



Three-Year Audit Template

Introduction to the tool

The three-year audit template was developed by FishChoice and is based on the FisheryProgress FIP Review Guidelines and feedback from the FisheryProgress Technical Oversight Committee. The audit template is designed to present key information about the current performance of the fishery and to verify reported progress on www.FisheryProgress.org. **FisheryProgress requires the use of three-year audit template and information must be in English.**

Text in italics provides additional guidance about information that should be included in each section. Text in red provide examples for possible responses.

Basic FIP information

Fill in the following table. The management authority is the regulatory authority with fishing management responsibilities; there may be multiple authorities where joint jurisdictional responsibilities occur.

Target species scientific name and common name	<i>Pecten maximus</i> (King scallop)
Fishery location	Western Channel (7e) and Eastern Channel (7d)
Gear type(s)	Mechanical dredge
Catch quantity (weight)	Estimated: 12,812 metric tons
Vessel type(s) and size(s)	Scallop dredger, with majority of fleet 15m+
Number of vessels	Approx. 90
Management authority	UK government bodies: Cefas, MMO, Defra

Stakeholder consultation & meetings

Fill in the following table and include a high-level summary of the subjects that were discussed. Additional rows may need to be added or modified depending on number of participants and meetings completed.

Name	Affiliation	Date and Subjects Discussed
Jan Hiddink	Bangor Uni	<p style="text-align: center;"><u>9th April 2019</u></p> <ul style="list-style-type: none"> • Review of Principle 1, 2 and 3 actions • Harmonisation with the Project UK Round 2 – UK scallop FIP • Update from Cornwall IFCA re: tagged scallops to recalibrate efficiency measures • Discussion around development of observer programme for ICES area 7d • Review of 2018 MSc student ETP analysis <p style="text-align: center;"><u>5th September 2019</u></p> <ul style="list-style-type: none"> • Review of Principle 1, 2 and 3 actions • Update from the Scallop Industry Consultation Group (SICG) on harvest strategy co-management with Defra • Terms of Reference for larval distribution modelling • Update post-doc research on habitat interaction with scallop gear in the Channel
Barry Young	Brixam Trawler Agents	
Andy Lawler	Cefas	
Ewen Bell	Cefas	
Paul Trebilcock	Cornish Fish Producers Organisation	
Iain Spear	Coombe & Scallop Association	
Colin Trundle	Cornwall IFCA	
Helen Hunter	Defra	
Coco Bagley	Defra	
Sarah Clark	Devon IFCA	
Lauren Parkhouse	Devon IFCA	
Ed Polley	Falfish	
Jessica Inkster	Falfish	
Mark Greet	Falfish	
Nathan de Rozarieux	Falfish	
Mike Mitchell	Marks & Spencer	
Estelle Brennan	Labeyrie	
Robyn Cloake	Labeyrie	<p style="text-align: center;"><u>19th February 2020</u></p> <ul style="list-style-type: none"> • Review of Principle 1, 2 and 3 actions • Update on Cefas stock assessments • Commissioning length-weight estimates to provide quantitative bycatch information • Initial results from post-doc research on habitat interaction with scallop gear in the Channel • SICG harvest control rules proposal to government presented. <p style="text-align: center;"><u>3rd July 2020</u></p> <ul style="list-style-type: none"> • Discussed results from habitat research report and next steps
Hannah Macintyre	Marks & Spencer	
Andrew Brown	Macduff	
Claire Pescod	Macduff	
Hubert Gieschen	Marine Management Organisation	
Simon Dixon	Marine Management Organisation	
Rachel Irish	Marine Management Organisation	
Joseph Prosho	Morrison's	
Rob Whiteley	Natural England	
Mark Duffy	Natural England	
Adam Townley	New England Seafood International	
Ally Dingwall	Sainsbury's	
Moyra Patience	Samways	
Gus Caslake	SeaFish	
Pia Bateman	Southern IFCA	

		<p style="text-align: center;"><u>11th August 2020</u></p> <ul style="list-style-type: none"> • Formal development of Fishery Management Plan • Review of FIP's ETP list • Review of FIPs bycatch
Simon Pengelly	Southern IFCA	<p style="text-align: center;"><u>26th January 2021</u></p> <ul style="list-style-type: none"> • Review of Principle 3 actions • Information provided about the MSC certification process • FMP updates and alignment with government FMP strategy <p style="text-align: center;"><u>2nd February 2021</u></p> <ul style="list-style-type: none"> • Review of Principle 1 and 2 actions • Stock status' for scallop beds in UoA • Brexit update for scallops sector • Cefas larval project
Jen Lewis	Sussex IFCA	
Femke de Boer	Scottish White Fish Producers Association	
Mike Park	Scottish White Fish Producers Association	
Jim Portus	South Western Fish Producers Organisation	
Juliette Hatchman	South Western Fish Producers Organisation	
Helena Delgado-Nordmann	Tesco	
Chloe North	Western Fish Producers Organisation	
Clarus Chu	WWF	
Abigayil Blandon	WWF	
Hayley Swanlund	WWF	
Bryce Stewart	University of York	

Summary of MSC performance indicator scores

Fill in the likely scoring category (<60, 60-79, ≥80) for each performance indicator (PI) and provide a rationale for the score by referring to the text used in v2.0 of the MSC Standard's scoring guideposts for the related Performance Indicator.

Principle	Component	Performance Indicator	Current Score	Rationale and Justification
1	Outcome	1.1.1	60-79	<p>Biomass reference points (Blim, Bpa or BMSY) are not defined for the Channel scallop stocks.</p> <p>Cefas recommend that the fishing mortality (F) Maximum Sustainable Yield (MSY) reference point (FMSY) for Channel scallop stocks is set at the fishing mortality that generates 35% of the virgin spawning potential (F35%SpR). Using this as the FMSY, the Cefas model generates an MSY candidate for the harvest rate (HRMSY) of each stock.</p> <p>The most recent stock assessment in was published on 14 April 2021, and is the fourth annual stock assessment undertaken.</p> <p>27.7.d.N: the harvest rate dropped significantly in 2019 to just above HR_{MSY} and in 2020 dropped further to a level at HR_{MSY}.</p> <p>27.7.e.I: the harvest rate has been above the MSY candidate in 2017, but fell in 2018 to levels consistent with MSY where it has remained fluctuating around MSY from 2019 to 2020.</p> <p>27.7.e.L: the harvest rate was over 3 times the MSY in 2018, but has dropped significantly in 2019, with this downward trend continued in 2020. The HR is currently approaching HR_{MSY}. It would be expected that efforts continue to maintain the harvest rate at this level.</p> <p>27.7.e.O: the harvest rate has been well below the MSY candidate reference point throughout the time series. Current harvesting is appropriate. It is considered likely the stock is currently above the point where recruitment would be impaired (PRI).</p> <p>The use of the harvest rate reference points (35% of spawner recruit) is a proxy. Three years data is needed for certainty. Biomass reference points would need longer e.g. 5 years or more to be identified and incorporated into management, and is therefore likely to be a condition on the fishery should it move into full assessment.</p>
		1.1.2	Stock rebuilding	n/a

	Management	1.2.1	Harvest Strategy	<60	Scallop Industry Consultation Group (SICG) Management Working Group set up to develop an UK-wide scallop Fisheries Management Plan (FMP). Interventions and management options proposed are currently under review by Defra. Progress on a joint management plan with France is expected after the EU-UK fisheries agreement is finalized. Preliminary harvest strategies are yet to be embedded in the management process.
		1.2.2	Harvest control rules and tools	<60	HCR proposals have been out for consultation through the SICG, Defra and other UK Fishing Administrations. However, proposals for HCRs remain to be finalized and agreed.
		1.2.3	Information and monitoring	>80	Good overall knowledge with a slight gap in the stock assessment data around the distribution of scallop larvae and their interactions across dredged and undredged areas. While this data gap remains, from an MSC PI perspective sufficient information from the stock assessments and knowledge of the fishery exist to meet SG80 and therefore this work might represent a recommendation.
		1.2.4	Assessment of stock status	>80	The assessment is appropriate for the stock and for the harvest control rule.
2	Primary species	2.1.1	Outcome	>80	Based on currently available evidence (landings data) there are no main primary species. The target species comprise 98% of landings. All other species are 1% or less of the catch and therefore SG80 is met. Monks or Anglers comprise 1% of landings so would be regarded as minor. Stock assessment indicates that <i>Lophius piscatorius</i> in divisions 7.b–k, 8.a–b, and 8.d (southern Celtic Seas, Bay of Biscay) fishing mortality (up to 2014) is below the FMSY proxy and stock biomass (up to 2015) is above the MSY B trigger proxy. All other primary species comprise less than 1% so would not need to be scored as a main species. However, other primary species are likely to be caught, such as sole and plaice. It will therefore be important to verify the catch composition of these to verify that they are not “main” (see 2.1.3).
		2.1.2	Management strategy	>80	Any main primary species are (by definition of being primary) managed according to reference points and informed by stock assessment, in turn informed by appropriate levels of data collection. A recent review of alternative measures to reduce unwanted catch has been completed for UK scallop dredge fisheries.
		2.1.3	Information	60-79	It is expected that the data available for the Eastern and Western Channel would be sufficient to inform the species characterisation for Principle 2 Primary & Secondary assessment purposes. The lack of data for non-English vessels is

					<p>not a significant concern, as they are fishing in the same area, so observer data and catch data from scallop surveys for English vessels would be representative.</p> <p>Analyzing catch data by % of biomass remains an action for the FIP.</p>
Secondary species	2.2.1	Outcome	>80	<p>The preassessment identified a number of commercial secondary species (i.e. they do not have reference points) that have the potential to be caught in scallop dredgers. Scores for the species identified came out at Green shore crab (>80); Swimming crab (>80); Lesser spotted dogfish (60-80); Nursehound (60-80); Dragonet (>80); Green sea urchin (>80); Starry ray (>80); Smelt (>80); Ocean quahog (60-80). However, no species were identified as 'main'.</p>	
	2.2.2	Management strategy	60-79	<p>A review of alternative measures has been undertaken for mechanical dredge targeting king scallop. The review includes consideration of whether alternative gear or other measures have been implemented as appropriate.</p>	
	2.2.3	Information	60-79	<p>Some secondary species data available but would be strengthened with the delivery of Cefas to analyse catch data and provide greater quantitative data on proportion of catch by species weight (by July 2021).</p>	
ETP species	2.3.1	Outcome	60-79	<p>Holden (2017)¹ provides a report into the risk to ETP species from scallop dredging in the Channel scallop fishery. This report indicated that the direct effects of the UoA are highly unlikely to not hinder recovers of ETP species. This GIS-based study includes a gaps analysis and future research priorities and an action plan.</p>	
	2.3.2	Management strategy	60-79	<p>Based on the review of ETP species list, the requirement for management should be reviewed. It is noted that occurrence of elasmobranchs is considered rare and individuals are returned to sea, with some measure in place to ensure mortality is reduced. Mapping of Marine Protected Areas within the Channel, including determination of the features protected has been undertaken to determine appropriateness of management measures in place.</p>	
	2.3.3	Information	60-79	<p>There is a reasonable level of information – with species distribution, some trend information coupled with good information on fleet activity and good understanding of the level of interaction with the fleet.</p>	

¹ Holden, R (2017). Managing UK Fisheries for Risk: An Ecological Risk Assessment of Endangered, Threatened and Protected (ETP) Species and their Interaction with the Channel Scallop Fishery. A report submitted in partial fulfilment of the requirements for the MSc and/or the DIC. Imperial College, London. 128 pp + appendices

					A Seafish project is underway to document and map MPAs and fishing restrictions to inform fishermen within the UoA of the FIP. This project has been extremely positively received by industry. The project is expected to conclude in October 2021. In March 2021 a new bycatch reporting app was launched by Clean Catch UK. Through collaboration with the UK fishing industry, Clean Catch UK have produced an app designed to gather data on accidental wildlife bycatch. Steering Group will consider trialing the clean catch app.
Habitats	2.4.1	Outcome	60-79	The UoA is unlikely to reduce structure and function of the commonly Encountered habitats to a point where there would be serious or irreversible harm. Across the two approaches modelled in the post-doc research the FIP commissioned (Sensitive species, and benthic habitat tool) the relative benthic status for only one habitat type scored below the 0.8 RBS threshold – deep circalittoral coarse sediment – which was detected with the sensitive species model.	
	2.4.2	Management strategy	60-79	The Post Doc habitats work identified one key recommendation for habitat management of a VME designated within MCZ. Possible management approaches to address this recommendation are yet to be considered by the Steering Group.	
	2.4.3	Information	>80	A two-year post-doctoral study (started January 2018) commissioned from Bangor University, ending March 2020 (e.g. end Y3) and is now complete, meeting three different actions. Habitat modelling, cameral use and fishermen interviews. The nature, distribution and vulnerability of the main habitats in the UoA area are known at a level of detail relevant to the scale and intensity of the UoA.	
Ecosystem	2.5.1	Outcome	60-79	The SICA undertaken by Cefas identified the functional group composition as the most relevant ecosystem sub-component to be affected by the fishery. The report concluded that the consequence score is likely to be 60 “due to the spatial and temporal footprint of the activity as well as the type of gear used and its known impact on the benthos”. As a result of this, the potential management actions are aligned with the objectives of Action 6 (for ETP) and Action 7 (for habitats), which include spatial restrictions to fishing operations, specifically through IFCA Byelaws. The SICA also identified a lack of knowledge on the <12m vessels.	
	2.5.2	Management strategy	>80	No actions. There is an increasing focus on ecosystem management at the EU CFP and ICES advisory level. Recent evidence for this includes the issuing of ICES of mixed fisheries advice and proposals for mixed fisheries multi-annual	

					management plans. Although these do not include scallop dredging, they do at least demonstrate that within the overall management system more integrated ecosystem advice is being built into fisheries management. Please see the 2016 pre-assessment for more detail.
		2.5.3	Information	>80	No actions. 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 etc; and the nature of impacted communities is understood e.g. target and bycatch species etc; Consequences can be inferred from gear studies, impact assessments (and key elements in some cases), but not many specific studies.
3	Governance and Policy	3.1.1	Legal and customary framework	>80	Within the UK there is an effective national legal system implementing the Fisheries Act. However, at the time of any full assessment it will be important to demonstrate that there is still "organized and effective cooperation with other parties" such as the EU to deliver management outcomes consistent with MSC Principles 1 & 2
		3.1.2	Consultation, roles and responsibilities	60-79	The draft management agreements for the fisheries / stock units and proposals put out for consultation are still to be reviewed by Steering Group and finalized. Organizations and individuals involved in the management process have been identified. Functions, roles and responsibilities are generally understood
		3.1.3	Long term objectives	>80	This PI assesses objectives contained in high level or broader government policy, rather than on fishery specific operational objectives. These high-level objectives at both an EU and UK wide level which guide management decision making are fully consistent with the MSC fisheries standard and would support scoring at the SG80 level.
	Fishery specific management system	3.2.1	Fishery specific objectives	60-79	Fishery specific objectives under the scallop order (SI 2283: The Scallop Fishing (England) Order (2012)) do not address all aspects of principles 1 & 2 and therefore do not achieve 80. Development of a FMP is being addressed by the SICG.
		3.2.2	Decision making processes	60-79	The decision making processes probably meet the minimum (conditional) requirement for MSC, insofar as there are informal decision-making processes which respond to the fishery specific objectives. If research, monitoring, evaluation or consultation threw up serious issues, these would probably be responded to in the management decision making process – either at an IFCA, UK or EU level. There are some decision making processes in place that result in measures and strategies to achieve the fishery-specific objectives

		3.2.3	Compliance and enforcement	>80	Within the UK there is an effective judicial system to impose incremental sanctions for non-compliance with fisheries management measures. There is no evidence of systematic non-compliance. Overall, it is expected that this would enable scoring at least at the SG80 level.
		3.2.4	Management performance evaluation	>80	An independent review of the UK scallop industry was conducted in 2018 (Cappell <i>et al</i> , 2018 ²) which is due to be published by client SICG. SICG are also conducting a harmonisation process with other scallop FIPs. It is considered that this review – which involved both government and industry, is sufficient to count as an external review. As a result, this Action is concluded for the FIP. The fishery specific management system is subject to regular internal and occasional external review; such as the Poseidon review commissioned by the SICG and the proposal for Project UK’s Round 2 scallop Steering Group to seek input from the ICES WG, so Round 1 could also be included as there will be a large amount of overlap.

² Cappell, R., Huntington, T., Nimmo, F., and MacNab, S. (2018) UK scallop fishery: current trends, future management options and recommendations. Report produced by Poseidon Aquatic Resource Management Ltd.

Workplan results

Fill in the following table by reviewing the FIP's workplan and summarizing the key results that have been achieved over the last three years (or since the last audit took place) as a result of the FIP's workplan. Provide an explanation of steps that the FIP participants took in supporting and achieving each result.

Result	Related Action on FisheryProgress	Related MSC Performance Indicator	Explanation
Larval distribution model agreed with Cefas to be delivered in 2021	Greater information on the stocks within the UoA of the FIP	1.2.3	<p>There is currently a knowledge gap in the stock assessment data around the distribution of scallop larvae and their interactions across dredged and un-dredged areas. While this might not impact scoring it is recognized that it would contribute to harvest strategy development (e.g. spatial management).</p> <p>Cefas have developed a Terms of Reference for the larval distribution project and is expected to take a few months to complete.</p> <p>This research is recognized as a priority for industry and has been discussed by the Scallop Industry Consultation Group (SICG) project steering board. It is thought that this work could help understand what level of connectivity there is and to further define stock boundaries.</p>
Alternative measures report produced	Information of secondary species in the fishery increased	2.2.3	<p>A review of alternative measures was undertaken for mechanical dredge targeting king scallop to better understand how the FIP can reduce the interaction with unwanted and undersized secondary species; with the review is applicable to both the Round 1 Channel Scallop and Round 2 UK Scallop FIPs.</p> <p>The review includes consideration of whether alternative gear or other measures have been implemented as appropriate and/or whether there was the scope for the FIP to adopt new approaches in the fishery to help reduce interactions with secondary species.</p> <p>Due to technical gear regulations, a derivation is required to change gear specifications, including ring size and attachment of skis to the dredge. Trials are underway through Heriot-Watt University and Bangor University to explore efficiency of gear adaptations, including addition of skis. Factors to be analysed include, bycatch rates, catch rates of target species, gear seabed penetration and efficiency.</p> <p>The process for the regular review of alternative measures will be documented within the FMP for the FIP.</p>
Length-weight estimates of bycatch research agreed with Cefas to be delivered in 2021	Information of secondary species in the fishery increased	2.2.3	<p>An action for the FIP is to understand what the 'main' and 'minor' bycatch species in the fishery are. Previously, information was passed centrally to the EU data collection framework (DCF) which includes discards by species and presents data as if it is in tonnage. Cefas provided this data as number of individuals, so expect the units of measure to be incorrect in the DCF.</p>

			<p>There is potential for numbers of individuals & their lengths that are recorded within the observer program to be transformed into biomass. This would be based on estimates of biomass per species and length category. Cefas observer sampling does not have at-sea balanced scales, so cannot record biomass at sea, hence use of lengths and number of individuals. Conducting this work will provide the FIP with some quantitative information to support any further work on secondary species going forward.</p>
Information on ETP species are regularly collected and monitored	Design and review of ETP reporting log	2.3.3	<p>The Round 2 UK scallops FIP undertook an extensive review of ETP species and it recommended that the Channel Scallops FIP re-assesses its ETP list, based on developments in Marine Protected Areas and environmental legislation.</p> <p>The ETP review found that that there were new species to be added and that the occurrence of elasmobranchs is considered rare and individuals are returned to sea. However, there remained a need for the FIP to log these interactions as well as record the determination of the interaction (released alive, retained, discarded). Poseidon were contracted to design the reporting log, which has been completed and as a next step needs trialing with willing skippers. Of note, these reporting logs can be used in conjunction with skate and ray ID guides designed in collaboration with the Shark, with the FIP in the process of designing their own ID sheets in alignment with the Round 2 scallops FIP.</p>
Fishery footprint analysis and habitat mapping.	Habitat outcome, management and information	2.4.1, 2.4.2, 2.4.3	<p>Over the course of 2019 and 2020 a post-doc researching fishery footprint analysis and habitat mapping was conducted. The post-doc characterised commonly encountered habitats and sensitive species within the UoA of the FIP and determined extent of interaction with scallop dredging, as well as length of time to recover. Results from the research's first year indicated that all commonly encountered habitats meet SG100.</p> <p>The assessment that was carried out undertook:</p> <ol style="list-style-type: none"> 1) A species by species approach to understand the sensitive species present in the Unit of Assessment (UoA). 2) A whole community approach to understand habitat vulnerability, using the Bangor University Benthic Habitat Tool <p>The work help progress many of the habitat actions and represents a good foundation to develop a habitat management plan from.</p>
Scale Intensity Consequence Analysis (SICA) analysis of scallop dredging in the UoA of the FIP.	Ecosystem: Outcome status	2.5.1	<p>Cefas were commissioned to conduct a SICA and produce a report for 2019's annual review. The report identified the functional group composition as the most relevant ecosystem sub-component to be affected by the fishery. The report concluded that the consequence score is likely to be 60 due to the spatial and temporal footprint of the activity as well as the type of gear used and its known impact on the benthos.</p> <p>As a result of these findings the potential management actions are aligned with the objectives for ETP and habitats actions which include spatial restrictions to fishing operations, specifically through IFCA Byelaws.</p>

Development of a Fishery Management Plan	Fishery-specific objectives and decision-making processes	3.2.1, 3.2.2	<p>The development of an FMP began in 2020 to help log all the documentation and progress the FIP had made to date. The FIP decided to align with the SICG around management objectives, with an SICG/FIP member from Macduff acting as the point of contact to log all relevant work.</p> <p>Having the FIP represents crucial progress against some of the principle 3 actions</p>
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