Table : Action Plan Overview

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| **Fishery name: Western Seas & Channel Monkfish / Anglerfish (*Lophius piscatorius* and *L. budegassa*)** | | **AP Version:** Version 10.2  **Last updated (by):** 30 May 2019 (TH) | |
| **Fishery location:**  Western Seas and Channel (VII b-k, VIII a/b/d) | **Fishing method:**  Gillnets (trammel & entangling/gill nets)  Demersal trawl  Beam trawl | **Start date:** 01 January 2017  **End date (anticipated):** 31 December 2021 (5 years) | Y1: 2017  **Y2: 2018**  Y3: 2019  Y4: 2020  Y5: 2021 |
| **Project leaders**: Project UK Fisheries Improvements (PUKFI) | | **Improvements recommended by:** Poseidon | |
| **Overview of the Action Plan:**  Two species of monkfish (also called anglerfish), *Lophius piscatorius* and *L. budegassa*, are caught in an important set of fisheries in the western Channel and Western Approaches. It should be noted that 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 separate stocks, these 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 consider this 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 catch 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 improving 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 and marine mammals, esp. for the gillnet fisheries, as well as ETPs. The Action Plan also looks at reducing the impact of these fisheries – especially the beam trawl segment – 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 seeks the development of a fisheries -specific management plan that that includes explicit short and long-term objectives. This should formalise the existing 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 2)

**Introduction**

This report marks the finished of the second year in a five year Fisheries Improvement Project (FIP) for the UK Western Seas & Channel Monkfish / Anglerfish (*Lophius piscatorius* and *L. budegassa*) fishery, (see Table 1 above). The report provides a review of the progress made to date and what further actions need to be taken over the third year. This report has been prepared by Tim Huntington of Poseidon.

**Main Findings**

The fishery has made some progress over the year and is broadly on target, although most scoring changes are not expected until years 3 and 4. The main progress has been in completing the P1 alternative measures analysis (Action 2), the secondary species risk analysis (Action 4) and the ETP risk analysis (Action 7). However the results of these have still not been formally considered for inclusion in fisheries management initiatives.

As can been seen from the scoring category overview to the right, sixteen Performance Indicators (PIs) score ≥80 (potentially a pass) and ten score 60 – 79 (potentially conditional pass) and one still remains >60 (a potential fail). Overall the fishery would fail at this point, mainly through weaknesses in P2).

The remaining tasks are mainly related developing a comprehensive Fisheries Management Plan (FMP) and using this as a tool for preparing the fishery for full assessment once the FIP has been completed.

**Recommendations for actions and activities over Year 3**

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| **Key acronyms:**  CPUE: Catch per unit effort  FIP: Fisheries Improvement Project  FMP: Fisheries Management Plan  HCR: Harvest Control Rules  PI: Performance Indicator |

The current status of the FIP and the review results are shown in Table 3: Evaluation against Action Plan milestones on page 9. Based on these, we have suggested a number of actions that need to be undertaken over the next year. These are summarised in below and are detailed in **Table 2: Action Plan details** overleaf.

1. CEFAS to work with Dr. Paul Medley to resolve the needs of the stock assessment and harvest control rules, especially for L. budegassa in Action 1 and 3 respectively.
2. Finalisation of management actions, if any, to reduce juvenile monkfish, skates and rays (esp. ETP species) via Actions 2, 5 and 7.
3. Review of spatial measures to reduce impacts on vulnerable habitats and species, especially yin gravel areas (Action 8)
4. Development of a formal Fisheries Management Plan for this fishery.

Table : Action Plan details

| **Standard requirement** | **Actions** | **Resources required** | **Action lead** | **Action partners** | **Stake-holders** | **Timescale / milestones** |
| --- | --- | --- | --- | --- | --- | --- |
| 1. 1.1.1 Stock status & 1.2.4 Assessment of stock status   It is highly likely that the stock is above the PRI and is at or fluctuating around a level consistent with MSY.  The assessment takes uncertainty into account. | 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. | Engagement with ICES AC and WGs over stock assessment methodologies | Lisa Readdy as representative of CEFAS and the ICES Working Group | Industry | NWWAC & SWWAC members | Overall timescale 2 years  **Yr 2**: Review of ICES analytical approach for *Lophius* spp. to determine appropriateness and its ability to take into account uncertainty.  **Yr 3**: Evidence of a move towards a probabilistic stock assessment with confidence limits and that uncertainty is taken into account. |
| 1. 1.2.1 Harvest strategy   There is a regular review of the potential effectiveness and practicality of alternative measures to minimise UoA-related mortality of unwanted catch of the target stock and they are implemented as appropriate. | Review of alternative measures to minimise the mortality of any catch of anglerfish species, resulting in a formal assessment for consideration by MAs. | Engagement with main fisheries & MAs. | Seafish – Gus Caslake &  Paul Trebilcock  (Jim Portus & Andy Pillar) | CEFAS  Industry | NWWAC & SWWAC members | Overall timescale 2.5 years  **6 months:** Development of review ToR and launch of review.  **Yr 1**: Review compiled and results utilised in management options advice.  **Yr 2**: Evidence that review results have been considered and utilised in management advice where appropriate. |
| 1. 1.2.2 Harvest control rules and tools   Well defined HCRs are in place that Harvest Control Rules and tools 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. | 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. | Engagement with ICES, MAs and the NWWAC. | CEFAS | MMO  Defra  Industry | Seafish | Overall timescale 5 years  **3 months**: Review experience of the South Africa trawl fishery of hake (*Merluccius paradoxus* and *M. capensis*) for lessons learned on managing a two-species complex. Consider whether the RBF approach for *L. budegassa* is appropriate.  **Yr 1**: Engagement with MA & ICES  **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.  **Yr. 3**. Take our position to the AC.  **Yr 4**: Implementation  **Yr 5**: Mainstreaming into management. |
| 1. 2.2.1 Secondary species: Outcome status   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 | 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. | 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. | Steering group to employ consultant, subject to funding  MSC to investigate funding | Industry | RSPB | Overall timescale 2 years  **Yr 1**: Scoping of (i) PSA and (ii) out of scope analyses  **Yr 2**: Implementation of (i) PSA and (ii) out of scope analyses |
| 1. 2.2.2 Secondary species: Management strategy   Management strategy in place, evaluated and implemented. Review of alternative measures. | Following Action #4 above, a review of alternative management measures for both in scope and out of scope main species. | Expertise to undertake the review and identify potential mitigation measures | Industry | MMO  Defra  Industry | Seafish  NWWAC & SWWAC members | Overall timescale 2 years  Revisit after action 4 delivers, actions are likely to be:  **Yr 3**: Based on PSA, conduct review of alternative management measures.  **Yr 4**: Mainstreaming of alternative measures into management. |
| 1. 2.2.3 Secondary species: Information   Information adequacy for assessment of impact on main and minor secondary species, and for a management strategy. | Following Action #4 above, a review and where necessary, improvements to, information needs will be conducted. For both in and out of scope species. | Expertise to undertake the review and identify potential information sources / requirements. | MMO | Industry | Seafish  NWWAC & SWWAC members | Overall timescale 2 years  Revisit after Action 4 delivers, actions are likely to be:  **Yr 3**: Based on PSA, conduct review current information sources on in and out of scope secondary species.  **Yr 4**: Where necessary, develop new information sources on in and out of scope secondary species. |
| 1. 2.3.1, 2.3.2, 2.3.3 ETP species outcome, management and information   Effects of the UoA on populations within national / international limits.  Management strategy in place.  Information is adequate for the assessment of impacts and their management. | Information on the nature and scale of impacts on ETPs by these fisheries 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. | 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. | Paul Trebilcock & Ruth Hoban  MSC to explore who can carry out risk assessment with JNCC & MMO | CEFAS  Industry  JNCC  MMO  Seafish Science Advisory Group (SAG) | Seafish  NWWAC & SWWAC members SMRU | Overall timescale 4 years  **Yr 1**: GIS-based risk assessment. Listing of potential ETPs interacting with UoAs, and then mapping of ETP distribution overlap with UoA fishing effort.  **Yr 2**: Development of possible management approaches for reducing ETP interactions and impacts, if necessary.  **Yr 3**. Implementation of pilot projects for ETP management approaches  **Yr 4**: Mainstreaming of ETP management approaches and introduce of the risk-monitoring system. |
| 1. 2.4.1, 2.4.2, 2.4.3 Habitat outcome, management and information   The UoA is highly unlikely to reduce structure and function of habitats to a point where there would be serious or irreversible harm.  Management strategy in place.  Information is adequate for the assessment of impacts and their management. | 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. | 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. | Steering group to employ consultant, subject to funding  Lead to be decided for year 2 | CEFAS  Industry  JNCC  MMO  Defra  Seafish Science Advisory Group (SAG) |  | Overall timescale 4 years  **Yr 1**: Identification of interactions with common and VME habitats, and consequences for associated communities.  **Yr 2**: Development of possible management approaches for reducing habitat interactions and impacts  **Yr 3**. Implementation of pilot projects for habitat management approaches  **Yr 4**: Mainstreaming of habitat management approaches and introduce of the risk-monitoring system. |
| 1. 2.5.1 Ecosystem: 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. | Beam trawl only.  Based on Actions #7 and #8, conduct a Scale Intensity Consequence Analysis (SICA) analysis of beam trawling in the UoA. | Expense in ecosystem analysis and use of the RBF and SICA tools. | Steering group to employ consultant subject to funding  MSC to investigate funding | CEFAS  Industry  JNCC  Seafish SAG |  | Overall timescale 3 years  **Yr 1**: Constitute expert group and conduct SICA analysis of main ecosystems impacted by beam trawls.  **Yr 2**: Based on the SICA results, identify and recommend further research and management actions that reduce ecosystem disruption to acceptable levels.  **Yr 3**: Recommendations made and disseminated. |
| 1. 3.2.1 Fishery-specific objectives and 3.2.2 Decision-making processes   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. | 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. | Expertise in developing fisheries management plans / harvest strategies | Nathan de Rozarieux & fishing industry as represented by PT, JP & AP | NWWAC & SWWAC members  Defra  CEFAS  Industry | ICES | Overall timescale 3 years  **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.  **Yr 2:** Tasking the inclusion of Lophius spp. in a formal fisheries management plan (or inc. in a mixed fisheries MP).  **Yr 3:** Draft FMP with short and long-term objectives.  **Y4.** Final FMP with short and long-term objectives. |
| 1. 3.2.4 Monitoring & Evaluation   There are mechanisms in place to evaluate key parts of the fishery-specific management system, inc. the occasional external review. | External evaluation of the management of these anglerfish fisheries. | Expertise in the evaluation of fisheries management regimes. | Gus Caslake as representative of the Seafish SW panel | CEFAS  Industry | Seafish  NWWAC & SWWAC members | Overall timescale 2 year (revised milestones)  **Yr 3**: ToR developed and contractor identified.  **Yr 4**: External review report completed and recommendations made available to FIP. |

Table : Evaluation against Action Plan milestones

| **Standard requirement** | **Actions** | **Timescale / milestones** | **Progress / outcome** | **Revised milestone** |
| --- | --- | --- | --- | --- |
| **1.1.1 Stock status & 1.2.4 Assessment of stock status** | Action #1: Review stock assessment processes. | Yr 2: Review of ICES analytical approach for *Lophius* spp. to determine appropriateness and its ability to take into account uncertainty. | **On target (Y2 60-79, actual 60-79)**  There have been various inputs over the year, 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* 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 is still uncertainty for *L. budegassa* for the survey index. For *budegassa*, need to find proxy reference points that take uncertainty into account. Is already achieved for *L. piscatorius* uncertainty know and taken into account in reference points. | Jo to follow up with Lisa over WG results. |
| Yr 3: Evidence of a move towards a probabilistic stock assessment with confidence limits and that uncertainty is taken into account. | **(Y3 ≥80, actual tbc)**  This action is not being addressed until Year 3. Will depend upon WG results.  Note: TH to write to Lisa and Paul. Ready for new ICES WG. Copy in Paul T and Jim P. Will input into FMP. | None |
| **1.2.1 Harvest strategy** | Action #2: Review of alternative measures to minimise the mortality of unwanted catch of anglerfish species. | 6 months: Development of review ToR & launch of review. | **On target (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. |  |
| Yr 1: Review results compiled & utilised in management advice. | **On target (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. . | None |
| Yr 2:Evidence that review results have been considered and utilised in management advice where appropriate. | **On target (Y2 ≥80, actual ≥80)**  By March 2019 the report had been 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 this all monkfish will be landed anyway, as won’t be discarded.  Final actions required: Gus Caslake’s paper needs to be updated with sole in terms of size selectivity and trade-offs. It then needs to be sent to the three POs for a formal response. However, in summary, the review has concluded that no alternative measures are available at this time, and this should be reviewed in due course when new options maybe come available. The timing of this should be reflected in the FMP. | PO formal response to be reviewed and action formally closed at next meeting. |
| **1.2.2 Harvest control rules and tools** | Action #3: 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. | 3 months: Review experience of the South Africa trawl fishery of South African hake for lessons learned on managing a two-species complex. **Consider whether the RBF approach for *L. budegassa* is appropriate.** | **On target (Y1 60-79, actual 60-79)**  A review has been 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 suggests, 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 focusses mainly on harvest strategy (PI 1.2.1) rather than PI 1.2.2 (HCRs, this action). | Revised paper and recommendations to be presented to meeting in June 2018. Received. |
| Yr 1: Engagement with MA & ICES | **On target (Y1 60-79, actual 60-79)**  Nov 18 update. Still looking at this via observer programme to progress forward analysis. FSP trip was undertaken but did not include species identification. Working with CEFAS to feedback whether FIP can assist. FSP funding submissions in January 2019. | Need to develop ToR for Paul to work on this. Maybe via Poseidon. To include requirements, outputs |
| 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 (Y1 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 and 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- could we do this to increase knowledge and decrease gaps?  No evidence has been presented demonstrating engagement with the MA. Whilst still on target, progress is slow. |  |
| Yr. 3. Take our position to the AC | **(Y3 ≥80, actual tbc)**  This action is not being addressed until Year 3 |  |
| Yr 4: Implementation | **(Y4 ≥80, actual tbc)**  This action is not being addressed until Year 4 |  |
| Yr 5: Mainstreaming into management. | **(Y5 ≥80, actual tbc)**  This action is not being addressed until Year 5 |  |
| **2.2.1 Secondary species: Outcome status** | Action #4: PSA for all main 2° species (all gears) & analysis of ‘out of scope’ species (GTR only). | Yr 1: Scoping of (i) PSA and (ii) out of scope analyses | **Behind target (Y1 60-79, 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. |  |
| Yr 2: Implementation of (i) PSA and (ii) out of scope analyses | **On target (Y2 60-79, actual ≥80)**  PSA now completed (Task 6). |  |
| **2.2.2 Secondary species: Management strategy** | Action #5: Review of alternative management measures for both in scope & out of scope main species | Yr 3: Based on PSA, conduct review of alternative management measures. | **(Y3 60-79, actual tbc)**  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. 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-discarded anyway. A shorter tow time may be the only viable option. | Tim to review CEFAS report |
| Yr 4: Mainstreaming of alternative measures into management. | **(Y4 60-79, actual tbc)**  This action is not being addressed until Year 4. |  |
| **2.2.3 Secondary species: Information** | Action #6: Review and improve 2°species information (in and out of scope spp.). | Yr 3: Based on PSA, conduct review of current information sources on ‘in and out of scope secondary species. | **(Y3 60-79, actual tbc)**  This action is not being addressed until Year 3. See Ana’s report “*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*”. MMO / CEFAS involvement  Skates and rays can be discarded, but ff >50 kg per trip, need to record by species and volume (doesn’t count against quota). Otherwise landed, retained and recorded (if TAC species). Need to find if MMO record this and why 50 kg. |  |
| Yr 4: Where necessary, develop new information sources on in and out of scope secondary species. | **(Y4 ≥80, actual tbc)**  This action is not being addressed until Year 4. |  |
| **2.3.1, 2.3.2, 2.3.3 ETP species outcome, management and information** | Action #7: Gather additional information on nature & scale of ETP interactions and impacts. | 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 (Y1 60-79, actual 60-79)**  A GIS-based risk assessment has been conducted (Page, 2018[[1]](#footnote-1)) 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 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[[2]](#footnote-2)), 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. |  |
| Yr 2: Development of possible management approaches for reducing ETP interactions and impacts, if necessary. | **On target (Y2 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[[3]](#footnote-3). This is still awaiting SG feed-back**.**  Nathan now lead. | Jo to circulate peer review comments and Adam’s paper. Nathan to work with Tim. Then review recommendations at next meeting when confidence in paper is built. |
| Yr 3. Implementation of pilot projects for ETP management approaches | **(Y3 60-79, actual tbc)**  This action is not being addressed until Year 3  **Joint with Actions 5 & 6.** |  |
| Yr 4: Mainstreaming of ETP management approaches and introduce of the risk-monitoring system. | **(Y4 ≥80, actual tbc)**  This action is not being addressed until Year 4. |  |
| **2.4.1, 2.4.2, 2.4.3 Habitat outcome, management and information** | Action #8: Spatial scale, intensity and impact of the fishery on habitats assessed and management measures developed where appropriate. | Yr 1: Identification of interactions with common and VME habitats, and consequences for associated communities. | **On target (Y1 60-79, actual 60-79)**  Study by CEFAS (bottom and beam trawls only). CPUE broadly static. Number of vessels reduced slightly in 2016. |  |
| Yr 2: Development of possible management approaches for reducing habitat interactions and impacts | **On target (Y2 60-79, actual 60-79)**  First version of CEFAS study available[[4]](#footnote-4). Gladys presentation (on behalf of Isadora). Used Relative Benthic Status as a main metric. Mostly showed 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. | Jim Portus will coordinate with Theresa Redding / Natural England to see how representative the MCZ coverage is of gravel areas. |
| Yr 3. Implementation of pilot projects for habitat management approaches | **(Y3 60-79, actual tbc)**  This action is not being addressed until Year 3 |  |
| Yr 4: Mainstreaming of habitat management approaches and introduce of the risk-monitoring system. | **(Y4 ≥80, actual tbc)**  This action is not being addressed until Year 4. |  |
| **2.5.1 Ecosystem: Outcome status** | Action #9: Conduct a Scale Intensity Consequence Analysis (SICA) analysis of beam trawling. | Yr 1: Constitute expert group and conduct SICA analysis of main ecosystems impacted by beam trawlers. | **On target (Y1 60-79, actual 60-79)**  SICA analysis (beam trawl only) presentation by Gladys). |  |
| Yr 2: Based on the SICA results, identify and recommend further research and management actions that reduce ecosystem disruption to acceptable levels. | **On target (Y2 60-79, actual 60-79)**  Main issue is <12 m activity mapping. Already iVMS in D&S area, which will likely be expanded to all areas / vessels >8 m by 2021. | TR will send iVMS consultation report. |
| Yr. 3. Recommendations made and disseminated. | **(Y3 ≥80, actual tbc)**  On target, but need formal acceptance of response (extra iVMS coverage). |  |
| **3.2.1 Fishery-specific objectives** & **3.2.2 Decision-making processes** | Action #10: Development of a fisheries management plan for the Western Seas & Channel Monkfish fishery. | 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 (Y1 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. |  |
| Yr 2: Tasking the inclusion of *Lophius* spp. in a formal fisheries management plan (or inc. in a mixed fisheries MP). | **On target (Y2 60-79, actual 60-79)**  Nathan De Rozarieux agreed to produce scoped FMP by next meeting. e.g. with resources for completing sections. |  |
| Yr 3: Draft FMP with short and long-term objectives. | **(Y3 60-79, actual tbc)**  This action is not being addressed until Year 3 |  |
| Y4. Final FMP with short and long-term objectives. | **(Y4 ≥80, actual tbc)**  This action is not being addressed until Year 4. |  |
| **3.2.4 Monitoring & Evaluation** | Action 11#: External evaluation of the management of these anglerfish fisheries. | Yr 3: ToR developed, and contractor identified. | **(Y3 60-79, actual tbc)**  Find out when next ICES benchmarking is. Fishery Progress in Year 3? JP to find out. |  |
| Yr 4: External review report completed, and recommendations made available to FIP. | **(Y4 ≥80, actual tbc)**  This action is not being addressed until Year 4. |  |

Table : Bench-marking and Tracking (Trawls)



Table : Bench-marking and Tracking (Gill Nets)



Appendix : Pre-assessment scores

From: Acoura (2016). MSC Pre-Assessment for Western & Channel Monkfish (Anglerfish) (Gillnet, Demersal Trawl and Beam trawl). Project UK Fisheries Improvements. DRAFT REPORT. December 2016. Prepared for Project UK Fisheries Improvements by Tristan Southall.

Table : Pre-assessment scores

| Principle | Component | PI | Performance Indicator | Likely scoring | | |
| --- | --- | --- | --- | --- | --- | --- |
| *UoA 1*  *Gillnet* | *UoA 2*  *Trawl* | *UoA 3*  *Beam* |
| 1 | Outcome | 1.1.1 | Stock status | 60-79 | | |
| 1.1.2 | Stock rebuilding |  | | |
| Management | 1.2.1 | Harvest Strategy | 60-79 | | |
| 1.2.2 | Harvest control rules and tools | 60-79 | | |
| 1.2.3 | Information and monitoring | ≥80 | | |
| 1.2.4 | Assessment of stock status | 60-79 | | |
| 2 | Primary Species | 2.1.1 | Outcome | ≥80 | ≥80 | ≥80 |
| 2.1.2 | Management | ≥80 | ≥80 | ≥80 |
| 2.1.3 | Information | ≥80 | ≥80 | ≥80 |
| Secondary species | 2.2.1 | Outcome | <60 | <60 | <60 |
| 2.2.2 | Management | <60 | <60 | <60 |
| 2.2.3 | Information | 60-79 | 60-79 | 60-79 |
| ETP species | 2.3.1 | Outcome | 60-79 | 60-79 | 60-79 |
| 2.3.2 | Management | 60-79 | 60-79 | 60-79 |
| 2.3.3 | Information | 60-79 | 60-79 | 60-79 |
| Habitats | 2.4.1 | Outcome | ≥80 | 60-79 | <60 |
| 2.4.2 | Management | ≥80 | 60-79 | 60-79 |
| 2.4.3 | Information | ≥80 | 60-79 | 60-79 |
| Ecosystem | 2.5.1 | Outcome | ≥80 | ≥80 | 60-79 |
| 2.5.2 | Management | ≥80 | ≥80 | ≥80 |
| 2.5.3 | Information | ≥80 | ≥80 | ≥80 |
| 3 | Governance & policy | 3.1.1 | Legal and customary framework | ≥80 | | |
| 3.1.2 | Consultation, roles responsibilities | ≥80 | | |
| 3.1.3 | Long term objectives | ≥80 | | |
| Fishery specific management system | 3.2.1 | Fishery specific objectives | 60-79 | | |
| 3.2.2 | Decision making processes | 60-79 | | |
| 3.2.3 | Compliance and enforcement | ≥80 | | |
| 3.2.4 | Mgt performance evaluation | 60-79 | | |

1. Page, C. (2018). Western & Channel Monkfish Fishery ETP Species Assessment. Report to Project UK Fisheries Improvements, January 2018. [↑](#footnote-ref-1)
2. Ellis, J. R., Bendall, V. A., Hetherington, S. J., Silva, J. F. and McCully Phillips, S. R. (2015). National Evaluation of Populations of Threatened and Uncertain Elasmobranchs (NEPTUNE). Project Report (Cefas), x + 105 pp. [↑](#footnote-ref-2)
3. Townley, Adam (2019). Summary of ETP Species Interactions with the PUKFI Monkfish Fishery and Recommendations for Bycatch Mitigation. Unpublished. [↑](#footnote-ref-3)
4. Katara, Isidora (2019). Task 2: Habitat Assessment. Monkfish. Version 6.00. 23 pp. [↑](#footnote-ref-4)