixed fisheries assessment both species may not score >80 in SIc. ANK has proxy F_{MSY} and has been below in recent years, so also good (SIa). Stock status has some uncertainties (SIb). But with ANK not included in mixed fisheries assessment may not score >80 in SIc. **Performance indicator** 1.2.2 Harvest control rules and tools **60 - 79** Requirement at SG80: SIa: Well defined HCRs are in place that ensure that the exploitation rate is reduced as the PRI is approached, are expected to keep the stock fluctuating around a target level consistent with (or above) MSY. SIb: The HCRs are likely to be robust to the main uncertainties. SIc. Available evidence indicates that the tools in use are appropriate and effective in achieving the exploitation levels required under the HCRs.	Action lead: Lisa Readdy as representative of CEFAS and the ICES Working Group Partners: NWWAC & SWWAC members Resources: Engagement with ICES AC and WGs over stock assessment methodologies	**3a**. Yr 6 : no milestone	**Target 60-79** **Actions**: • Continued engagement with ICES over the ANK benchmarking and stock assessment process. **Progress**: To be determined.	
		3b. Yr 7: ANK included in mixed fishery MSY harvest strategy	**Target ≥80** **Actions:** • Continued engagement with ICES over the ANK benchmarking and stock assessment process, culminating in the inclusion of ANK in the mixed fishery MSY harvest strategy. **Progress**: To be determined.	

Standard requirement	Lead & partners	Timescale / milestones	Progress / outcome	Revised milestone
Action 4: Information and monitoring (ANK) **Gear** / **Spp.** / **UoA #** / **Scope** **Demersal trawl OTB**: MON 1; ANK 2 ✓ **Beam trawl TBB**: MON 3; ANK 4 ✓ **Gillnets GN**: MON 5; ANK 6 ✓ **Overview** New research that shows potential for rehybridization makes this complicated. Smaller fish are more difficult to distinguish. MON / ANK ratio is estimated from sampling, but there is some uncertainty in the mainly port-based sampling (there is also some limited on-board sampling. Forster's work showed there is little that industry can do., esp. with hybrids. Could be possible to use REM cameras e.g. after head and tail removed to show black membrane and test via the new FISP REM project (very obvious for the larger fish, but smaller fish just above MLS is less obvious). Need to be aware that the UK only lands a small portion of the total TAC. FR & ESP. separate landings by species in some ports. Genetic studies still on-going (Cefas contributed). ANK: Insufficient information on stock biomass to meet SIa, although this is being addressed over the next year or so. **Performance indicator** 1.2.3 Information and monitoring **60 - 79** Requirement at SG80: SIa: Sufficient relevant information related to stock structure, stock productivity, fleet composition and other data are available to support the harvest strategy.	Action lead: Lisa Readdy as representative of CEFAS and the ICES Working Group Partners: NWWAC & SWWAC members Resources: Engagement with ICES AC and WGs over stock assessment methodologies	**4a**. Yr 6 & 7: Stock assessment report for ANK published in May 2023	**Target ≥80** **Actions**: • Continued engagement with ICES over the ANK benchmarking and stock assessment process. **Progress**: • To be determined.	

Standard requirement	Lead & partners	Timescale / milestones	Progress / outcome	Revised milestone
Action 5: Secondary species management (OTB & TBB only) **Gear / Spp. / UoA # / Scope** **Demersal trawl OTB** – MON 1 ✓; ANK 2 ✓ **Beam trawl TBB** – MON 3 ✓; ANK 4 ✓ **Gillnets GN** – MON 5; ANK 6 **Overview** It is unclear whether management strategies exist for different gurnard species. Pouting is thought to have very minimal management measures and cuttlefish are currently not managed at all. While generic management measures may apply e.g. restricted licencing, monitoring of catches, MPAs, technical regulations and the Landing Obligation, it is unclear whether these are effective to the specific species and initial reviews of the Landing Obligation have suggested limited effectiveness. This is not likely meet to SG80 for SIa, SIb or SIc.. **Performance indicator** 2.2.2 Secondary species management **60 - 79** Requirement at SG80: SIa. There is a partial strategy in place, if necessary, for the UoA that is expected to maintain or not hinder rebuilding of main secondary species at/to levels which are highly likely to be above biologically based limits or to ensure that the UoA does not hinder their recovery. SIb. There is some objective basis for confidence that the measures/ partial strategy will work, based on some information directly about the UoA and/or species involved SIc. There is some evidence that the measures/ partial strategy is being implemented successfully.	Action leads: Steering group MSC to investigate funding, if necessary Partners: Cefas & Industry Stakeholders: Resources: Expertise to manage main and minor secondary catch.	**5a**. Yr 6 : Internal FIP paper prepared on management needs and options for main secondary species.	**Target 60-79** **Actions**: • Review of management needs and options for main secondary species such as gurnards, pouting and cuttlefish caught in OTB and TBB. Focus both at stock management level (Cefas) and operational level (industry). **Progress**: To be determined.	
		5b. Yr 7: Include secondary species management strategy (partial or full).	**Target ≥80** **Actions:** • Include secondary species management strategy (partial or full) in FMP, including (i) some objective basis for confidence that the measures/ partial strategy will work, based on some information directly about the UoA and/or species involved and (ii) some evidence that the measures/ partial strategy is being implemented successfully. **Progress**: To be determined.	

Standard requirement	Lead & partners	Timescale / milestones	Progress / outcome	Revised milestone
Action 6: Secondary species information (OTB & TBB only) **Gear** / **Spp.** / **UoA #** / **Scope** **Demersal trawl OTB** — MON — 1 — ✓ ANK — 2 — ✓ **Beam trawl TBB** — MON — 3 — ✓ ANK — 4 — ✓ **Gillnets GN** — MON — 5 ANK — 6 **Overview** There is sufficient information on the biology of each of the main secondary species (e.g. length at maturity, maximum length, common length, maximum weight, maximum age, distribution, depth range, distribution, life cycle and mating behaviour). According to MRAG Americas (2020), based on availability of biological data and also taking into consideration the lack of spatial extent, especially those species not covered by ICES assessments (such as cuttlefish and gurnards), the two mobile gears would not meet SG 80 for SIc. **Performance indicator** 2.2.3 Secondary species information **60 - 79** Requirement at SG80: SIc. Information is adequate to support a partial strategy to manage main secondary species.	Action leads: Steering group MSC to investigate funding, if necessary Partners: Cefas & Industry Stakeholders: Resources: Expertise to manage main and minor secondary catch.	**6a**. Yr 6 & 7: Short report for inclusion in the FMP on the spatial intensity of main secondary species catches within the UoA.	**Target ≥80** **Actions**: • Assess spatial intensity of main secondary species catches within the UoA to support the development of management measures in Action 5. **Progress**: To be determined.	

Standard requirement	Lead & partners	Timescale / milestones	Progress / outcome	Revised milestone
Action 7: ETP management (GN only) **Gear / Spp. / UoA # / Scope** **Demersal trawl OTB** – MON 1; ANK 2 **Beam trawl TBB** – MON 3; ANK 4 **Gillnets GN** – MON 5 ✓; ANK 6 ✓ **Overview** The common dolphin and harbour porpoise are recorded as bycatch in other gill net fisheries (for example Cornish hake fishery) and it is therefore considered here that the UoAs in this Pre-assessment are likely to also interact with these species, albeit rarely. Given over 70% of GN vessels are <12 m and therefore do not need pingers this may fail to reach SG 80 for SIa, SIc & SId. **Performance indicator** 2.3.2 ETP management **60 - 79** Requirement at SG80: SIa: There is a strategy in place for managing the UoA's impact on ETP species, including measures to minimize mortality, which is designed to be highly likely to achieve national and international requirements for the protection of ETP species. SIc. There is an objective basis for confidence that the partial strategy/ strategy will work, based on information directly about the UoA and/or the species involved. SId. There is some evidence that the measures / strategy is being implemented successfully.	Action leads: CFPO. Partners: CEFAS, Industry, JNCC , MMO, Seafish Science Advisory Group (SAG) Stakeholders: Seafish, NWWAC & SWWAC members SMRU Resources: Expertise to assess fisheries-related impacts on ETP populations, and to develop both alternative management measures to combat these and a long-term risk-monitoring program.	**7a**. Yr 6 : Independent review of ETP interactions with gillnets, with recommendations, prepared and approved by the steering group. **7b**. Yr 7: Report on the progress in rolling out ETP mitigation measures in the GN UoAs and an assessment of their effectiveness (see also Action 8 overleaf).	**Target 60-79** **Actions**: • Independent review of ETP interactions with gillnets throughout the UoAs to assess the risk to the species involved. • Based on the above, recommend practical, efficient and cost-effective mitigation approaches that will constitute a strategy for managing the UoA's impact on ETP species, including measures to minimize mortality, which is designed to be highly likely to achieve national and international requirements for the protection of ETP species. Likely focus on <12 m boats (which don't have to use pingers) and inshore waters where interaction rates are likely to be higher. **Progress**: To be determined. **Target ≥80** **Actions:** • Pilot-testing of mitigation approaches and roll-out of refined plan in GN metiers where a medium to high risk of interaction is assessed. **Progress**: To be determined.	

Standard requirement	Lead & partners	Timescale / milestones	Progress / outcome	Revised milestone
Action 8: ETP information (GN only) **Gear** / **Spp.** / **UoA #** / **Scope** **Demersal trawl OTB** – MON 1; ANK 2 **Beam trawl TBB** – MON 3; ANK 4 **Gillnets GN** – MON 5 ✓; ANK 6 ✓ **Overview** There is some quantitative information on ETP catches, based on the catch profile estimates, which is adequate to assess UoA related mortality and impact on ETPs. However the information available is not sufficient to determine trends and support a strategy to manage ETP interactions. It is not clear whether the observer coverage is sufficient to represent the intensity of all UoA activities, in particular as no records of marine mammal / seabird interactions were available for this pre-assessment, so will failed to meet SG80 for SIba strategy and thus fails to meet SG 80 for SIb. **Performance indicator** 2.3.3 ETP information **60 - 79** Requirement at SG80: SIb: Information is adequate to measure trends and support a strategy to manage impacts on ETP species.	Action leads: CFPO. Partners: CEFAS, Industry, JNCC , MMO, Seafish Science Advisory Group (SAG) Stakeholders: Seafish, NWWAC & SWWAC members SMRU Resources: Expertise to assess fisheries-related impacts on ETP populations, and to develop both alternative management measures to combat these and a long-term risk-monitoring program.	**8a**. Yr 6-7 : Information on the frequency, nature and outcome of interactions of potting gear with marine megafauna is available and adequate to measure trends and support a strategy to manage impacts on ETP species.	**Target 60-79** **Actions**: • Review of different cetacean and other megafauna reporting programs (e.g. CleanCatch) conducted to determine reporting coverage and assess informational spatial / metier gaps. Better to keep reporting system separate form logbooks. • Client body to propose a system that compiles data on the frequency, nature and outcome of interactions of gillnets with marine megafauna from different sources and addresses any gaps. These data should be compiled on a regular basis and made readily available to any interested stakeholder. **Progress**: To be determined.	

Standard requirement	Lead & partners	Timescale / milestones	Progress / outcome	Revised milestone
Action 9: Habitats outcome **Gear** / **Spp.** / **UoA #** / **Scope** **Demersal trawl OTB**: MON 1 ✓; ANK 2 ✓ **Beam trawl TBB**: MON 3 ✓; ANK 4 ✓ **Gillnets GN**: MON 5; ANK 6 **Overview** For the two mobile gears, the Round 3 FIP pre-assessment for mixed fisheries in the SW and Celtic Sea suggests that the larger scale location and intensity of all the vessels need to be available in order to correspond these with underlying main habitats and meet SG 80. Therefore this does not meet SG 80 for SIa (commonly encountered habitats) or SIb (VMEs). It is understood from Defra that IFCAs continue to assess the need for MPA management measures in their districts. For offshore sites (& those within 6-12nm), the MMO intends to apply management measures in all MPAs within three years. This suggests that management measures will be in place on MPAs by, say, mid 2024 and not before and that a confident pass for PI 2.4.2 may not be possible before this date. **Performance indicator** 2.4.1 Habitat outcome **60 - 79** Requirement at SG80: SIa: The UoA is highly unlikely to reduce structure and function of the commonly encountered habitats to a point where there would be serious or irreversible harm. SIb: The UoA is highly unlikely to reduce structure and function of the VME habitats to a point where there would be serious or irreversible harm.	Action leads: Steering group Partners: CEFAS, Industry, JNCC, MMO, Defra, Seafish Science Advisory Group (SAG) Resources: Expertise to assess fishers-related impacts on habitats, and to develop both alternative management measures to combat these and a long-term risk-monitoring program.	**9a**. Yr 6 : Summary report on the footprint, scale and intensity of mobile gear fisheries in the UoA against commonly encountered habitats and VMEs.	**Target 60-79** **Actions**: • Using both previous FIP reports and new information, compile existing data on the footprint of the spatial mobile (OTB/TBB) fisheries compared to habitat maps (inc. both commonly encountered habitats and VMEs), including any habitat management (e.g. MPAs) boundaries. • Assess information on habitat recovery rates from both OTB & TBB fishing in both commonly encountered habitats and VMEs to guide habitat management measures to be developed in Action 10 (next) **Progress**: To be determined.	

Standard requirement	Lead & partners	Timescale / milestones	Progress / outcome	Revised milestone
Action 10: Habitats management **Gear** / **Spp.** / **UoA #** / **Scope** **Demersal trawl OTB** — MON 1 ✓; ANK 2 ✓ **Beam trawl TBB** — MON 3 ✓; ANK 4 ✓ **Gillnets GN** — MON 5; ANK 6 **Overview** The network of designated areas, including MPAs and SACs, and fisheries management measures, together form a partial strategy, that if applied as intended would be expected to meet SG80 for SIa. While measures are likely to work (SI b at SG60 is met), no site-specific management measures have been proposed by Defra for any of the MCZs, other than a generic objective of "Recover to favourable condition" for most of the habitats described and this is likely to fail at SG 80 for SIb, SIc & SId. **Performance indicator** 2.4.2 Habitat management **60 - 79** Requirement at SG80: SIb: There is some objective basis for confidence that the measures/ partial strategy will work, based on information directly about the UoA and/or habitats involved. SIc: There is some quantitative evidence that the measures/partial strategy is being implemented successfully. SId: There is some quantitative evidence that the UoA complies with both its management requirements and with protection measures afforded to VMEs by other MSC UoAs/non-MSC fisheries, where relevant.	Action leads: Steering group Partners: CEFAS, Industry, JNCC, MMO, Defra, Seafish Science Advisory Group (SAG) Resources: Expertise to assess fishers-related impacts on habitats, and to develop both alternative management measures to combat these and a long-term risk-monitoring program.	**10a**. Yr 6 -7: Site-specific management measures in place for designated protected areas.	**Target 60-79** **Actions**: • Work with the IFCAs, Defra and MMO to formulate site-specific management measures for designated protected areas. It is important that industry engage to ensure that these measures are relevant, practical and effective. **Progress**: To be determined.	

Standard requirement	Lead & partners	Timescale / milestones	Progress / outcome	Revised milestone
Action 11: Habitats information **Gear** / **Spp.** / **UoA #** / **Scope** **Demersal trawl OTB**: MON 1 ✓; ANK 2 ✓ **Beam trawl TBB**: MON 3 ✓; ANK 4 ✓ **Gillnets GN**: MON 5; ANK 6 **Overview** There is detailed knowledge in relation to habitat distribution within English inshore and offshore waters - including vulnerable habitats, VMEs & SG80 is met for SIa. There is detailed information available on the spatial and temporal patterns of fleet operations for vessels >12m via VMS, iVMS for smaller vessels is supposedly being rolled out across the UoAs. However, reliable information on the spatial extent of interaction and the location of use of the fishing gear is not yet available for <12m vessels. Therefore SIb does not meet SG80. Considering that the habitats management PI requires information directly about the UoA, this would imply that, although the broad scale level of information of habitat impact may be sufficient, for OTB and TBB more specific information is required with respect to monitoring of risk and fails to meet SG 80 for SIc. **Performance indicator** 2.4.3 Habitat information **60 - 79** Requirement at SG80: SIb: Information is adequate to allow for identification of the main impacts of the UoA on the main habitats, and there is reliable information on the spatial extent of interaction and on the timing and location of use of the fishing gear. SIc: Adequate information continues to be collected to detect any increase in risk to the main habitats.	Action leads: Steering group Partners: CEFAS, Industry, JNCC, MMO, Defra, Seafish Science Advisory Group (SAG) Resources: Expertise to assess fishers-related impacts on habitats, and to develop both alternative management measures to combat these and a long-term risk-monitoring program.	**10a**. Yr 6 -7: Spatial data made on the spatial extent of habitat interaction and on the timing and location of use of the fishing gear.	**Target 60-79** **Actions**: • As iVMS is rolled out over the UoA, adequate information is made available on the spatial extent of habitat interaction and on the timing and location of use of the fishing gear within the UoA by <12 m vessels. • For all the UoAs, information on the spatial intensity of mobile gears continues to be collected and is sufficient to detect increased risk to the main habitats. **Progress**: To be determined.	

Standard requirement	Lead & partners	Timescale / milestones	Progress / outcome	Revised milestone
Action 12: Ecosystem outcome **Gear / Spp. / UoA # / Scope** **Demersal trawl OTB** – MON – 1 – ✓ ANK – 2 – ✓ **Beam trawl TBB** – MON – 3 – ✓ ANK – 4 – ✓ **Gillnets GN** – MON – 5 ANK – 6 **Overview** The demersal trawl gears UoAs in particular will have to demonstrate restrained impact on the ecosystem, which in terms of the gear types involved, would, for example, be a case of clearly demonstrating the footprint of the demersal gears UoAs as well as demonstrate active gear development / configuration to restrain impact across the wider benthos. SG 80 is not met. **Performance indicator** 2.5.1 Ecosystem outcome **60 - 79** Requirement at SG80: SIa: The UoA is highly unlikely to disrupt the key elements underlying ecosystem structure and function to a point where there would be a serious or irreversible harm.	Action leads: Steering group MSC to investigate funding Partners: CEFAS, Industry, JNCC, Seafish SAG Resources: Expertise in ecosystem analysis and use of the RBF and SICA tools.	**12a**. Yr 6 : Summary report on the footprint, scale and intensity of mobile gear fisheries in the UoA against commonly encountered habitats and VMEs.	**Target 60-79** **Actions (common with Action 9)**: • Using both previous FIP reports and new information, compile existing data on the footprint of the spatial mobile (OTB/TBB) fisheries compared to habitat maps, including any ecosystem management (e.g. MPAs) boundaries. • Assess information on ecosystem recovery rates from both OTB & TBB fishing in both commonly encountered habitats and VMEs to guide habitat management measures to be developed in Action 10. **Progress**: To be determined.	

Standard requirement	Lead & partners	Timescale / milestones	Progress / outcome	Revised milestone
Action 13: Compliance and enforcement **Gear / Spp. / UoA # / Scope** **Demersal trawl OTB** – MON – 1 – ✓ **Demersal trawl OTB** – ANK – 2 – ✓ **Beam trawl TBB** – MON – 3 – ✓ **Beam trawl TBB** – ANK – 4 – ✓ **Gillnets GN** – MON – 5 – ✓ **Gillnets GN** – ANK – 6 – ✓ **Overview** The MMO recently revised and updated its Compliance and Enforcement Strategy which sets out its approach to monitoring and enforcement via a risk-based enforcement process. The IFCAs also operate a risk-based enforcement system. However in 2018 the European Commission found limited evidence of the effective implementation of the landing obligation by Member States and that there are concerns about the capacity of national and EU agencies to monitor and enforce compliance with the landing obligation. Statements in the (draft) JFS suggest that UK authorities could introduce additional measures to ensure the MCS system is able to enforce all relevant management measures, strategies and/or rules, but there is no evidence to date that these are applied. The MMO recently revised and updated its Compliance and Enforcement Strategy, which sets out its approach to monitoring and enforcement via a risk-based enforcement process. However, we have found no recent evidence on the effectiveness of UK enforcement, including in relation to the LO and consequently SG80 is not met for SIa. **Performance indicator** 3.2.3 – Compliance and enforcement **60 - 79** Requirement at SG80: SIa: A monitoring, control and surveillance system has been implemented in the fishery and has demonstrated an ability to enforce relevant management measures, strategies and/or rules.	Action leads: Steering group MSC to investigate funding Partners: CEFAS, Industry, JNCC, Seafish SAG Resources: Expertise in ecosystem analysis and use of the RBF and SICA tools.	**13a**. **Yr 6 :** Consultation on potential additional measures to ensure effective control and enforcement of vessels within the UoAs, resulting in draft control & enforcement measures. **13b**. **Y7:** Consult on control & enforcement measures (M1-6) and then implement finalised control & enforcement measures (M7-12).	**Target 60-79** **Actions**: • Catches of quota species are subject to the landing obligation (LO). Reviews have found that existing control measures cannot effectively implement the LO. • The UoAs must provide evidence of effective control and enforcement of all regulatory requirements, including the Landing Obligation. **Progress**: • To be determined.	

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