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ECONOMIC COMMITTEE FOR
FISHERIES –
60TH PLENARY MEETING REPORT
(PLEN-19-01)

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Abstract

Commission Decision of 25 February 2016 setting up a Scientific, Technical and Economic Committee for Fisheries, C(2016) 1084, OJ C 74, 26.2.2016, p. 4–10. The Commission may consult the group on any matter relating to marine and fisheries biology, fishing gear technology, fisheries economics, fisheries governance, ecosystem effects of fisheries, aquaculture or similar disciplines. The Scientific, Technical and Economic Committee for Fisheries hold its 60th plenary on 25-29 March 2019 at JRC, Ispra, Italy.

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60th PLENARY MEETING REPORT OF THE SCIENTIFIC, TECHNICAL AND ECONOMIC COMMITTEE FOR FISHERIES (PLEN-19-01)

PLENARY MEETING

25-29 March 2019, JRC, Ispra, Italy

1. INTRODUCTION

The STECF plenary took place at the JRC, Ispra, Italy, from 25 to 29 March 2019. The chair of the STECF, Clara Ulrich, opened the plenary session at 11:00h. The terms of reference for the meeting were reviewed and discussed and consequently the meeting agenda agreed. The session was managed through alternation of plenary and working group meetings. Rapporteurs for each item on the agenda were appointed and are identified in the list of participants. The meeting closed at 16:00h on 29 March 2019.

2. LIST OF PARTICIPANTS

The meeting was attended by 25 members of the STECF, two invited experts and two JRC personnel. 4 DG MARE attended parts of the meeting. Section seven of this report provides a detailed participant list with contact details.

The following STCF members were unable to attend the meeting:

1. Jesper Levring Andersen
2. Michel Bertignac
3. Massimiliano Cardinale
4. Hazel Curtis
5. Leyla Knittweis
6. Hilario Murua
7. Hans van Oostenbrugge

3. INFORMATION TO THE PLENARY

The STECF was informed that the new DG MARE focal point for STECF is Oana Surdu (DG MARE C3).

4. STECF INITIATIVES

No STECF initiatives were discussed during the meeting.

5. ASSESSMENT OF STECF EWG REPORTS

5.1 EWG 19-01: Methods for developing fishing effort regime for demersal fisheries in West Med

Request to the STECF

STECF is requested to review the report of the STECF Expert Working Group meeting, evaluate the findings and make any appropriate comments and recommendations.

STECF observations

EWG 19-01 was held in Barcelona, Spain, from 18 to 22 March 2019. The EWG was a follow-up of the EWG 18-09 held in June 2018 and the EWG 18-13 held in October 2018.

As the EWG 19-01 took place the week before the STECF plenary, the EWG report was not finalised. The STECF commented on a draft version of the report and the presentation and discussion held at the STECF plenary. The EWG had the following TORs:

TOR 1. Select the most appropriate model(s) to carry out a mixed-fisheries advice for the western Mediterranean demersal fisheries. It should be taken into account the analyses done in the STECF Report 18-13, the coverage in terms of stocks and fleets segments at the scale of the multi-annual plan and the availability of data requirements.

TOR 2. Analyse the ability of the model(s) to be compatible with the latest scientific advice provided for western Mediterranean demersal stocks in the STECF Report 18-12. The group should also make any appropriate comments and recommendations to the stock assessments' group in order to ensure adequacy of the single-stock advice and the mixed-fisheries model(s).

TOR 3. Discuss and suggest possible mixed-fisheries scenarios and type of results displayed to be tested at the STECF EWG 19-14 concerning the multi-annual plan.

STECF comments

STECF notes that the EWG 19-01 is part of the roadmap defined by the STECF (PLEN 18-03) in 2018 and the TORs of this EWG responds to this roadmap. They have been fully covered by the EWG.

STECF notes that, as required by the TORs, several models were tested in the EWG 19-01. These models can be categorized in terms of the model scale and complexity (fleet-based models with a simple annual setting, models adding more complex features and models with finer time-spatial scale) and the Effort Management Unit (EMU) in which they are to be applied (EMU 1 including GSAs 1, 2, 5, 6 and 7 and EMU 2 including GSAs 8 to 11). STECF notes that both EMUs had a model of each scale presented, although not all at the same readiness level to perform the simulations required. However, it should be further noted that none of the models cover GSA 1 (Alboran Sea) and GSA 5 (Balearic Islands).

STECF notes that almost all the models are compatible with the stock assessments provided by the EWG 18-12, in the sense that they are able to replicate the short-term forecast for hake performed in the EWG 18-12. STECF further notes that these short-term projections require some working assumptions to be made, although STECF agrees with the EWG that the compatibility is sufficient to perform further mid-term projections.

STECF notes that for EMU2, the BEMTOOL model is almost ready for performing simulations of different scenarios. However, in the EWG 19-01 report the results presented did not include confidence intervals.

STECF also notes that results from BEMTOOL could be additionally supported by the outputs obtained from the SMART model. This last model can simulate effort reallocation following a reduction in effort within the historical fishing areas, and therefore, evaluate fishing mortality reductions after fleets have spatially reallocated their fishing effort. STECF notes that although the results of this model are still preliminary, they showed signs of hyperstability, that is, that effort can be reallocated to maintain similar levels of fishing mortality and economic performance.

For EMU 1 STECF notes that the work is more preliminary. However, STECF also notes that three candidate models were identified by the EWG (FLBEIA, FLASHER and IAM) although the development of the application of these three models to cover the entire EMU 1 is still preliminary and therefore the simulations provided in the EWG 19-01 have to be considered with caution.

STECF notes that the MEFISTO and ISIS-FISH models are not likely to be retained for further simulations in the frame of the demersal fisheries Western Mediterranean MAP due to the existing trade off among their complexity and the value added from more "simple" settings.

STECF notes that there is a problem on how to differentiate in the simulations the two types of activities foreseen in the plan, i.e. the mixed demersal métier and the deep-sea shrimp métier. These two métiers are not well identified in the current datasets available.

STECF notes that some of the simulations included fishing effort regimes characteristics identified in EWG 18-13 and EWG 18-09 such as hyperstability and technology creep.

STECF notes that while the effort baseline is clearly defined in the MAP (2015-2017 fishing days), the value of this baseline in terms of actual number of days are not provided yet. STECF further notes that these absolute values might differ depending on how the trip data (e.g. logbooks) are being computed and aggregated by different people or for different purposes in different databases.

Finally, STECF notes that EWG 19-01 also discussed on how to present the results. The EWG discussed two main approaches: the first approach is a web-based results-display app, where the user can select the indicator(s) to be displayed and the scenarios to be compared. The second approach is a multi-criteria approach in where each dimension (biological, economic and social) is weighted and a utility metric calculated based on these weights and the utility functional form itself. However, the value of this single metric is dependent on how the weights are selected and on the form of the utility function (additive, multiplicative, Rawls, max-min,...).

STECF conclusions

STECF concludes that EWG 19-01 proved the capacity of the models tested to produce a bio-economic assessment of different scenarios in the frame of the demersal fisheries West Med MAP. STECF also concludes that models differ in the readiness level to produce results and that those models to be used in the EMU 2 are at a more advanced readiness level than those to be used in EMU 1.

STECF concludes that given that the MAP only applies to trawlers, there is a potential risk of effort being transferred from trawlers to those gears not covered by the plan (i.e. gillnetters). This can cause that fishing mortality remains high under regulated effort reduction. Furthermore, due to the different overall selectivity a change in the productivity of the stocks could occur in this case, which will require new calculations of reference points such as FMSY. STECF also concludes that even if this effort shifting does not occur, gears not covered by the

plan will be clearly advantaged. These gears are likely to obtain higher catches benefited from the higher future stock abundance. These higher landings of the gear not covered by the plan could affect the market prices and outweigh, at least partially, the likely higher prices that trawlers would receive from their lower supply to the market.

STECF concludes that setting the correct baseline effort in terms of actual number of fishing days is critical for the simulations. In that sense it is important that the fleet's productivity estimations or calibrations (i.e. catchability) refer to the baseline values agreed by the Member States. Building on the suggestion from EWG 19-01, STECF suggests holding a scoping meeting before the next EWG planned in October. Such a scoping meeting involving Member States and scientists would be beneficial to discuss the data issues in relation to the baseline and to agree on a set of scenarios for the bio-economic simulations.

Regarding the problem of the identification of demersal mix and deep-sea shrimp métiers, STECF concludes that the métier identification will require an alignment between the recommendation given by the DCF Métier Workshop (2018) and the definitions applied by Member States in their monitoring of fishing effort. In this workshop it was recommended to use catch composition in value (instead of volume) as the metric to be used if the distinction between métiers is to be based on target assemblage reflecting fishers intentions. .

STECF encourages that, when possible, final results should include uncertainty of estimates, considering the uncertainty of both the stock assessment and of the projections.

Regarding the display of the results, STECF concludes that the multi-criteria approach proposed can be a step ahead, given that scenarios could be compared using a single dimensionless metric (utility). However, the value of this single metric is dependent on how the weights are selected and on the form of the utility function. These are likely to differ according to the different priorities from different actors (Commission, Member States, NGOs, fishing firms, etc.).

References

DCF Métier Workshop: Sub-group of the RCGs - North Sea and Eastern Arctic and North Atlantic. DTU Aqua, Lyngby, Denmark. January 2018.

6. ADDITIONAL REQUESTS SUBMITTED TO THE STECF PLENARY BY THE COMMISSION

6.1. CFP monitoring

Background provided by the Commission

Article 50 of the Common Fisheries Policy (CFP; Regulation (EU) No 1380/2013 of the European Parliament and of the Council of 11 December 2013) stipulates: "The Commission shall report annually to the European Parliament and to the Council on the progress on achieving maximum sustainable yield and on the situation of fish stocks, as early as possible following the adoption of the yearly Council Regulation fixing the fishing opportunities available in Union waters and, in certain non-Union waters, to Union vessels."

Request to the STECF

STECF is requested to report on progress in achieving MSY objectives in line with the Common Fisheries Policy.

STECF observations

STECF notes that to address the above Terms of Reference a JRC Expert Group (EG) was convened to compile available assessment outputs and conduct the extensive analysis.

The EG output was presented in a comprehensive report accompanied by several detailed annexes providing: 1) CFP monitoring protocols as agreed by STECF (STECF, 2018a); 2a) R code for computing NE Atlantic indicators; 2b) R code for computing Mediterranean indicators, 3) ICES data quality issues corrected prior to the analysis and 4) URL links of the reports and stock advice sheets underpinning the analysis. The report and Annexes are available at <https://stecf.jrc.ec.europa.eu/reports/cfp-monitoring>

STECF notes that the report is clear and well laid out, transparently describing the analysis undertaken, cataloguing changes made in approach since the previous report (2018).

Based on the EWG18-15 STECF recommendations, the most significant changes in the 2019 approach were:

- i) Actual estimates of $MSY_{trigger1}$ were used as a proxy for lower bound of B_{MSY}

1 There are 38 stocks assessed by ICES for which $MSY_{trigger}$ was set at B_{pa} levels. For two stocks (hom.27.2a4a5b6a7ace-k8, pra.27.3a4a) ICES has explicitly estimated both reference points. For the remaining 36 stocks, ICES's default procedure is used to set $MSY_{trigger}$ equal to B_{pa} . Following what was agreed by STECF (2018b), in this analysis for these 36 stocks $MSY_{trigger}$ was set to unknown. Therefore, only 25 stocks are considered in the analysis of the number of stocks where $F > F_{MSY}$ or $SSB < MSY_{trigger}$.

- ii) The following indicators were added to the core analysis:
 - a. Number of stocks where $F > F_{MSY}$ OR $SSB < B_{MSY}$
 - b. Number of stocks where $F \leq F_{MSY}$ AND $SSB \geq B_{MSY}$
 - c. Time trend of F/F_{MSY} for stocks outside the EU waters in FAO 27
 - d. Trend in SSB or biomass index for stocks of data category 3
 - e. Time trend in average decadal recruitment
- iii) Regional analysis of the Mediterranean & Black Sea indicators

Details of these changes and other points to note can be found in section 2 of the EG report.

The EG report then sets out results of the analysis for the Northeast Atlantic (NE Atlantic) and Mediterranean & Black Seas separately in Sections 3 and 4 (respectively). Based on these results STECF provides an overview of what is currently known regarding the achievement of the MSY objectives, drawing together the results from the different sea areas to provide a comparative picture. In this report, "Northeast Atlantic" refers to all stocks in the FAO Area 27 inside and outside EU waters, and "Mediterranean & Black Seas" refers to all stocks in the FAO Area 37.

Trends towards the MSY objectives in the Northeast Atlantic and Mediterranean & Black Seas

The overview below describes the trends observed in the NE Atlantic and the Mediterranean & Black Seas for the periods 2003 to 2017 and 2003 to 2016 respectively, and applies to the stocks included in the reference list of stocks for these areas. The stocks are those with a full analytical assessment and also data limited in the NE Atlantic stocks (ICES category 3).

Stock status in the NE Atlantic

The indicators provided by the JRC EG show that stocks status has significantly improved (Figure 6.1) but also that many stocks are still overexploited in the NE Atlantic, and that the rate of progress has slowed in the last few years. In the NE Atlantic, among the 64 to 70 stocks which are fully assessed, the proportion of overexploited stocks (i.e. $F > F_{MSY}$, blue line) decreased from around 75% to close to 40%, over the last ten years, although in recent years the decreased was less pronounced. The proportion of stocks outside the safe biological limits ($F > F_{pa}$ or $B < B_{pa}$, orange line), computed for the 46 stocks for which both reference points are available, follows the same decreasing trend, from 65% in 2003 to around 35% in 2017.

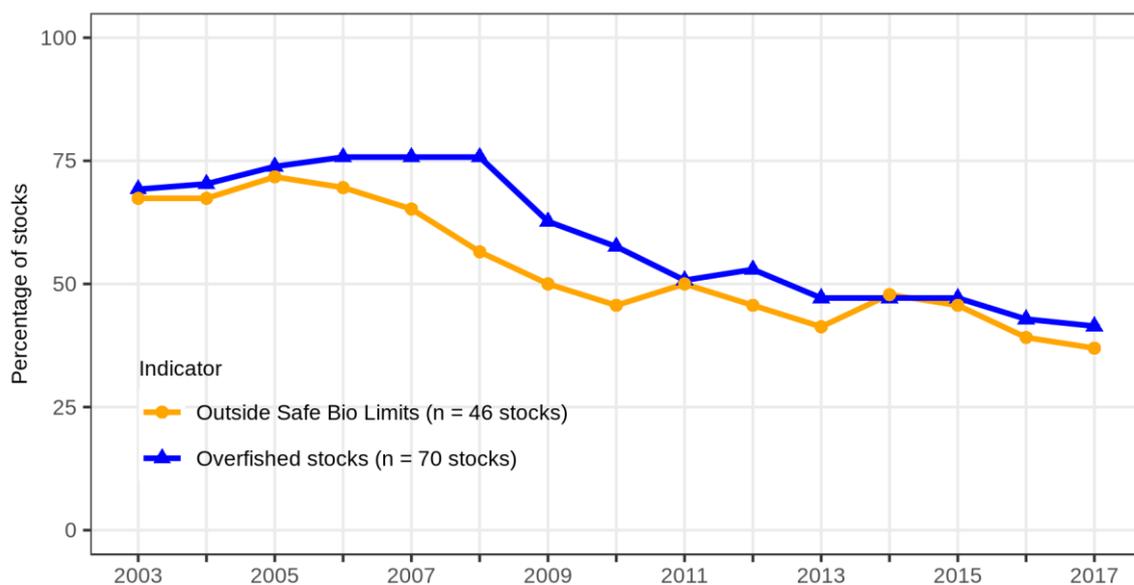


Figure 6.1. Trends in stock status in the Northeast Atlantic 2003-2017. Two indicators are presented: blue line: the proportion of overexploited stocks ($F > F_{MSY}$) within the sampling frame (64 to 70 stocks fully assessed, depending on year) and orange line: the proportion of stocks outside safe biological limits ($F > F_{pa}$ or $B < B_{pa}$) (out of a total of 46 stocks).

STECF notes that the indicator of the number of stocks where $F > F_{MSY}$ or $SSB < MSYB_{trigger}$ is based on comparatively few stocks (25 stocks). This makes the results unstable from year to year, and thus need to be taken with care. For this reason STECF decided not to present the results in Figure 1. STECF notes nevertheless that the indicator shows a variable trend, although showing a decrease from around 60% until 2009 to around 40% after 2013. Finally, STECF notes that the number or proportion of stocks above/below B_{MSY} is still unknown, because an estimate of B_{MSY} is only provided by ICES for very few stocks.

It is important to note, however, that in 2017 6 stocks managed according to F_{MSY} are still outside safe biological limits, or conversely 12 stocks inside safe biological limits are still overfished, while 18 have an unknown level of biomass (Table 6.1).

Table 6.1 – Number of stocks overfished ($F > F_{MSY}$), or not overfished ($F \leq F_{MSY}$), and inside ($F \leq F_{pa}$ and $B \geq B_{pa}$) and outside ($F > F_{pa}$ or $B < B_{pa}$) safe biological limits (SBL) in 2017 in the NE Atlantic.

	Below F_{MSY}	Above F_{MSY}
Inside SBL	17	12
Outside SBL	6	11
Unknown	18	6

STECF continues to observe that the recent slope of the indicators suggests that progress until 2017 has been too slow to allow all stocks to be maintained or restored to at least B_{pa} & $MSYB_{trigger}$, and managed according to F_{MSY} by 2020.

Stock Status in the Mediterranean & Black Seas

In the Mediterranean & Black Seas, the variable number of stocks contributing information in the early part of the time series renders the calculation of a robust indicator difficult and

potentially misleading. For the present STECF has utilised the summary Table 25 in the EG report to compute the F status for 2016 (last year in Mediterranean stock assessments). Out of 47 stocks, only around 13% (6 stocks) are not overfished, the majority are overfished.

Trends in the fishing pressure (Ratio of F/F_{MSY})

As agreed by STECF (2018a) the Expert Group computed the trends in fishing pressure using a robust statistical model (Generalised Linear Mixed Effects Model, GLMM) accounting for the variability of trends across stocks and including the computation of a confidence interval around the median. A large confidence interval means that different stocks have different trends. Because this is a model-based indicator, and because the number of stocks is slightly different from last year, small differences in the resulting outcomes compared to last year's report should not be over interpreted.

This indicator can be used for regional comparison between the NE Atlantic and Mediterranean & Black Seas. In the NE Atlantic, the model-based indicator of the fishing pressure (F/F_{MSY}) shows an overall downward trend over the period 2003-2017 (Figure 6.2). In the early 2000s, the median fishing mortality was more than 1.5 times larger than F_{MSY} , but this has reduced and has now stabilised around 1.0. Reaching F_{MSY} for *most* stocks in the analysis would require the upper bound of the confidence interval in figure 3.15 in the EWG report to be around 1. STECF also notes that this indicator of fishing pressure has stabilised near the value of 1 since 2011.

The same model-based indicator was computed by the EG for an additional set of 11 stocks located in the NE Atlantic, but outside EU waters. This indicator seems to confirm the positive overall trend observed in EU waters until 2014, with the median value of the F/F_{MSY} indicator closely tracking that produced for EU waters. After 2014 however, the indicator seems to show an increasing number of stocks exploited above F_{MSY} , and in contrast with the results in the previous report that continued to show a decreasing trend. STECF notes that the indicator for NE Atlantic stocks outside EU waters is based on comparatively few stocks, and where uncertainty is high (see figure 3.17 in the EW report). This makes the results unstable from year to year, and thus need to be taken with care.

In contrast, the indicator computed for stocks from the Mediterranean & Black Seas has remained at a very high level during the whole 2003-2016 period. After the observed peak in 2011 where F/F_{MSY} has reached its highest historical level, there is a somewhat decreasing trend in overexploited stocks. Nevertheless, the value of F/F_{MSY} varies around 2.3 indicating that the stocks are being exploited on average at rates well above the F_{MSY} CFP objective.

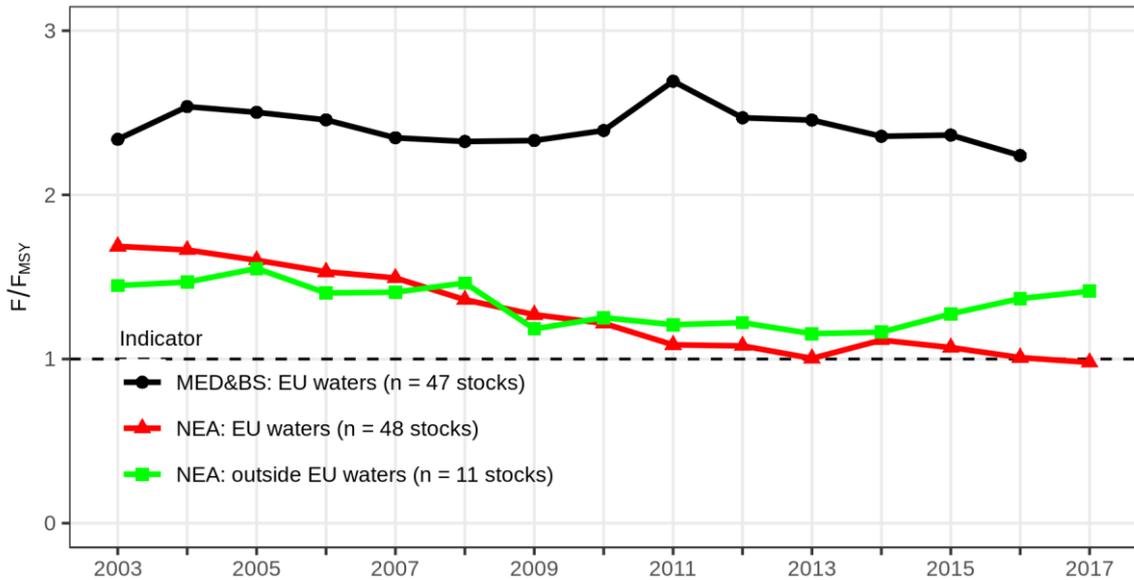


Figure 6.2. Trends in fishing pressure. Three model based indicators F/F_{MSY} are presented (all referring to the median value of the model): one for 48 EU stocks with appropriate information in the NE Atlantic (red line); one for an additional set of 11 stocks also located in the NE Atlantic but outside EU waters (green line), and one for the 47 assessed stocks from the Mediterranean & Black Seas (black line).

Trends in Biomass

The model-based indicator of the trend in biomass shows improvement in the NE Atlantic and particularly for data limited stocks (ICES category 3 stocks), but not in the Mediterranean & Black Seas (Figure 6.3). In the NE Atlantic the biomass has been generally increasing since 2007, and was in 2017 on average around 36% higher than in 2003. In the Mediterranean & Black Seas the situation is essentially unchanged since the start of the series in 2003, although since 2012 there is a somewhat increase in biomass. STECF notes however the large uncertainty associated to this indicator (see Figure 30 in the EW report).

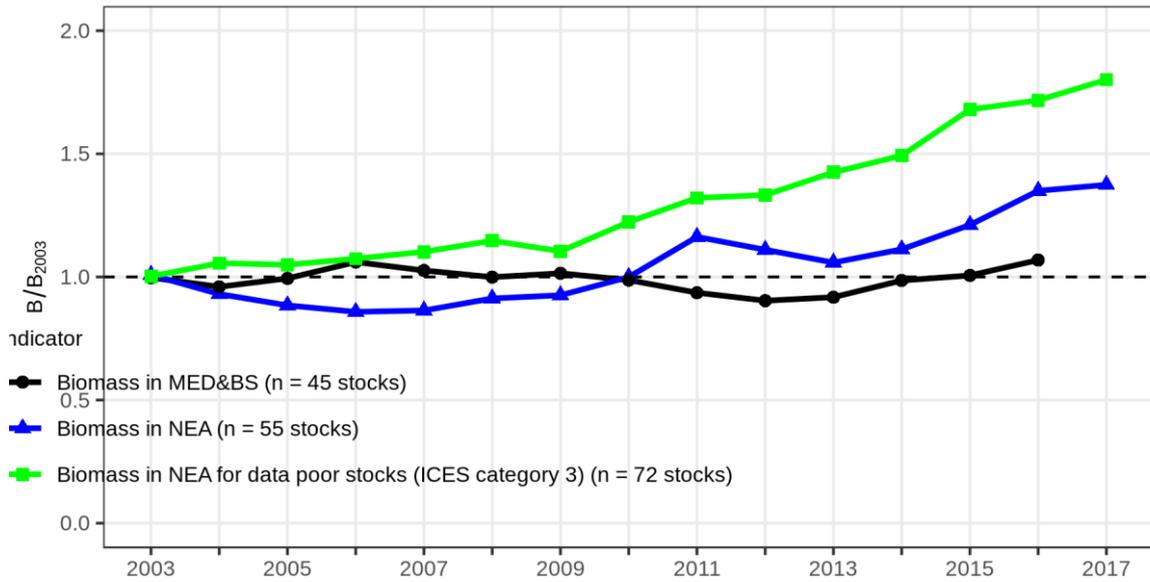


Figure 6.3. Trends in the indicators of stock biomass (median values of the model-based estimates relative to 2003). Three indicators are presented: one for the NE Atlantic (55 stocks considered, blue line); one for the Mediterranean & Black Seas (45 stocks, black line); and one for data limited stocks (ICES category 3, 72 stocks, green line).

Finally, the average decadal recruitment indicator shows decreasing trend until 2012 and an inversion afterwards, which may reflect an increase in stock's production. However, the characteristics of the indicator, a decadal ratio, make it difficult to clearly interpret these results. For example the 2017's decadal recruitment for a single stock is the ratio between the average recruitment from 2008 to 2017 over the average recruitment from 1998 to 2007. Yearly decadal recruitment ratios for each stock constitute the dataset used to fit the model, of which predictions are afterwards scaled to 2003 (check the protocol in Annex 1 of the EW report for more details; Figure 6.4).

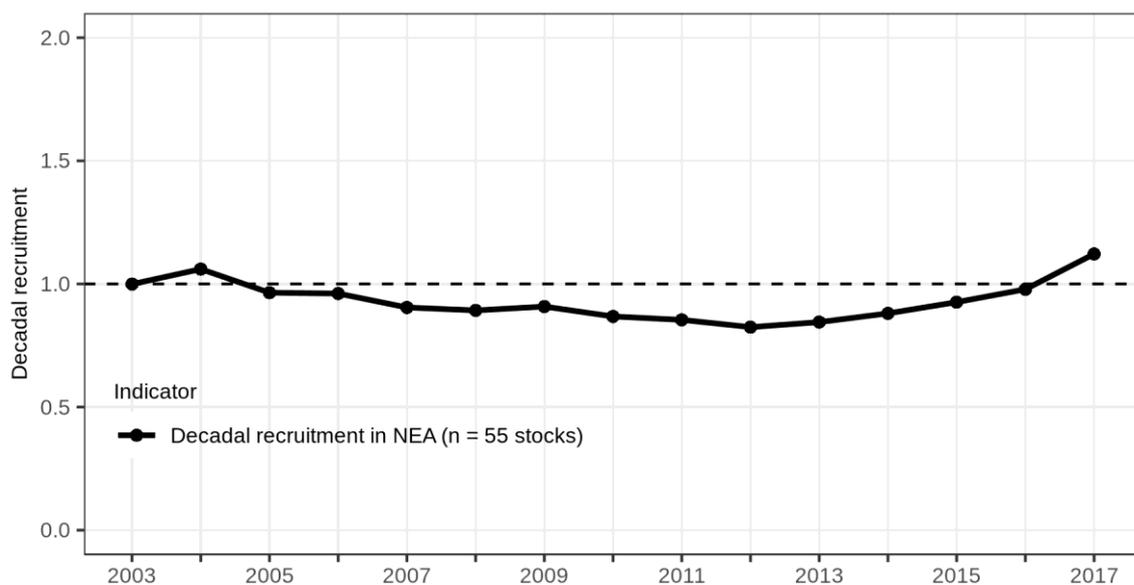


Figure 6.4. Trend in decadal recruitment scaled to 2003 in the Northeast Atlantic area (based on 55 stocks).

Trends per Ecoregion

The EG provides some information and figures broken down by Ecoregion for the NE Atlantic and the Mediterranean & Black Seas. STECF notes however the large uncertainty associated to these indicators, particularly in the Mediterranean & Black Seas, making the results unstable from year to year and thus should be taken with care. The main trends are summarised here.

In all ICES Ecoregions the overall fishing pressure has decreased and the status of stocks has improved compared to the start of the time series. Nevertheless, in three out of five regions the decreasing trend in exploitation has been reversed (Baltic Sea and Celtic Sea) or stalled (NE Atlantic widely distributed stocks) in the recent years, while the Bay of Biscay & Iberia area show a considerable increase in biomass, followed by the NE Atlantic widely distributed stocks. In 2017, the proportion of overexploited stocks ranged between to 33% - 88% across the different Ecoregions, while the modelled estimate of the F/F_{MSY} ratio for 2017 was between 0.86 and 1.22.

Coverage of the scientific advice

Coverage of biological stocks by the CFP monitoring

The analyses of the progress in achieving MSY objectives in the NE Atlantic should consider all stocks with advice provided by ICES, on the condition of being distributed in EU waters, at least partially. Based on the ICES database accessed for the analysis, ICES provides scientific advice for 247 biological stocks included in EU waters (at least in part). Of these, 147 stocks (60%) are data limited, without an estimate of MSY reference points (ICES category 3 and above, Table 6.2).

Table 6.2. Numbers of stocks assessed by ICES for different stock categories in different areas. Note that not all of these stocks are managed by TACs, and as such numbers are higher than those used in the CFP monitoring analysis.

	ICES Stock Category						Total
	1	2	3	4	5	6	
Arctic Ocean	12	1	8	0	3	3	27
Azores	0	0	2	0	1	1	4
Baltic Sea	8	0	9	1	0	0	18
BoBiscay & Iberia	12	1	18	1	8	5	45
Celtic Seas	27	0	19	1	13	10	70
Faroes	3	0	1	0	0	0	4
Greater North Sea	22	0	14	5	7	3	51
Greater Northern	0	0	1	0	0	0	1
Greenland Sea	5	0	3	0	0	1	9
Iceland Sea	1	0	0	0	1	0	2
NE Atlantic widely distributed stocks	7	1	7	0	1	0	16
Total	97	3	82	8	34	23	247

The present CFP monitoring analysis is focused on stocks with a TAC and for which estimates of fishing mortality, biomass and biological reference points are available. As detailed in the EGs technical reports, not all indicators can be calculated for all stocks in all years, and the EG was able to compute indicators for 70 to 115 stocks of category 1 depending on indicators, years and areas, and 72 stocks of category 3. These stocks represent the vast majority of catches but a large number of biological stocks present in EU waters are still not included in the CFP monitoring.

In the Mediterranean region, the EG selected 230 stocks (Species/GSA) in the sampling frame (Mannini et.al 2017), of which 47 (20%) have been covered by a stock assessment in recent years. In the Mediterranean region, stocks status and trends can be monitored only for a minority of stocks.

Coverage of TAC regulation by scientific advice

According to the EG report, STECF notes that 156 TACs (combination of species and fishing management zones) were in place in 2017 in the EU waters of the NE Atlantic.

STECF underlines that in many cases, the boundaries of the TAC management areas are not aligned with the biological limits of stocks used in ICES assessments. The EG therefore computed an indicator of advice coverage, where a TAC is considered to be “covered” by a stock assessment when at least one of its divisions matched the spatial distribution of a stock for which reference points have been estimated from an ICES full assessment. Based on this indicator, 55% among the 156 TACs are covered, at least partially, by stock assessments that provide estimates of F_{MSY} (or a proxy), 50% by stock assessments that have B_{pa} , but only 20% by stock assessments that provide estimates of $MSYB_{trigger}$.

Additionally, STECF notes that, using this index, some TACs can be considered as “covered” even if they relate to several assessments contributing to a single TAC (e.g. *Nephrops* functional units in the North Sea) or to a scientific advice covering a different (but partially common) area (e.g. whiting in the Bay of Biscay). Thus, such an approach overestimates the spatial coverage of advice (i.e. the proportion of TACs based on a single and aligned

assessment). This means that a large number of TACs are still imperfectly covered by scientific advice based on F_{MSY} or $MSYB_{trigger}$ reference values.

Ongoing developments

STECF notes that work will continue in 2019 to develop further several experimental indicators identified in the EWG 18-15, to allow for the coverage of the CFP monitoring report to be expanded in the future.

STECF conclusions

STECF acknowledges that monitoring the performance of the CFP requires significant effort in order to provide a comprehensive picture. The process presents a number of methodological challenges due to the annual variability in the number and categories of stocks assessed (especially in the Mediterranean) and due to the large variations in trends across stocks. As a result, the choice of indicators and their interpretation is being discussed, expanded and adjusted over time, as duly documented in the suite of STECF plenary reports and in the JRC EG technical reports. STECF is aware that minor differences in the indicators can occur compared to previous years. However STECF always use the latest assessment and best science available at the time of the report.

STECF notes that only 25 stocks have an actual $MSYB_{trigger}$ estimate out of 70 stocks analytical assessed by ICES. This result in an uncertain year-to-year variable indicator, restricting considerably the possibilities to monitor the CFP. STECF therefore identifies the need to increase the numbers of stocks for which an actual $MSYB_{trigger}$ estimate is available.

Regarding the progress made in the achievement of F_{MSY} in line with the CFP, STECF notes that the latest results are generally in line with those reported in the 2017 & 2018 CFP monitoring and confirm a reduction in the overall exploitation rate for the NE Atlantic. On average the stock biomass is increasing and stock status is improving. Nevertheless, based on the set of assessed stocks included in the analyses, STECF notes that many stocks remain overfished and/or outside safe biological limits, and that progress achieved until 2017 seems too slow to ensure that all stocks will be rebuilt and managed according to F_{MSY} by 2020.

STECF also concludes that stocks from the Mediterranean & Black Seas remain in a very poor situation, although there is a slight improvement in terms of fishing pressure and stock biomass.

STECF continues to recognise the need to broaden the scope of the CFP monitoring to cover additional aspects not so far dealt with. In particular, there is a need to develop the CFP monitoring process to cover the Landing Obligation, wider ecosystem and socio-economic aspects in the analysis.

6.2 Monitoring the Landing Obligation

Background provided by the Commission

In order to facilitate the reporting, and in line with the outcome of STECF EWG 16-04, in 2018 Member States were invited on a voluntary basis to complete questionnaires seeking more detailed information on the impact of the landing obligation and national steps taken to assist with its implementation. This year, Member States were asked to update the information provided as appropriate. This information has been reviewed and summarized in an ad hoc contract.

Regulation (EU) No 2015/812 (the so-called Omnibus Regulation), introduced an obligation for the Commission to report annually on the implementation of the landing obligation, based on information transmitted by the Member States, the Advisory Councils and other relevant sources.

According to Article 9 of the Omnibus Regulation, Commission report should include the following elements:

- Steps taken by Member States and producer organisations to comply with the landing obligation;
- Steps taken by Member States regarding control of compliance with the landing obligation;
- Information on the socioeconomic impact of the landing obligation;
- Information on the effect of the landing obligation on safety on board fishing vessels;
- Information on the use and outlets of catches below the minimum conservation reference size of a species subject to the landing obligation;
- Information on port infrastructures and of vessels' fitting with regard to the landing obligation; for each fishery concerned; and
- Information on the difficulties encountered in the implementation of the landing obligation and recommendations to address them.

In order to facilitate the reporting, and in line with the outcome of STECF EWG 16-04, in 2018 Member States were invited on a voluntary basis to complete a questionnaire seeking more detailed information on the impact of the landing obligation and national steps taken to assist with its implementation. This year, Member States were asked to update the information provided as appropriate. This information has been reviewed and summarized in an ad hoc contract.

Request to the STECF

Based on:

- The report of the STECF ad hoc contract (1902) for Evaluation of Member States Annual Reports on the Landing Obligation;
- Annual reports received by Member States and EFCA, and the letters sent by the Advisory Councils with their advices in 2018;
- Any other relevant sources of information

Background documents are published on the meeting's web site on: <https://stecf.jrc.ec.europa.eu/plen1901>

STECF is requested to:

- (1) To advise the Commission on the elements appropriate to meet the reporting requirements of Article 9 of Regulation 2015/812, review and summarise the main findings of the reports highlighting, in a structured manner, key salient points raised by each MS and to provide an overview of them at the sea basin level, including for the long distance fleet operating beyond EU waters (also to be considered as appropriate in the points below);
- (2) To identify to what extent discard rates are being reduced in specific fleets or fisheries;
- (3) Identify specific actions where MS have made adjustments to support the implementation of the landing obligation;
- (4) Identify the most important gaps or weakness in implementation and the lessons to be learned from best practices. Where available, identify specific fleets and stocks where the landing obligation has had a direct impact on fishing activity;
- (5) Highlight the most important weaknesses in reporting and the lessons to be learned from best practices;
- (6) Make any further recommendations as appropriate to improve the full implementation, as of 1 January 2019, its identified challenges and the reporting.

STECF response

STECF notes that the Commission asked MS to complete a questionnaire based on proposals in STECF-16-03, developed in the context of Art. 9 of the Omnibus regulation, referring to implementation of the landing obligation in 2018. Reports on the implementation were first required in 2016 referring to the situation in 2015.

STECF notes that 18 MS and 5 Advisory councils submitted reports. The Commission did not receive 2018 reports from five MS: Croatia, Estonia, France, Italy and Romania. This represents an increase in the reporting rate since last year when 15 MS and 2 Advisory councils reported. In addition, unlike submissions from advisory councils in previous years, which offered responses to the standard questionnaire on progress in implementation of the LO, the material provided by DGMARE 2018 consisted of advisory letters received at intervals throughout 2018. No report from EFCA was submitted.

STECF notes that no data on discards, from for example at-sea monitoring programmes, logbook reported discards, landed unwanted catch or from last-haul programmes, were provided to STECF prior to the meeting.

STECF notes that the two additional questions tabled for 2017 and elaborating on compliance and enforcement were included in the 2018 questionnaire.

The reports were reviewed and synthesised by means of an ad-hoc contract, whose report was presented to the STECF plenary. The ad-hoc contract report is available on the plenary meeting website: <https://stecf.jrc.ec.europa.eu/plen1901> under "documents".

STECF notes that for those Member States providing a report, a simple four category classification was adopted based loosely on a combination of the number of questions for which some change was evident and whether the change was small or was of greater significance. In 2018 there were no reports showing significant change and a much higher proportion showing no noticeable change at all.

Member States	2016	2017	2018
Belgium			
Bulgaria			
Croatia			
Cyprus			
Denmark			
Estonia			
Finland			
France			
Germany			
Greece			
Ireland			
Italy			
Latvia			
Lithuania			
Malta			
Netherlands			
Poland			
Portugal			1st report
Romania			
Slovenia			
Spain			
Sweden			
United Kingdom			

Key	2016	2017-2018
	No Report	No Report
	No information	No change
	Significant information	Significant change

Table 6.2.1 Extent to which reports have been changing by Member State 2016-2018.

Table 6.2.2 provides a summary of the aspects of the landing obligation where most change was evident 2016-2108. A simple colour scale from 'No change' to 'Significant change' has been used to classify the responses (by Member State) to the individual questions posed in the Commission questionnaire (the questions are included in Annex II).

Summary of background information provided to the Commission by MS

This section provides a synthesis of the background information received from Member States, Advisory Councils as well as of the report of the ad hoc contract. It summarises the specific actions taken by Member states and highlights new content in MS 2018 reports relating to the different sea basins.

Member States	NWW	SWW	North Sea	Baltic	Mediterranean	Black Sea
Belgium	Yes	Yes	Yes			
Bulgaria						Yes
Croatia					No	
Cyprus					Yes	
Denmark			Yes	Yes		
Estonia				No		
Finland				Yes		
France	No	No	No		No	
Germany			Yes	Yes		
Greece					Yes	
Ireland	Yes					
Italy					No	
Latvia				Yes		
Lithuania				Yes		
Malta					Yes	
Netherlands	Yes		Yes			
Poland				Yes		
Portugal	Yes	Yes				

Romania						No
Slovenia					Yes	
Spain	Yes	Yes			Yes	
Sweden			Yes	Yes		
United Kingdom	Yes		Yes			
NWWAC	Yes					
SWWAC		Yes				
NSAC			Yes			
BSAC				No		
MEDAC					Yes	
Black Sea AC						No
PAC	Yes – across various areas					

Table 6.2.3 shows the responses received by sea basin. Generally, Member States that responded followed the questionnaire although the level of detail provided varied widely. Many of the reports tended to repeat information provided for earlier years (2016 and 2017).

Regional overviews

NORTH WESTERN WATERS

Six out of seven MS which had vessels active in NWW in 2018 submitted a report to the Commission. France did not submit a report. Communication from NWWAC was restricted to advisory letters and did not include a questionnaire response.

Relating to 2016 and 2017 MS reports: Member States in NWW have been proactive in trying to implement the landing obligation and most have initiated studies and pilot projects. These include selectivity studies, studies to measure the impacts of the landing obligation on specific fleets, measurement of discard rates in fisheries subject to the landing obligation and studies to support high survivability and de minimis exemptions. In addition, Member States have also made adaptations to their catch reporting systems or introduced specific management measures to assist with implementation. Member States have also worked extensively with the NWWAC to disseminate information to the fishing industry, but it is evident there is a lack of industry buy-in for the landing obligation which is hindering implementation.

New for 2018 MS report: One country (Portugal) responded for the first time. Compared with previous years, only a few new selectivity studies were initiated in 2018. There were no other new initiatives or measures reported.

Relating to 2016 and 2017 MS reports: Several specific cases of choke species have been reported by Member States in the NWW and this issue remains one of the key concerns in this sea basin. Analysis carried out in conjunction with the NWWAC highlight that the existing exemptions and tools within the Regulation are unlikely to fully alleviate the choke problems.

New for 2018 MS report: There was significantly more information on de minimis quantities reported but this by no means presented a complete picture of uptake. Reporting of catch under the Minimum Conservation Reference Size (MCRS) continues to be very limited making it impossible to judge whether there has been any progress in reducing unwanted catches.

Relating to 2016 and 2017 MS reports: The difficulties in monitoring catches discarded under exemptions and the low level of landings of fish below MCRS in NWW which generally have been low are also issues of concern for Member States. There is little evidence of the widespread use of any new control and monitoring tools although several Member States have been trialling CCTV systems. Most Member States have voluntarily made changes to the layout of the logbook to capture catches of fish below MCRS. All Member States have engaged with EFCA and most have participated in the last haul analysis developed by EFCA

New for 2018 MS report: One Member State (Spain), after numerous trials, expressed reservations about the use of the last haul analysis for monitoring of the landing obligation. Most Member States indicated they are moving to a risk-based approach for monitoring the landing obligation.

SOUTH WESTERN WATERS

Three out of four MS which had vessels active in SWW in 2018 submitted a report to the Commission. France did not submit a report. The SWWAC also did not respond directly to the questionnaire.

Relating to 2016 and 2017 MS reports: Based on the reports received, the landing obligation seems to have had little impact on fishing activities in the SWW. Apart from one Member State, very few studies or specific measures are reported to have been taken to implement the landing obligation. Member States do point to issues in future years when more species and fisheries are subject to the landing obligation.

New for 2018 MS report: Portugal submitted a report for the first time in 2018 and updates were provided by other MS. Fisheries with de minimis and high survival exemptions operate in this sea basin and two of the Member States provided detailed estimates of de minimis quantities used. However, little information was provided on the level of catch below MCRS and landings.

Relating to 2016 and 2017 MS reports: To improve understanding and awareness of the landing obligation, the Member States which have responded to the questionnaire have set up working groups involving scientists, fishing representatives, managers and NGOs to discuss progress made in the implementation of the landing obligation. Guidelines and circular letters have also been sent to skippers and information has been provided to fisheries inspectors.

New for 2018 MS report: Enforcement and compliance information was updated. Most Member States indicated broad support for control procedures (including last haul analysis) developed by EFCA. Very little information was supplied on other aspects of LO implementation e.g. safety and information on EMFF funding mainly consisted of updates of project numbers and allocated finance but without much detail.

NORTH SEA

Six MS out of seven that had fishing vessels active in the North Sea in 2018 submitted reports. France did not submit a report in 2018. Communication from NSAC was restricted to advisory letters and did not include a questionnaire response.

MS reports indicated a perceived reluctance from the fishing industry to fully comply with the landing obligation. Reporting catches discarded under exemptions remains highly variable and landings of fish below MCRS are well below levels that would be expected based on historical catch data and observed degree of change in fishing practices to avoid unwanted catch of under MCRS fish.

Relating to 2016 and 2017 MS reports: A common theme across Member States has been the action taken to disseminate requirements of the landing obligation to fishermen and inspectors using all available methods and consultation facilities. For 2017, these general themes continued amongst the Member States submitting a completed questionnaire

New for 2018 MS reports: The 2018 questionnaire responses were mainly updates reiterating earlier comments with very little new information.

Relating to 2016 and 2017 MS reports: The specific actions that have been taken by Member States within this region fall into several categories. Provision of tools to avoid unwanted catches has been a priority in some countries and most of this work has focussed on improving selectivity of the fishing operation, with only a small number so far dealing with spatial avoidance of areas likely to generate unwanted catch. While a number of promising gears to tackle specific issues have been developed, uptake of those gears by industry has so far been patchy and slow. In a few cases, notably linked to Nephrops fisheries, fairly detailed de minimis exemption cases have been developed and for Nephrops and some sole fisheries, high survivability studies have been undertaken in direct response to the landing obligation. For 2017 there was increased detail on trials taking place and numbers of vessels involved in trials. Some Member States provided more quantitative information on de minimis quantities changes to fishing practices in order to avoid unwanted catches has been widespread by vessel operators of many Member States in the North Sea, mostly focussed on improving selectivity of the fishing operation. However, uptake of selective gears by industry has been low.

New for 2018 MS report: In 2018 there was a continuing trend of supporting work on exemptions and of supplying more quantitative information on de minimis and <MCRS landings, but data are still sparse.

Relating to 2016 and 2017 MS reports: There have been a number of actions in the area of compliance and data collection/recording within the North Sea region. The use of CCTV and REM technology as part of an FDF approach is being trialled in some countries and work by the regional control group identified this method and observers as the most likely to permit accurate recording of catch. Some countries have begun making use of a more 'forensic' approach by combining and comparing observations at sea with information on landings made into ports. These techniques are also being explored in the context of the 'last haul' approach developed by EFCA.

New for 2018 MS report: During 2018 there was little change to the above. One Member State (Sweden) reported that all its at-sea boardings now include a last haul analysis. This Member State also reported its highest level of boardings. Quantitative information on the amounts of <MCRS catches and landings was very limited and some Member States did not supply information at all.

BALTIC

Seven out of eight MS with fishing vessels active in the Baltic submitted reports for 2018. Estonia did not submit a report. The BSAC did not submit any reply in 2018

Relating to 2016 and 2017 MS reports: Within the Baltic Sea area, the main regional bodies (BALTFISH and the regional control group, and BSAC) have been proactive in providing opportunities for managers, scientists, compliance, fishermen and other stakeholders to discuss and develop approaches towards improved implementation of the landing obligation. Provision of tools to avoid unwanted catches has been a priority in some countries mostly focussed on improving selectivity of the fishing operation. In common with the North Sea, uptake of those gears by industry has so far been slow.

New for 2018 MS report: In 2018, very little additional information was reported.

Relating to 2016 and 2017 MS reports: Actions relating to the management of available quota has included the provisioning of a 'bycatch quota' split off from the main quota for a species and reserved for use by vessels targeting other species but which need to draw on a small amount of bycatch quota to avoid having to tie up. For 2017 one country has introduced a system of transferable fishing concessions to help avoid disruptive competition at the start of the year.

New for 2018 MS report: One Member State (Sweden) reported significant socio economic information, but demonstrating very little effect of the landing obligation. Several Member

States operating in this sea basin signalled significant increases in the use of EMFF funding – much of it directed at supporting selectivity studies.

MEDITERRANEAN SEA

Five out of eight MS that had vessels fishing in the Mediterranean submitted reports for 2018; Croatia, France and Italy did not submit 2018 reports. Communication from MEDAC was restricted to advisory letters and did not include a questionnaire response.

Relating to 2016 and 2017 MS report: The landing obligation appears to have had little impact on fishing activities in the Mediterranean, and many Member States report few difficulties in implementation. Only limited information was supplied in 2018 which may reflect that implementing the landing obligation in the Mediterranean is not seen as a problem. To improve understanding and awareness of the landing obligation, all Member States which have responded to the questionnaire have organised meetings to inform stakeholders and to discuss progress made in implementation. Guidelines and circular letters have also been sent to skippers and information has been provided to fisheries inspectors. Dedicated internet webpage has also been developed.

Relating to 2016 and 2017 MS report: Regarding control and compliance with the landing obligation, special monitoring and operation plans have been implemented in one Member State. In 2017 one Member State indicated it was developing a risk-based approach but no detail was given.

New for 2018 MS report: Most MS reiterated previous comments from 2016 and 2017 and little seems to have changed.

BLACK SEA

Only Bulgaria and Romania had vessels fishing in the Black Sea in 2018. Only Bulgaria submitted a report for 2018. The Black Sea AC did not submit any reply. The content of the response was almost identical to that of 2017 suggesting very little change in specific activities.

Relating to the 2016 and 2017 MS reports: The landing obligation is reported to have had little or no impact on fisheries in the Black Sea. No specific actions or measures are reported by the Member States in this sea basin.

New for 2018 MS reports: In the 2018 report, no additional information was reported.

Specific actions taken by Member States

There is a wide divergence in approach to implementing the landing obligation. There are several Member States that have taken a range of specific actions including conducting specific studies and pilot projects, adapted their control regimes and provided funding under the EMFF. Other Member States have taken few or no actions and report that they have not experienced any difficulties with the landing obligation.

New for 2018 MS report: There was only a limited amount of new information that could be described as representing significant change. Most of the responses indicated a continuation of measures in place with updates of the generally limited quantitative information. STECF notes that no MS provided specific information related to the long-distance fleet operating beyond EU waters.

Relating to 2016 and 2017 MS reports: Most Member States appear to be moving towards a risk-based approach to control and monitoring largely because of the efforts made by EFCA to assist Member States. This element is one of the most positive outcomes from the landing obligation to date. EFCA have also shown the utility of the last haul analysis to facilitate the evaluation of compliance with the landing obligation provisions and provide information on catch composition across different fisheries.

New for 2018 MS report: Some MS have provided quantitative information on de minimis use and have reported on levels of below MCRS catches. However, coverage remains limited.

Relating to 2016 and 2017 MS reports: Most Member States have engaged with the relevant Advisory Councils and in the case of the Mediterranean, have largely followed the advice provided by the MEDAC. Member States have also made significant effort into disseminating information to fishermen in a variety of ways – meetings, information notes or one-to-one meetings. There is also evidence that most Member States have provided specific training for inspectors facilitated extensively by EFCA.

New for 2018 MS report: There appear to have been a general raising of efforts to engage with industry ahead of the full implementation of the landing obligation in 2019 through additional seminars, industry briefings, information leaflets etc.

Key areas of concern and difficulties

Relating to 2016 and 2017 MS reports: Most Member States' reports indicated that problems have been minimal but are expected to increase as more species and fleets become subject to the landing obligation. Member States report that their main difficulty arises from the lack of engagement by the fishing industry and a reluctance to fully comply with the legislation. In many Member States, there is little or no evidence of change in fishing practices.

New for 2018 MS report: Similar concerns to previous years were raised in the 2018 report.

Relating to 2016 and 2017 MS reports: Choke stocks is reported as a concern for a number of Member States. The extent of the problem remains unclear and there are almost no examples of reported choke situations occurring since the introduction of the landing obligation. However, communications from four ACs (NWWAC, SWWAC, NSAC and PAC) were almost exclusively focussed on the impending problems of choke when the landing obligation is implemented. While input from MEDAC focussed on the problem of <MCRS catch and advocated large de minimis exemptions

New for 2018 MS report: In 2018, MS did not emphasise strongly the issue of choke species in their responses.

Specific gaps or weaknesses in implementation

Several specific gaps and weaknesses have been identified. These are mainly implementation and operational issues although weaknesses with the questionnaire itself are also identified. These issues are split into ones that require considerations by DGMARE and others that require action by Member States/Regional Groups or the fishing industry.

Issues that require considerations by DG MARE

- Although the questionnaire helps in fulfilling the requirement to provide information according to Article 9 of the Omnibus Regulation, there is a lack of quantitative data which makes it difficult to understand whether any progress has been made towards effectively implementing the LO or in reducing unwanted catches.
- Much of the information supplied remains largely qualitative and DGMARE is again encouraged to review the questionnaire considering the reports received and suggest changes that will improve the utility of the information provided. The inclusion of formatted tables explicitly setting out the required information on de minimis quantities or fish below MCRS would be useful. Greater focus on the extent and effectiveness of control and compliance outcomes and the supply of evidence illustrating cross checking between at sea and in port inspections would also be beneficial.
- In this context, data on last-haul analysis should be made available to STECF prior to plenary, to allow for an analysis if the objectives of the LO are being achieved, i.e. if there has been a reduction of unwanted catches through a change in fishing practices.
- Most of the reports for 2018 indicate the increasing use of risk-based inspection and last haul analysis. These procedures, used alongside new technologies (REM, CCTV and drones) could contribute to improving the monitoring process and can help to assure managers that all catches are being reported correctly. It is through transparency of this kind that 'a level playing field' is encouraged and stakeholders recognise an even-handed approach in the full implementation of the LO. Critical for the success of the landing obligation is achieving assurance that all catches are accounted. At present this remains a serious weakness and there is continuing uncertainty about what is happening at sea. Where emerging monitoring methods offer the possibility of enhancing assurance through control and monitoring activities and are supported by

EFCA and others, it is suggested that the Commission is more proactive in promoting these.

Issues that require considerations by Member States/Regional Groups

- Reports for 2018 continue to show that most Member States have put effort into the control and monitoring of the landing obligation, particularly with the move towards a risk-based approach and the use of the last-haul analysis developed by EFCA. However, it is apparent that forensic sampling of catches on board vessels and in ports is only applied in a few Member States and the level of confidence in catch reporting remains low. Observer coverage has not increased in several Member States. There is little uptake in the use of technology based control tools such as Remote Electronic Monitoring and there is a reliance on existing control and monitoring techniques to enforce the landing obligation. Of concern is the observation that the last haul analysis has been questioned by one member state.
- The above is exemplified by the very low reported catches of fish below MCRS for 2018 by most Member States - it is extremely doubtful that they reflect the true quantities being caught when compared to observer data and last haul analysis. Accurate reporting of unwanted catches is vital to understanding the impact of the landing obligation and Member States should make increased efforts to ensure better reporting of such catches. Until there is sufficient confidence that catches are being accurately accounted for, uncertainty will remain. The fact that such a high proportion of onboard fishing operations take place without scrutiny remains a serious issue for successful implementation of the LO (see comments to the Commission). A possible improvement could be for the outcomes from the various sources of sampling be collated at the Regional level, to provide a more complete picture of the effectiveness of the LO at the regional level.
- The Omnibus Regulation allows for the modification of the technical measures regulations through discard plans. However, despite many Member States being proactive in carrying out experiments with selective gears or considering avoidance measures on an experimental basis, few of these measures have been adopted into discard plans. This has resulted in low uptake by fishermen and little evidence of any improvements in selectivity. Regional groups have tended to focus on developing cases for de minimis or survivability exemptions rather than improvements in selectivity. Member States should consider the introduction of relevant technical measures that would help to improve selectivity. In one case an incentive system is being introduced which provides additional catching opportunities to those vessels employing more selective gears. Similar schemes have operated previously in relation to REM technologies in some Member States. Several Member States report increased use of EMFF funding directed at the LO and in a few cases selectivity work is explicitly mentioned – it would be helpful if, as part of the reported outcomes, increased efforts could be made to encourage uptake of successful gear options.
- Most Member States have not used the inter-species quota flexibility mechanism. Member States appear to recognise that this carries risks of elevated mortality rates and should be viewed as a last resort approach. In 2018 the ACs asked the Commission for clarification on how this tool could be used in a sustainable way. Guidance from the Commission on an acceptable approach would be beneficial.

Issues that require considerations by the fishing industry

- As in 2017, most Member States' reports suggest that in 2018 there is still opposition and a sense of denial towards the landing obligation by fishers. There is little evidence of any change in behaviour. Effective implementation of the landing obligation will require a change in the operational approach taken by fishers, and strong industry leadership combined with collaborative work within the ACs would be very beneficial to facilitate this change.
- Again as in 2017, many Member State reports indicate fishers are still not reporting fish discarded under exemptions (i.e. de minimis and high survivability), discards of fish currently not subject to the landing obligation and catches below MCRS. Based on the Member States reports, the quantities of discards and unwanted catches being recorded in logbooks are extremely low and do not match information from observer data or in some cases from analysis of last haul observations. Inaccurate or incomplete catch data will compromise the provision of scientific advice on stock abundance and status and this increasing uncertainty may result in more precautionary advice. It is therefore in fisher's best interests to accurately record such catches and make every effort to reduce unwanted catches.

STECF conclusions

ToR 1 - *To advise the Commission on the elements appropriate to meet the reporting requirements of Article 9 of Regulation 2015/812, review and summarise the main findings of the reports highlighting, in a structured manner, key salient points raised by each MS and to provide an overview of them at the sea basin level, including for the long distance fleet operating beyond EU waters (also to be considered as appropriate in the points below);*

STECF reiterates its conclusions from PLEN 18-01. MS reports continue to contain mostly qualitative statements, generally not supported with data. While informative, these reports do not thus allow a comprehensive analysis of the progress in implementing the landing obligation or the impacts of the landing obligation. STECF is therefore unable to fully provide the Commission with the information required to fulfil its reporting obligations under Article 9 of the Omnibus Regulation.

In particular for 2018, STECF concludes that i) only a limited amount of new measures and significant initiatives were reported; ii)choke issues are a major concern but only one MS reports this happening; iii) quantitative information increased marginally; iv)economic impacts appear to be limited; v) there has been increased reporting of EMFF use; vi) no specific information has been provided on distant water fleets.

STECF concludes that the information provided by the Advisory Councils in 2018 provides only partial information on implementation or impacts of the landing obligation and is restricted to communications on specific issues of most concern to them.

ToR 2 – *To identify to what extent discard rates are being reduced in specific fleets or fisheries.*

STECF reiterates its conclusions from PLEN 18-01. Based on the MS reports submitted, it is not possible to identify to what extent levels of unwanted catches have been reduced in specific fleets or for specific fish stocks.

ToR 3 - *Identify specific actions where MS have made adjustments to support the introduction of the landing obligation.*

STECF reiterates its conclusions from PLEN 18-01. There continues to be very little information provided on the outcomes arising from specific actions such as the proportions of vessels utilising new gears or the extent to which de minimis exemptions are actually utilised.

ToR 4 - *Identify the most important gaps or weakness in implementation and the lessons to be learned from best practices. Where available, identify specific fleets and stocks where the landing obligation has had a direct impact on fishing activity*

STECF reiterates its conclusions from PLEN 18-01. Member States mainly report few problems with the implementation of the landing obligation. Several MS report a lack of engagement and 'buy in' by the industry to adapt to the landing obligation and Member States are unable to point to significant changes in fishing practices. Greater uptake of novel gears and other avoidance measures is required – perhaps through the use of incentive schemes. So far STECF is only able to identify one country reporting choke events which had directly impacted fishing activity.

ToR 5 - *Highlight the most important weaknesses in reporting and the lessons to be learned from best practices*

STECF reiterates its conclusions from PLEN 18-01. The most important weakness is in the low quantitative reporting of catches (including de minimis, high survival discards and <mcrs) to the extent that it is very unclear what is happening at sea and whether the implementation of the landing obligation is leading to the required changes in fishing practices. Without these it is not possible to assess if the objectives of the LO are being achieved. STECF concludes that at sea monitoring making use of all available tools and backed up by on shore cross checking could be strengthened in all areas.

ToR 6 - *Make any further recommendations as appropriate to improve implementation and reporting*

STECF reiterates its conclusions from earlier reports (eg PLEN 18-01) that accurate reporting of all catches is vital to understanding the impact of the landing obligation. In the case of EFCAs last-haul data, this will need to be made specifically available for STECF since it is not public information. At present, STECF is unable to identify to what extent discard rates are being reduced. STECF concludes that since catches are not being adequately reported, monitoring at sea with effective control tools such as Electronic Monitoring (EM) with videos and sensors system REM, needs to increase.

STECF concludes that although Member States continue to develop enforcement and monitoring activities, particularly the risk-based approach and the use of the last haul analysis, it is apparent that there is only limited use of comparative data and forensic sampling of catches. STECF concludes that more reliable data could be achieved if more effort was made to compare data from sampling on board with vessel-reported and last-haul data on catches, discards and landings.

STECF also concludes that improvements could be achieved by enhancing the traditional compliance and monitoring tools with the use of alternative techniques to monitor vessels at sea such as Electronic Monitoring (EM) with videos and sensors system. There are only a few

indications that innovative monitoring at sea is being used as a more effective means to monitor the landing obligation (STECF EWG 13-17) and in most cases these instances are restricted to trials involving a limited number of vessels.

STECF notes there are many sources of information in addition to the MS reports, and concludes that these should be better integrated into the LO review process; eg. EFCAs last-haul data, ICES data, FDI data, research projects (e.g. H2020 MINOUW and DiscardLess) and European Parliament hearings. Collation and review of these data and their incorporation into the report will be time consuming and require that all those data are made available for the process. STECF concludes that the adhoc contract needs to more formally recognise the comprehensive nature of these data and the scale of the task.

Overall STECF concludes that for MS to provide harmonised and useful reports, it might be necessary to reconsider the utility of some aspects of the questionnaire and to develop a new template more adapted to the critical information needs and to the ability to provide that information. STECF suggests that more emphasis on templates for the supply of de minimis and <MCRS catches would be beneficial. Furthermore, STECF concludes that much of the MS reporting information could be compiled and compared at the regional basis, thus avoiding duplication and confusion. STECF concludes these changes would facilitate reporting in 2019.

6.3 Development of criteria for reviewing *de minimis* requests

Background provided by the Commission

Under Article 15(4.c) of the Basic Regulation of the CFP, it is possible for a *de minimis* exemption to be granted as part of a discard plan created via a delegated act based on Joint Recommendations provided by the Member State Regional Groups. Such exemptions must be supported with relevant data and information based on two criteria:

(i) where scientific evidence indicates that increases in selectivity are very difficult to achieve; or

(ii) to avoid disproportionate costs of handling unwanted catches, for those fishing gears where unwanted catches per fishing gear do not represent more than a certain percentage, to be established in a plan, of total annual catch of that gear.

In the discard plans agreed in 2018 and which apply from 2019 onwards, several *de minimis* requests from Member States were granted on a temporary basis. In these cases, STECF EWG 18-06 and PLEN 18-02 identified gaps and raised concerns about the supporting information supplied. The discard plans subsequently agreed require Member States to provide additional data and supporting information, by 1 May 2019 for the Mediterranean discard plan² and 31 May 2019 for the three discard plans concerning the Northeast Atlantic³, if they wish for these exemptions to be extended until the expiry date of the discard plans. This supporting information should address the concerns raised by STECF.

In the discard plans to date, in many cases, the exemptions based on criteria (i) on selectivity have been well justified with supporting studies and selectivity trials. However, in some cases the justification has been based on generic studies that have limited relevance to the fishery for which the exemption is being sought. For criteria (ii) related to disproportionate costs, in very few cases, including for many of the temporary exemptions, has a strong justification been provided to support the exemption. The arguments have been generic rather than fishery-specific and have been supported with limited data indicating the scale and reasons for the disproportionate costs involved.

2 Commission Delegated Regulation (EU) 2018/2036 of 18 October 2018 amending Delegated Regulation (EU) 2017/86 establishing a discard plan for certain demersal fisheries in the Mediterranean Sea, <https://eur-lex.europa.eu/legal-content/EN/ALL/?uri=CELEX%3A32018R2036>;

3 Commission Delegated Regulation (EU) 2018/2035 of 18 October 2018 specifying details of implementation of the landing obligation for certain demersal fisheries in the North Sea for the period 2019-2021, https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=uriserv:OJ.L_.2018.327.01.0017.01.ENG

Commission Delegated Regulation (EU) 2018/2034 of 18 October 2018 establishing a discard plan for certain demersal fisheries in North-Western waters for the period 2019-2021, https://eur-lex.europa.eu/legal-content/EN/TXT/?toc=OJ%3AL%3A2018%3A327%3ATOC&uri=uriserv%3A0J.L_.2018.327.01.0008.01.ENG

Commission Delegated Regulation (EU) 2018/2033 of 18 October 2018 establishing a discard plan for certain demersal fisheries in South-Western waters for the period 2019-2021, <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A32018R2033>

An ad hoc contract was issued with the objective to assist Member States in preparing Joint Recommendations for 2019 by identifying the types of data and information that would support, upon scientific examination, the extension of the temporary *de minimis* exemptions and address the concerns raised by STECF. This will assist STECF in evaluating both these exemption requests and any new *de minimis* exemptions put forward by Member States.

Request to the STECF

The specific ToRs of the ad hoc contract are as follows:

- (1) List the *de minimis* included in the Delegated Acts adopted by the COM in the discard plans for the North Western Waters, South Western Waters, North Sea, Baltic Sea, and Mediterranean which are defined in the discard plans as temporary;
- (2) For each exemption, identify which of the two criteria (increased selectivity and disproportionate handling costs) has been used to support the exemption and the concerns/comments raised by STECF EWG 18-06 and PLEN 18-02. Comments and recommendations from previous STECF reports on the Landing Obligation that may be relevant should also be considered;
- (3) Based on 2) above, identify per provision as listed under 1), the supporting evidence to be provided by Member States that would assist STECF in its related assessment of these provisions. Specifically, identify:
 - a. Updated and additional quantitative information and types of data that would support the continuation of the specific provisions as well as future exemption requests of such nature;
 - b. In the absence of further information and data referred to under (a), other additional qualitative information that would support the exemption and which would facilitate evaluation by STECF.

The STECF is requested to consider and conclude on the report of the ad hoc contract in light of the terms or reference, in particular on the (additional) quantitative and qualitative information expected from Member States in support of joint recommendations for *de minimis* provisions in discard plans, as identified in the report.

Background documents are published on the meeting's web site on: <https://stecf.jrc.ec.europa.eu/plen1901>

STECF response

STECF response is based on the ad-hoc contract issued to develop criteria for reviewing *de minimis* requests.

TOR 1 - List the *de minimis* included in the Delegated Acts adopted by the COM in the discard plans for the North Western Waters, South Western Waters, North Sea, Baltic Sea, and Mediterranean which are defined in the discard plans as temporary

Temporary *de minimis* exemptions are included in the discard plans for the North Western Waters, North Sea, South Western Waters and the Mediterranean. No such exemptions are contained in the Baltic or Black Sea discard plans.

The temporary exemptions by sea basin are as follows:

- North Western Waters, under Article 8 of Commission Delegated Regulation (EU) 2018/2034, four of the eight *de minimis* exemptions listed in Article 8 paragraph 1 are temporary until 31 December 2019
- North Sea, under Article 9 of Commission Delegated Regulation (EU) 2018/2035, four of the thirteen *de minimis* exemptions listed in Article 9 paragraph 1 are temporary until 31 December 2019
- South Western Waters, under Article 6 of Commission Delegated Regulation (EU) 2018/2035, twenty of the twenty-four *de minimis* exemptions listed in Article 6 paragraph 1 are temporary until 31 December 2019
- Mediterranean, under Article 4 of Commission Delegated Regulation (EU) 2018/2033, twelve of the twenty-one *de minimis* exemptions listed in Article 4 paragraph 1 are temporary until 31 December 2019.

TOR 2 - For each exemption, identify which of the two criteria (increased selectivity and disproportionate handling costs) has been used to support the exemption and the concerns/comments raised by STECF EWG 18-06 and PLEN 18-02.

STECF notes that STECF EWG 18-06 and STECF PLEN 18-02 commented on the information provided for the original JRs. STECF did not assess any additional information that the Member States groups may have provided to the Commission through revised JR's. Therefore, for most of the temporary exemptions, STECF has commented on the original combined *de minimis* exemptions proposed rather than the single species *de minimis* exemptions subsequently included under the relevant discard plans.

STECF notes that most of the concerns/comments raised by STECF EWG 18-06 and PLEN 18-02 refer to:

- partial information on selectivity (sometimes limited only to one/few fisheries)
- supporting studies not provided
- very little and too generic information to prove that improvements in selectivity are difficult to achieve or that disproportionate costs of handling unwanted catches for specific fishing gears is required.

The STECF comments and the basis for the exemptions (i.e. selectivity or disproportionate costs) are summarised by sea basin in the following tables.

TOR 3 - Based on 2) above, identify per provision as listed under 1), the supporting evidence to be provided by Member States that would assist STECF in its related assessment of these provisions

STECF reviews the types of data and information that could support, upon scientific examination, the extension of the temporary *de minimis* exemptions and address the concerns raised by STECF.

STECF notes that *de minimis* exemptions under the *selectivity condition* can be split into three cases:

1. selectivity cannot be improved from the baseline situation as the gear is already very selective and the *de minimis* covers residual (small) amounts of unwanted catches;
2. selectivity has been improved and the *de minimis* is linked to use of a selective gear defined in the JR. Improving the selectivity any further will cause significant economic losses and the *de minimis* is needed to cover (a small amount) of residual discards;

3. Selectivity can be improved but an optimal solution has still to be developed and further research is needed to develop appropriate gear modifications or other avoidance measures. In this case the *de minimis* exemption only covers a proportion of the unwanted catches but Member States have committed to carrying out research with selective gears that will bring the level of unwanted catches in line with the volume of *de minimis* requested over time. The *de minimis* is needed as a “stop-gap” to offset some of the unwanted catches while research, testing selective gears is carried out. The JR should document the research planned.

Regarding the cases 1 and 2, STECF considers that Member States should summarise the results from one or more selectivity studies, where available. The results of such studies should demonstrate losses of marketable catch associated with the use of selective gears and the economic impacts such losses would have on the vessels involved. This should be benchmarked against the baseline situation pre-Landing Obligation. The analysis provided in Cosgrove et al. (2015) or the Best Practice Guidance for Assessing the Financial Performance of Fishing Gear developed by Seafish (2017) details the type of information and analysis that could support such cases.

Regarding case 3, STECF observes that in cases where no specific selectivity information is available, Member States could provide catch comparison data from selectivity trials in the relevant fisheries showing that catches of the *de minimis* stock do not change even when selective gears are used. Studies dealing with other species with similar morphology that show increasing selectivity is not possible without incurring significant economic losses are also informative.

STECF notes that if *de minimis* exemptions is asked under the *disproportionate costs condition*, Member States need to identify and document the potential effects on vessel operations if unwanted catches cannot be avoided during sorting and handling on board. The requirement to store and land unwanted catches has the potential to:

- increase crew working time per haul, which could reduce number of hauls per day;
- increase storage requirements as unwanted catch could displace wanted catch onboard;
- worsen working conditions and crew costs increase and vessels lose skilled crew; or
- create difficulties and increase costs in disposal of unwanted catch not sold at local market due to a lack of facilities and high costs for transportation and storage.

In terms of potential impacts on business performance if unwanted catch cannot be avoided and must be handled and stored on board, then the following impacts are likely:

- lower total fishing income per annum if fishing opportunity is restricted;
- fishing costs likely to increase relative to income (quota, fuel, crew, onshore costs);
- reduced economic productivity; and
- reduced profitability which is likely to increase pressure to reduce operational costs and limit investment;
- under a share payment system, crew wages per hour may decrease due to increased effort required for handling and storing.

STECF considers that the supporting evidence provided for cases put forward based on disproportionate costs should demonstrate these impacts are significant if the landing obligation is strictly enforced. However, to date cases justified under this condition have tended to be quite generic. STECF observes that exemptions based on disproportionate costs could be supported by the following:

- studies showing that the costs for sorting, handling and storing unwanted catches on board are high and so to continue without a *de minimis* would result in significant economic

impacts in terms of increased crew time and costs and/or shortening of fishing trips. There are a few examples of good cases including the French "EODE" study (Balazuc et al. 2016), the Dutch impact assessment carried out by Buisman et al. 2013 and the results of Italian field surveys with fishermen and stakeholders (Sartor, 2016). There are also relevant studies under the EU funded Minouw project that may also be relevant, particularly for the SWW and Mediterranean (Accadia, P. 2018, Pinello D. 2018, Maynou 2018).

- In the absence of specific studies, any analysis based on expert opinion/direct observation that demonstrates increased sorting times because of having to sort unwanted catches from the marketable might already provide useful information.
- Based on the justification provided for multiple exemptions in the Mediterranean, cases could be based on there being no way of handling the catches ashore due to large number of landing points and small catches. This justification for pelagic species was originally put forward as an interim solution in the 2015 JRs and has been used to justify many of the new *de minimis* exemptions proposed for 2019 in the Mediterranean 2018 JR's. These exemptions are based on several specific studies completed in the Mediterranean (e.g. H2020 Minouw and DiscardLess reports).

The following tables suggest some specific comments on the types of information that could be supplied to support the continuation of the temporary exemptions. These are presented by sea basin, based on the previous STECF comments and the observations in the adhoc contract.

North Western Waters

Exemption	Selectivity	Disproportionate Costs	STECF comments from EWG 18-06 and PLEN 18-02	Additional Information provided in the adhoc contract and PLEN 19-01
Cod caught by bottom trawls, seines and beam trawls of 80mm+ in areas 7b-c and 7e-k	X		There is partial information on selectivity this is limited to one fleet and there is little information to justify an argument based on disproportionate cost. In the absence of supporting information, STECF could not assess whether improvements in selectivity are very difficult to achieve or whether the costs of handling unwanted catches are disproportionate.	<p>Baseline selectivity information for cod for the current gears used in the fisheries, taking account improvements in selectivity introduced in the NWW discard plan.</p> <p>Analysis of selectivity data linked to economic data that demonstrates that increasing selectivity through mesh size increases or the use of selectivity devices reduces marketable catches that render the fisheries uneconomic.</p>
Haddock caught by bottom trawls, seines and beam trawls of 80mm+ in areas 7b-c and 7e-k	x		There is partial information on selectivity this is limited to one fleet and there is little information to justify an argument based on disproportionate cost. In the absence of supporting information, STECF could not assess whether improvements in selectivity are very difficult to achieve or whether the costs of handling unwanted catches are disproportionate.	<p>Baseline selectivity information for cod for the current gears used in the fisheries, taking account improvements in selectivity introduced in the NWW discard plan.</p> <p>Analysis of selectivity data linked to economic data that demonstrates that increasing selectivity through mesh size increases or the use of selectivity devices reduces marketable catches that render the fisheries uneconomic.</p>
Horse mackerel caught by trawls,	X	X	Supporting studies were not provided and STECF could not	Establish whether this exemption is based on selectivity or disproportionate costs or both.

seines and beam trawls in area 6 and 7b-k			<p>assess whether this indicates that improvements in selectivity to reduce pelagic bycatch are very difficult to achieve in these fisheries. STECF could not assess whether the losses associated with the use of the gears tested would render the fisheries uneconomic. The current levels of unwanted catches in some of the small mesh fisheries covered by this <i>de minimis</i> are amongst the highest in any demersal fisheries in the North east Atlantic but the legal gears used (80mm+80mm smp) are relatively unselective.</p>	<p>Information describing all the relevant fisheries is needed.</p> <p>Accepting there is only limited selectivity data for pelagic species and the fact that the survival of pelagic species escaping from gears is very low, it may be more appropriate to concentrate on demonstrating disproportionate costs for handling and storage. If this is the case, then the supporting evidence needs to demonstrate that the costs for sorting and handling catches of pelagic species are disproportionate and will force the vessels involved to come ashore early or else need to employ additional crew.</p> <p>The French EODE study may be reasonable grounds for justification for at least some of the fleets involved.</p>
Mackerel caught by trawls seines and beam trawls in area 6 and 7b-k	X	X	<p>Supporting studies were not provided and STECF could not assess whether this indicates that improvements in selectivity to reduce pelagic bycatch are very difficult to achieve in these fisheries. STECF could not assess whether the losses associated with the use of the gears tested would render the fisheries uneconomic. The current levels of unwanted catches in some of the small mesh fisheries covered by this</p>	<p>Establish whether this exemption is based on selectivity or disproportionate costs or both.</p> <p>Information describing all the relevant fisheries is needed.</p> <p>Accepting there is only limited selectivity data for pelagic species and the fact that the survival of pelagic species escaping from gears is very low, it may be more appropriate to concentrate on demonstrating disproportionate costs for handling and storage. If this is the case, then the supporting evidence needs to demonstrate that the costs for sorting and handling catches of pelagic species are disproportionate and will force the vessels involved to come ashore early or else need to employ</p>

			<p><i>de minimis</i> are amongst the highest in any demersal fisheries in the North east Atlantic but the legal gears used (80mm+80mm smp) are relatively unselective.</p>	<p>additional crew.</p> <p>The French EODE study may be reasonable grounds for justification for at least some of the fleets involved.</p>
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North Sea

Exemption	Selectivity	Disproportionate Costs	STECF comments from EWG 18-06 and PLEN 18-02	Additional Information provided in the adhoc contract and PLEN 19-01
Cod and whiting caught by trawls of 70-99 mm in area 4ab	X		Data should be provided for other member states in the entirety of area 4 (i.e. NL). Information to support widening the scope of the exemption is required.	Data on level of unwanted catches in relation to the volume of <i>de minimis</i> for Member States other than FR in the entirety of area 4 (i.e. NL) could support widening the scope of the exemption. It is not clear what other additional information could be requested.
Ling (molva molva) caught by bottom trawl 100-119 mm in area 4 North Sea	X		<p>Data should be provided on:</p> <p>a) Supporting information on selectivity being difficult to achieve, other than referring to the morphology of ling; and</p> <p>b) additional catch or fleet information for the fleets from other Member States who may also be active in the fisheries (i.e. DE and UK)</p>	<p>Improving selectivity in this fishery for the <i>de minimis</i> stock is probably not possible due to the morphology of the species.</p> <p>The supporting information needs to demonstrate this either by providing catch comparison information from relevant selectivity experiments or using selectivity data for cod as a proxy for ling.</p> <p>Data should be provided on:</p> <p>a) Supporting information on selectivity being difficult to achieve, other than referring to the morphology of ling; and</p> <p>b) Additional catch or fleet information for the fleets</p>

				from other Member States who may also be active in the fisheries (i.e. DE and UK)
Horse mackerel in the demersal mixed fishery with bottom trawls (OTB, OTT, PTB, TBB) with a mesh size between 80 and 99 mm in ICES subarea 4	X	X	Information to prove that improvements in selectivity are difficult to achieve or disproportionate costs of handling unwanted catches for specific fishing gears is required.	<p>Establish whether this exemption is based on selectivity or disproportionate costs or both.</p> <p>Information describing all the relevant fisheries is needed.</p> <p>Accepting there is only limited selectivity data for pelagic species and the fact that the survival of pelagic species escaping from gears is very low, it may be more appropriate to concentrate on demonstrating disproportionate costs for handling and storage. If this is the case, then the supporting evidence needs to demonstrate that the costs for sorting and handling catches of pelagic species are disproportionate and will force the vessels involved to come ashore early or else need to employ additional crew.</p> <p>The French EODE study may be reasonable grounds for justification for at least some of the fleets involved.</p>
Mackerel in the demersal mixed fishery with bottom trawls (OTB, OTT, PTB, TBB) with a mesh size between 80 and 99 mm in ICES subarea 4	X	X	Information to prove that improvements in selectivity are difficult to achieve or disproportionate costs of handling unwanted catches for specific fishing gears is required.	<p>Establish whether this exemption is based on selectivity or disproportionate costs or both.</p> <p>Information describing all the relevant fisheries is needed.</p> <p>Accepting there is only limited selectivity data for pelagic species and the fact that the survival of pelagic species escaping from gears is very low, it may be more appropriate to concentrate on demonstrating disproportionate costs for handling and storage. If this is the case, then the supporting evidence needs to demonstrate that the costs for</p>

				<p>sorting and handling catches of pelagic species are disproportionate and will force the vessels involved to come ashore early or else need to employ additional crew.</p> <p>The French EODE study may be reasonable grounds for justification for at least some of the fleets involved.</p>
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South Western Waters

Exemption	Selectivity	Disproportionate costs	STECF comments from EWG 18-06 and PLEN 18-02	Additional Information provided in the adhoc contract and PLEN 19-01
Catches of anglerfish, sole, turbot, red seabream, great forkbeard caught by trawlers in the Gulf of Cadiz (part of area 9a)	X	X	Some evidence is presented on difficulties in improving selectivity and difficulties in handling. There is only partial justification for the recommendation and priority should be given to improving selectivity.	
Hake caught with trawls in directed fisheries in area 8 and 9	X	X	Information to support the justification is weak and priority should be given to improving selectivity.	<p>The <i>de minimis</i> exemption should be clearly described in the context of the level of unwanted catches. This will show whether the <i>de minimis</i> covers residual unwanted catches that cannot be reduced further without significant economic loss or whether it is a stop gap while ways to improve selectivity are tested and implemented.</p> <p>The justification needs to present all relevant selectivity data and link this with economic data</p>

				<p>demonstrating improvements in selectivity will result in significant economic losses. It should concentrate on the fisheries where no data has been presented and those with the highest level of unwanted catches.</p> <p>Where no selectivity data is available then the Member States at the very least should indicate work that is planned to fill the gaps in knowledge or use selectivity work in similar fisheries to demonstrate selectivity is difficult to achieve.</p>
<p>Anglerfish, sole, turbot, red seabream, great forkbeard caught by trawlers in the Gulf of Cadiz (part of area 9a)</p>	X	X	<p>Some evidence is presented on difficulties in improving selectivity and difficulties in handling. There is only partial justification for the recommendation and priority should be given to improving selectivity</p>	<p>Establish whether the basis for this exemption is improvements in selectivity are hard to achieve or disproportionate costs.</p> <p>The <i>de minimis</i> exemption should be clearly described in the context of the level of unwanted catches. This will show whether the <i>de minimis</i> covers residual unwanted catches that cannot be reduced further without significant economic loss or whether it is a stop gap while ways to improve selectivity are tested and implemented. The catches presented are extremely small for some of these species.</p> <p>If the exemption is based on improvements in selectivity being hard to achieve, then a justification that shows improvements in selectivity are not possible in the relevant fisheries and the <i>de minimis</i> covers residual unwanted catches is needed.</p> <p>If it is based on disproportionate costs, then some analysis needs to be provided to show such costs. Given the level of catches it is highly unlikely that this is due to increased handling and sorting costs on board. Therefore, the basis is probably related to there being no way of handling the catches ashore due to large number of landing points and small</p>

				<p>catches. Some analysis to show this should be provided. Studies carried out under the EU funded Minouw project may be relevant.</p> <p>Greater forkbeard has been removed from the TAC and quota net so is no longer subject to the Landing Obligation and therefore there is no need to cover this species under a <i>de minimis</i> exemption.</p>
<p>Megrim, plaice anglerfish, whiting and Pollack caught by gillnetters in areas 8 and 9</p>	X	X	<p>Information to support the justification is weak.</p>	<p>Establish whether the basis for this exemption is improvements in selectivity are hard to achieve or disproportionate costs.</p> <p>The <i>de minimis</i> exemption should be clearly described in the context of the level of unwanted catches. This will show whether the <i>de minimis</i> covers residual unwanted catches that cannot be reduced further without significant economic loss or whether it is a stop gap while ways to improve selectivity are tested and implemented. The catches presented for megrim and plaice are extremely small and it is unclear why separate <i>de minimis</i> exemptions for these species are required.</p> <p>Given gillnets tend to be selective, these exemptions could be based on a demonstration that increasing selectivity further would lead to significant economic losses for only a marginal reduction in catches. Anglerfish would appear to be main species targeted by these vessels and for which to increase selectivity would require very large mesh size increases. This would lead to reductions in catches of whiting and pollack which may reduce incomes significantly. Relevant selectivity from this fishery or data from other fisheries could be used. The <i>de minimis</i> would cover residual unwanted catches.</p> <p>The level of unwanted catches seems relatively small,</p>

				so it is unlikely that a credible justification around disproportionate costs could be developed.
Megrim, anglerfish, plaice, whiting and Pollack caught by trawlers in areas 8 and 9	X	X	Some evidence is presented on difficulties in improving selectivity and difficulties in handling. There is only partial justification for the recommendation and priority should be given to improving selectivity.	<p>Establish whether the basis for this exemption is improvements in selectivity are hard to achieve or disproportionate costs.</p> <p>The <i>de minimis</i> exemption should be clearly described in the context of the level of unwanted catches. This will show whether the <i>de minimis</i> covers residual unwanted catches that cannot be reduced further without significant economic loss or whether it is a stop gap while ways to improve selectivity are tested and implemented. The catches presented for plaice and pollack are extremely small and it is unclear why separate <i>de minimis</i> exemptions for these species are required.</p> <p>The original combined <i>de minimis</i> included in the JR was justified on disproportionate cost grounds. There is reference to the French EODE study, but this was carried out in the Eastern Channel and southern North Sea. The justification needs to demonstrate that the results are relevant to these fisheries. Studies carried out under the EU funded Minouw project may also be relevant.</p> <p>A simple analysis demonstrating increased sorting and handling time and storing on board of unwanted catches forces vessels to return to port earlier.</p>
Horse mackerel, mackerel, anchovy and boarfish caught by bottom trawlers in areas	X	X	Some evidence is presented on difficulties in improving selectivity and difficulties in handling. There is only partial justification for the recommendation and priority should be given to	<p>Establish whether the basis for this exemption is improvements in selectivity are hard to achieve or disproportionate costs.</p> <p>The <i>de minimis</i> exemption should be clearly described in the context of the level of unwanted catches. This will show whether the <i>de minimis</i></p>

8 and 9			improving selectivity	<p>covers residual unwanted catches that cannot be reduced further without significant economic loss or whether it is a stop gap while ways to improve selectivity are tested and implemented.</p> <p>The original combined <i>de minimis</i> included in the JR was justified on disproportionate cost grounds. There is reference to the French EODE study, but this was carried out in the Eastern Channel and southern North Sea. The justification needs to demonstrate that the results are relevant to these fisheries. Studies carried out under the EU funded Minouw project may also be relevant.</p> <p>A simple analysis demonstrating increased sorting and handling time and storing on board of unwanted catches forces vessels to return to port earlier.</p> <p>If these exemptions are to be justified on selectivity grounds, then a this needs to show improvements in selectivity are not possible in the relevant fisheries and the <i>de minimis</i> covers residual unwanted catches. If the current level of unwanted catches is more than the <i>de minimis</i> volume, then Member States need to set out measures or future research that will be carried out to reduce the level of unwanted catches in line with the <i>de minimis</i> volume.</p>
Horse mackerel, mackerel, anchovy and boarfish, caught by gillnetters in areas 8, 9, 10 and CECAF 34	X	X	Information to support the justification is weak.	<p>Establish whether the basis for this exemption is improvements in selectivity are hard to achieve or disproportionate costs.</p> <p>The <i>de minimis</i> exemption should be clearly described in the context of the level of unwanted catches. This will show whether the <i>de minimis</i> covers residual unwanted catches that cannot be reduced further without significant economic loss or whether it is a stop gap while ways to improve</p>

				<p>selectivity are tested and implemented.</p> <p>The catches presented for all four species are extremely small and it is unclear why separate <i>de minimis</i> exemptions for these species are required. Catches of boarfish are less than 1 tonne and no catches of anchovy are reported.</p> <p>Given the level of catches these exemptions could only be justified on selectivity grounds on the basis that selectivity cannot be improved further and the <i>de minimis</i> exemptions is needed to cover residual unwanted catches.</p>

Mediterranean

Exemption	Selectivity	Disproportionate costs	STECF comments from EWG 18-06 and PLEN 18-02	Additional Information provided in the adhoc contract and PLEN 19-01
Demersal finfish ⁴ under the Landing		X	Specific information to support the justification	Describe the fisheries to put each of the <i>de minimis</i> exemptions in the context of the level of unwanted

⁴ Demersal finfish refers to European seabass (*Dicentrarchus labrax*), annular seabream (*Diplodus annularis*), sharpsnout seabream (*Diplodus puntazzo*), white seabream (*Diplodus sargus*), two-banded seabream (*Diplodus vulgaris*), groupers (*Epinephelus* spp.), striped seabream (*Lithognathus mormyrus*), Spanish seabream (*Pagellus acarne*), red seabream (*Pagellus bogaraveo*), common pandora (*Pagellus erythrinus*), common seabream (*Pagrus pagrus*), wreckfish (*Polyprion americanus*), gilthead seabream (*Sparus aurata*) and deep-water rose shrimp (*Parapenaeus longirostris*)

<p>Obligation excluding hake, mullets and pelagic species caught with bottom trawls in Western Mediterranean & Adriatic</p>			<p>has not been provided.</p>	<p>catches for each individual species covered by the exemption. These are complex multi-species exemption covering multiple fisheries with bottom trawls.</p> <p>The justification based on disproportionate costs relating to high costs of transport and handling ashore is reasonable, noting that this justification has been used to justify multiple exemptions in the Mediterranean since the first discard plan was introduced for pelagic species in 2015. An update of any further steps taken to address this issue should be indicated.</p> <p>No additional measures to improve selectivity and reduce the level of unwanted catches are reported although there is reference to the "DISCATCH" project (Sala et al., 2015). This project aimed to support the identification of viable solutions to reduce unwanted catches. The findings from this project should be applied to these fisheries to indicate whether improvements in selectivity are possible or not. Studies carried out under the EU funded Minouw project may be relevant</p> <p>The JR references proposals from the MEDAC for spatial closures. It may be possible to link the continuation of the <i>de minimis</i> with the introduction of these spatial closures.</p>
<p>Demersal finfish¹ under the Landing Obligation excluding hake, mullets and pelagic species caught with gillnets and trammel nets in the</p>		<p>X</p>	<p>Specific information to support the justification has not been provided.</p>	<p>For each individual species the <i>de minimis</i> should be put in the context of the level of unwanted catches.</p> <p>For some species the level of catches is extremely low and the volume of <i>de minimis</i> is much higher than the discard rates, while for others the <i>de minimis</i> will only cover a small part of the unwanted catches. A clear description of the how the volume of <i>de minimis</i> relates</p>

Western Mediterranean & Adriatic				<p>to the discard rates prior to the introduction of the Landing Obligation is required.</p> <p>Only limited supporting information was provided to support this exemption in the JR. Given gillnets and trammel nets tend to be selective, it would seem sensible to base this exemption by demonstrating that increasing selectivity further would lead to significant economic losses of marketable catches for only a marginal reduction in unwanted catches of the listed species. Relevant studies may be available to demonstrate this.</p> <p>Linking the exemption to the introduction of the spatial closures identified by the MEDAC to avoid concentrations of juveniles would strengthen this exemption.</p> <p>In the JR disproportionate costs are mentioned without any supporting information supplied. If arguments around disproportionate costs are to be used, then this needs to be backed up with a simple analysis showing how increased handling and storage on board the vessels involved in this fishery impacts on their economic viability.</p> <p>Alternatively, the justification around the costs of storage and transporting ashore could be developed to cover these fisheries based on the available studies.</p>
Demersal finfish ¹ under the Landing Obligation excluding hake, mullets and pelagic species caught with hooks and lines in		X	Specific information to support the justification has not been provided.	<p>For each individual species the <i>de minimis</i> should be put in the context of the level of unwanted catches.</p> <p>For some species the level of catches is extremely low and the volume of <i>de minimis</i> is much higher than the discard rates, while for others the <i>de minimis</i> will only cover a small part of the unwanted catches. A clear description of the how the volume of <i>de minimis</i> relates</p>

<p>the Western Mediterranean & Adriatic</p>				<p>to the discard rates prior to the introduction of the Landing Obligation is required.</p> <p>Only limited supporting information was provided to support this exemption in the JR. Given hooks and lines tend to be selective, it would seem sensible to base this exemption by demonstrating that increasing selectivity further would lead to significant economic losses of marketable catches for only a marginal reduction in unwanted catches of the listed species.</p> <p>Linking the exemption to the introduction of the spatial closures identified by the MEDAC to avoid concentrations of juveniles would also strengthen this exemption.</p> <p>In the JR disproportionate costs are mentioned without any supporting information supplied. If arguments around disproportionate costs are to be used, then this needs to be backed up with a simple analysis showing how increased handling and storage on board the vessels involved in this fishery impacts on their economic viability. Studies carried out under the EU funded Minouw project may also be relevant.</p> <p>Alternatively, the justification around the costs of storage and transporting ashore could be developed to cover these fisheries based on the available studies.</p>
<p>Anchovy, sardine, mackerel & horse mackerel caught with bottom trawls in the Western Mediterranean & Adriatic</p>		<p>X</p>	<p>Specific information to support the justification has not been provided.</p>	<p>For each individual species the <i>de minimis</i> should be put in the context of the level of unwanted catches.</p> <p>For some species the level of catches is extremely low and the volume of <i>de minimis</i> is much higher than the discard rates, while for others the <i>de minimis</i> will only cover a small part of the unwanted catches. A clear description of the how the volume of <i>de minimis</i> relates to the discard rates prior to the introduction of the</p>

				<p>Landing Obligation is required.</p> <p>Only limited supporting information was provided to support this exemption in the JR. If the exemption is to be justify on the basis that improvements in selectivity are very difficult to achieve then information to show this to be the case is needed. This needs to show that the gears used are selective for the relevant species and any further improvements in selectivity will impact on the economic viability of the fishery due to significant losses of marketable catches of the target species in the fishery. In this case the <i>de minimis</i> is needed to cover residual unwanted catches.</p> <p>Alternatively, an argument could be made based on further work in the fishery to improve selectivity and the <i>de minimis</i> is a stop-gap while these measures are tested or linked to spatial closures.</p> <p>In the JR disproportionate costs are mentioned without any supporting information supplied. If arguments around disproportionate costs are to be used, then this needs to be backed up with a simple analysis showing how increased handling and storage on board the vessels involved in this fishery impacts on their economic viability. Studies carried out under the EU funded Minouw project may also be relevant.</p> <p>Alternatively, the justification around the costs of storage and transporting ashore could be developed to cover these fisheries based on the available studies.</p>
Demersal finfish ¹ under the Landing Obligation excluding deepwater rose		X	Specific information to support the justification has not been provided.	Describe the fisheries to put each of the <i>de minimis</i> exemptions in the context of the level of unwanted catches for each individual species covered by the exemption. These are complex multi-species exemption covering multiple fisheries with bottom trawls.

<p>shrimp, hake, mullets and pelagic species caught with bottom trawls in the South eastern Mediterranean</p>				<p>The justification based on disproportionate costs relating to high costs of transport and handling ashore is reasonable, noting that this justification has been used to justify multiple exemptions in the Mediterranean since the first discard plan was introduced for pelagic species in 2015. An update of any further steps taken to address this issue should be indicated.</p> <p>No additional measures to improve selectivity and reduce the level of unwanted catches are reported although there is reference to the "DISCATCH" project (Sala et al., 2015). This project aimed to support the identification of viable solutions to reduce unwanted catches. The findings from this project should be applied to these fisheries to indicate whether improvements in selectivity are possible or not. Studies carried out under the EU funded Minouw project may be relevant</p> <p>The JR references proposals from the MEDAC for spatial closures. It may be possible to link the continuation of the <i>de minimis</i> with the introduction of these spatial closures.</p>
<p>Demersal finfish¹ under the Landing Obligation excluding deepwater rose shrimp, hake, mullets and pelagic species caught with gillnets and trammel nets in the South eastern</p>		<p>X</p>	<p>Specific information to support the justification has not been provided.</p>	<p>For each individual species the <i>de minimis</i> should be put in the context of the level of unwanted catches.</p> <p>For some species the level of catches is extremely low and the volume of <i>de minimis</i> is much higher than the discard rates, while for others the <i>de minimis</i> will only cover a small part of the unwanted catches. A clear description of the how the volume of <i>de minimis</i> relates to the discard rates prior to the introduction of the Landing Obligation is required.</p> <p>Only limited supporting information was provided to</p>

Mediterranean				<p>support this exemption in the JR. Given gillnets and trammel nets tend to be selective, it would seem sensible to base this exemption by demonstrating that increasing selectivity further would lead to significant economic losses of marketable catches for only a marginal reduction in unwanted catches of the listed species. Relevant studies may be available to demonstrate this.</p> <p>Linking the exemption to the introduction of the spatial closures identified by the MEDAC to avoid concentrations of juveniles would strengthen this exemption.</p> <p>In the JR disproportionate costs are mentioned without any supporting information supplied. If arguments around disproportionate costs are to be used, then this needs to be backed up with a simple analysis showing how increased handling and storage on board the vessels involved in this fishery impacts on their economic viability.</p> <p>Alternatively, the justification around the costs of storage and transporting ashore could be developed to cover these fisheries based on the available studies.</p>
Demersal finfish ¹ under the Landing Obligation excluding deepwater rose shrimp, hake, mullets and pelagic species caught with hooks and lines in the South eastern		X	Specific information to support the justification has not been provided.	<p>For each individual species the <i>de minimis</i> should be put in the context of the level of unwanted catches.</p> <p>For some species the level of catches is extremely low and the volume of <i>de minimis</i> is much higher than the discard rates, while for others the <i>de minimis</i> will only cover a small part of the unwanted catches. A clear description of the how the volume of <i>de minimis</i> relates to the discard rates prior to the introduction of the Landing Obligation is required.</p> <p>Only limited supporting information was provided to</p>

Mediterranean				<p>support this exemption in the JR. Given hooks and lines tend to be selective, it would seem sensible to base this exemption by demonstrating that increasing selectivity further would lead to significant economic losses of marketable catches for only a marginal reduction in unwanted catches of the listed species.</p> <p>Linking the exemption to the introduction of the spatial closures identified by the MEDAC to avoid concentrations of juveniles would also strengthen this exemption.</p> <p>In the JR disproportionate costs are mentioned without any supporting information supplied. If arguments around disproportionate costs are to be used, then this needs to be backed up with a simple analysis showing how increased handling and storage on board the vessels involved in this fishery impacts on their economic viability. Studies carried out under the EU funded Minouw project may also be relevant.</p> <p>Alternatively, the justification around the costs of storage and transporting ashore could be developed to cover these fisheries based on the available studies</p>
Anchovy, sardine, mackerel & horse mackerel caught with bottom trawls in the South Eastern Mediterranean		X	Specific information to support the justification has not been provided.	<p>For each individual species the <i>de minimis</i> should be put in the context of the level of unwanted catches.</p> <p>For some species the level of catches is extremely low and the volume of <i>de minimis</i> is much higher than the discard rates, while for others the <i>de minimis</i> will only cover a small part of the unwanted catches. A clear description of the how the volume of <i>de minimis</i> relates to the discard rates prior to the introduction of the Landing Obligation is required.</p> <p>Only limited supporting information was provided to support this exemption in the JR. If the exemption is to</p>

				<p>be justify on the basis that improvements in selectivity are very difficult to achieve then information to show this to be the case is needed. This needs to show that the gears used are selective for the relevant species and any further improvements in selectivity will impact on the economic viability of the fishery due to significant losses of marketable catches of the target species in the fishery. In this case the <i>de minimis</i> is needed to cover residual unwanted catches.</p> <p>Alternatively, an argument could be made based on further work in the fishery to improve selectivity and the <i>de minimis</i> is a stop-gap while these measures are tested or linked to spatial closures.</p> <p>In the JR disproportionate costs are mentioned without any supporting information supplied. If arguments around disproportionate costs are to be used, then this needs to be backed up with a simple analysis showing how increased handling and storage on board the vessels involved in this fishery impacts on their economic viability. Studies carried out under the EU funded Minouw project may also be relevant.</p> <p>Alternatively, the justification around the costs of storage and transporting ashore could be developed to cover these fisheries based on the available studies.</p>
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STECF conclusions

STECF recalls that Under Article 15(4), only one of the conditionalities – selectivity or disproportionate costs – is required to be met. It is not necessary for Member States to provide arguments to meet both conditions.

STECF concludes that providing reasonable evidence to support an exemption based on selectivity is in most cases much easier than on disproportionate costs, since results from selectivity experiments in many fisheries are readily available or can be derived from selectivity models, whereas detailed information on handling and sorting on board is usually less readily available.

STECF reiterates that the accurate reporting of information on the fisheries involved is fundamental to support the *de minimis* exemptions. This should include: the number of vessels, relevant catch data, indicative discard rates, and estimated volumes of *de minimis* requested. Joint recommendations should also include scientific evidence that underpins the exemption in terms of full reports or summaries of the results of relevant experiments and studies with links to find the original scientific information.

STECF concludes that STECF has already proposed different analytical frameworks that can assist in the submission of economic cases for *de minimis* (STECF-13-23 and STECF-16-13). While these frameworks are perhaps overly optimistic given the time and data limitations faced by Member States, the basic principles put forward by STECF are sound. The purpose of the economic analysis to support a *de minimis* exemption is to understand the scale, or proportionality, of the challenges faced by the group of vessels relevant to the *de minimis* exemption.

STECF concludes that the issues with the *de minimis* in the NWW and North Sea are relatively minor. In most cases the information is available but needs mainly to be expanded or simply presented better. In the SWW and the Mediterranean the information provided in most cases is generic, not necessarily related to the fisheries to which the exemption is applied or purely qualitative with little or no explanation around it. In these two areas, it is important that it is firstly made clear what the basis for the exemption is (i.e. selectivity or disproportionate costs) and secondly that the *de minimis* volume is put in the context of the level of unwanted catches. Finally, much more detailed supporting information needs to be provided to demonstrate the necessity for the exemption. Studies carried out under the EU funded Minouw project may be relevant to support these exemptions (Accadia et al., 2018 and Maynou et al., 2018).

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6.4 Evaluation of Mediterranean national management plans

Background provided by the Commission

Under Article 19 of Council Regulation (EC) No 1967/2006 (hereafter referred to as "MEDREG"⁵), Member States are expected to adopt management plans for fisheries conducted by trawl nets, boats seines, shore seines, surrounding nets and dredges within their territorial waters.

In 2013, the Common Fisheries Policy (CFP⁶) introduced new elements for conservation such as the target of maximum sustainable yield (MSY) for all the stocks by 2020 at the latest, the landing obligation and the regionalisation approach.

In line with these two regulations, the plans shall be based on scientific, technical and economic advice, and shall contain conservation measures to restore and maintain fish stocks above levels capable of producing maximum sustainable yield or MSY. Where targets relating to the MSY (e.g. fishing mortality at MSY) cannot be determined, owing to insufficient data, the plans shall provide for measures based on the precautionary approach, ensuring at least a comparable degree of conservation of the relevant stocks.

The plans shall also contain specific conservation measures based on the ecosystem approach to achieve the objectives set. In particular, they may incorporate any measure included in the following list to limit fishing mortality and the environmental impact of fishing activities: limiting catches, fixing the number and type of fishing vessels authorized to fish, limiting fishing effort, adopting technical measures (structure of fishing gears, fishing practices, areas/period of fishing restriction, minimum size, reduction of impact of fishing activities on marine ecosystems and non-target species), establishing incentives to promote more selective fisheries, conduct pilot projects on alternative types of fishing management techniques, etc.

In March 2019, an ad-hoc contract was launched to carry out a preliminary evaluation of the national management plans.

Background documents are published on the meeting's web site on: <https://stecf.jrc.ec.europa.eu/plen1901>

Request to the STECF

STECF is requested to review the report of the ad-hoc contract, evaluate the findings and make any appropriate comments and recommendations.

5 Council Regulation (EC) No 1967/2006 of 21 December 2006 concerning management measures for the sustainable exploitation of fishery resources in the Mediterranean Sea, amending Regulation (EEC) No 2847/93 and repealing Regulation (EC) No 1626/94. [OJ L 409, 30.12.2006, p. 11-85](#).

6 Regulation (EU) No 1380/2013 of the European Parliament and of the Council of 11 December 2013 on the Common Fisheries Policy, amending Council Regulations (EC) No 1954/2003 and (EC) No 1224/2009 and repealing Council Regulations (EC) No 2371/2002 and (EC) No 639/2004 and Council Decision 2004/585/EC. [OJ L 354, 28.12.2013, p. 22-61](#).

Summary of the ad-hoc contract presented to STECF

STECF notes that the subject of the March 2019 ad hoc contract was the compilation of STECF advice and post-hoc evaluation of certain Member States' national management plans adopted under Article 19 of the Mediterranean Regulation and alignment with the reformed CFP. The plans listed in the Table below, (provided by DG MARE as an ANNEX for the ad hoc contract), were examined:

Country	Fishing gear	Region	Year adoption	of	Expiry date
Italy	Pelagic-trawlers and purse seiners	GSA 09	2011		2017
Italy	Pelagic-trawlers and purse seiners	GSA 10	2011		2017
Italy	Pelagic-trawlers and purse seiners	GSA 16	2011		2017
Italy	Pelagic-trawlers and purse seiners	GSA 17 and 18	2011		2017
Cyprus	Bottom trawl	Territorial waters	2012		None
Spain	Bottom trawl and purse seines	Territorial waters	2013		31-12-2018
France	Bottom trawl	Territorial waters	2013		None
Malta	Bottom trawl	Territorial waters	2013		None
France	Mechanised dredges	Territorial waters	2014		None
France	Purse seine	Territorial waters	2014		None
Croatia	Bottom trawl	Territorial waters	2014		None
Greece	Purse seine	Territorial waters	2015		2017
Slovenia	Purse seine	Territorial waters	2013-updated 2016	in	None
Slovenia	Bottom trawl	Territorial waters	2013-updated 2016	in	None

Greece	Bottom trawl	Territorial waters	2017	2019
Croatia	Purse seine	Territorial waters	2018	2021
Italy	Demersal stocks	GSA 9	2018	2020
Italy	Demersal stocks	GSA 10	2018	2020
Italy	Demersal stocks	GSA 11	2018	2020
Italy	Demersal stocks	GSA 17 and 18	2018	2020
Italy	Demersal stocks	GSA 19	2018	2020
Italy	Demersal stocks	GSA 16	2018	2020

The tasks of the ad hoc contract were the following:

For the national plans listed in ANNEX (see above), based on existing STECF advice, to assess and advice whether the management plans for marine commercial fishing in the territorial waters of the MS contained adequate elements in terms of objectives, safeguards and conservation/technical measures:

- A. Objectives consistent with article 2 of the CFP (MSY by 2020) and quantifiable targets, such as fishing mortality rates and total biomass.
- B. Measures proportionate to the objectives, the targets and the expected time frame.
- C. Safeguards to ensure that quantifiable targets are met, as well as remedial actions, where needed, including situations where the deteriorating quality of data or their non-availability places the sustainability of the main stocks of the fishery at risk.
- D. Other conservation measures, in particular measures to fully monitor catches of the target species, to gradually eliminate discards and to minimise the negative impact of fishing on the ecosystem.

In their answer, the experts were also requested to provide the table in the ANNEX (Table above) and fill two additional columns (labelled TOR A and B), giving an overview of the different management plans, with a clear focus on:

ToR A: Is the plan aligned with CFP MSY objective?

ToR B: Probability of reaching MSY in 2020.

STECF notes that in 2014, the Commission commissioned an ad hoc study to assess the alignment with the CFP of the plans implemented at that time. This study was

communicated to the STECF (see background documents of STECF PLEN-15-02 and PLEN-15-03).

The March 2019 ad hoc contract reviewed and synthesized a number of documents, including (i) previous evaluation of the plans by the aforementioned 2014 ad hoc study and STECF evaluations of the most recent (adopted) version of the plans, (ii) a 2016 student report provided to the Commission by the Technical University of Denmark (DTU Aqua) entitled 'Fisheries Management Plans in The Mediterranean Sea: Common features, gaps and agreement with the Common Fisheries Policy (CFP) objectives', (iii) various STECF EWGs and GFCM assessments results, and (iv) the texts of the original management plans, when available.

Specifically, for each national management plan, a table was filled, provided in the report of the ad hoc contract, summarizing the findings regarding the tasks of the contract:

Management plan table

A. Objectives consistent with article 2 of the CFP (MSY by 2020) and quantifiable targets, such as fishing mortality rates and total biomass	
B. Measures proportionate to the objectives, the targets and the expected time frame	
C. Safeguards to ensure that quantifiable targets are met, as well as remedial actions, where needed, including situations where the deteriorating quality of data or their non-availability places the sustainability of the main stocks of the fishery at risk	
D. Other conservation measures, in particular measures to fully monitor catches of the target species, to gradually eliminate discards and to minimise the negative impact of fishing on the ecosystem	

In the management plan table, all relevant comments from previous evaluations (including comments and conclusions of previous STECF meetings) were compiled. STECF notes that the task of reviewing and synthesizing this large amount of information for the post hoc evaluation of the plans was laborious because the information related to these plans is spread into many different documents and reports.

With regards to the synthetic evaluation of the contents of the different management plans) with focus on ToR A (Is the plan aligned with CFP MSY objective?) and ToR B (Probability of reaching MSY in 2020) the ad hoc contract produced a summary table which was subsequently discussed, finalized and agreed in this Plenary meeting.

STECF comments

STECF notes that the ToRs have been fully addressed by the ad hoc contract, which provides a useful and synthetic overview of the examined national management plans and of their conformity with the CFP MSY objective and expected time frame (2020).

STECF notes that the list of the examined management plans include: (i) some plans adopted before the reform of CFP which have expired (e.g. the Italian purse seine and pelagic trawl plans); (ii) some plans adopted during the period of the forming of the reform of CFP which are therefore not aligned with it (e.g. French plans for dredges and purse seines, submitted together with plans for shore seines and the gangui); (iii) some plans with no expiry date and iv) some plans adopted after the reform of the CFP .

The synoptic table produced by the ad hoc contract and completed in the plenary meeting is presented below.

STECF notes that in cases of severe overexploitation in combination with measures (at national or regional level) that appear insufficient for driving stocks to MSY levels by 2020, the "probability of reaching MSY in 2020" was labelled "highly unlikely". When no recent assessments are available or assessment results are uncertain, due to data quality and/or methodological issues, the probability of reaching MSY in 2020 was labelled "uncertain".

Country	Fishing gear	Region	Year of adoption	Expiry date	Aligned with CFP objective? (TOR A)	Probability of reaching MSY in 2020 (TOR B)
Italy	Pelagic trawlers and purse seiners	GSA 09	2011	2017	Expired and not aligned with CFP. No MSY objective (nor clear time-frame to reach it) mentioned in the plan. The exploitation rate ($E=0.4$) is set as a target only for anchovy whereas the plan also concerns sardine.	The probability that stocks will reach MSY in 2020 could be considered low. Recent stock assessments of anchovy and horse mackerel in GSA 9_10_11 (EWG 17-09) indicate that the pelagic stocks in this area are overexploited ($F/F_{MSY} = 1.527$ and 2.435 respectively).
Italy	Pelagic trawlers and purse seiners	GSA 10	2011	2017	Expired and not aligned with CFP. No MSY objective (nor	The probability that stocks will reach MSY in 2020 could be considered low.

					clear time-frame to reach it) mentioned in the plan. No reference points defined.	Recent stock assessments of anchovy and horse mackerel in GSA 9-10-11 (EWG 17-09) indicate that the pelagic stocks are overexploited ($F/F_{MSY} = 1.527$ and 2.435 respectively).
Italy	Pelagic trawlers and purse seiners	GSA 16	2011	2017	Expired and not aligned with CFP. No MSY objective (nor clear time-frame to reach it) mentioned in the plan. The exploitation rate ($E=0.4$) is set as a target for anchovy and sardine. Biomass targets are also defined but it is unclear if they are consistent with MSY.	Uncertain. The status of the pelagic stocks in GSA 16 is unknown. Preliminary assessments in SAC-WGSASP (2017) were not conclusive.
Italy	Pelagic-trawlers and purse seiners	GSA 17 and 18	2011	2017	Expired and not aligned with CFP. No MSY objective (nor clear time-frame to reach it) mentioned in the plan. Exploitation rate ($E=0.4$) is set as target for anchovy and sardine.	Highly unlikely. The pelagic stocks in the Adriatic Sea are shared with other countries including Croatia and Slovenia. The most recent assessments of the anchovy and sardine stocks in the Adriatic Sea (EWG 17-09) indicate that they are severely overexploited ($F/F_{MSY}=2.505$ and 2.955).

						respectively).
Cyprus	Bottom trawl	Territorial waters	2012	None	<p>Not aligned with the CFP MSY objective.</p> <p>Even if reference points related to MSY ($F_{0.1}$ and, F_{max}) are considered (for a limited number of stocks) no clear time frames to reach F_{MSY} are presented nor remedial actions are described in cases that targets will not be met.</p> <p>No expiry date.</p>	<p>Uncertain.</p> <p>Few stocks assessed and sometimes contrasting results are obtained with different methods.</p> <p>Results of most recent assessments in SAC-WGSAD:</p> <p>2016: <i>Boops boops</i> and <i>Mullus surmuletus</i>, $F/F_{MSY}=1.20$ and 2.65 respectively.</p> <p>2015: <i>Mullus barbatus</i> and <i>Spicara smaris</i>, $F/F_{MSY}=0.81$ and 0.14 respectively.</p>
Spain	Trawl and Purse seines	Territorial waters	2013	31-12-2018	<p>Aligned with the MSY objective.</p> <p>Reference points related to MSY ($F_{0.1}$ and, F_{max}) are considered for a limited number of stocks and $E=0.4$ for anchovy and sardine.</p>	<p>Highly unlikely.</p> <p>Most recent stock assessments (e.g. EWG 18-12 & EWG-17-09) indicate that most demersal and pelagic stocks were overexploited in the western Mediterranean.</p> <p>For example:</p> <p>Hake (GSA 1_5_6_7): $F/F_{MSY} = 4.96$</p> <p>Red mullet: $F/F_{MSY} = 2.03-5.67$</p> <p>Sardine (GSA 6): $F/F_{MSY} = 2.57$</p> <p>Anchovy (GSA</p>

						6): $F/F_{MSY} = 1.19$ The proposed reductions of fishing effort (20%) appear too low for reducing F to levels of F_{MSY} for most stocks.
France	Trawler	Territorial waters	2013	None	Not clearly defined objectives. No expiry date. Only for hake a reference point related to F_{MSY} is defined.	Highly unlikely. Most recent stock assessments (e.g. EWG 18-12 & EWG-17-09) indicate that most demersal and pelagic stocks were overexploited in the western Mediterranean. For example: Hake (GSA 1_5_6_7): $F/F_{MSY} = 4.957$ Red mullet: $F/F_{MSY} = 2.031-5.665$ Reduction of vessels by decommissioning is declared and a reduction of activity up to 14720 days.
Malta	Trawler (bottom otter trawl)	Territorial waters	2013	None	Aligned with the CFP MSY objective. Reference points related to MSY ($F_{0.1}$ and, F_{max}) are considered for a limited number of stocks. No expiry date.	Highly unlikely. Most recent stock assessments in SAC-WGSAD (2017) indicate overexploitation: Hake (GSA 12-16): $F/F_{MSY} = 3.7$ Red mullet (GSA 15-16): $F/F_{MSY} = 1.2$ Deep water red shrimp (GSA 12-16): $F/F_{MSY} =$

						1.63 The proposed reductions of fishing capacity in the MP are relatively high (30%) but concern only Malta. It is not possible to reach MSY levels without similar or higher reductions of effort by other countries that share the same resources.
France	Mechanised dredges	Territorial waters	2014	None	Not aligned with CFP MSY objective. Appropriate reference points not defined. No expiry date.	Uncertain. No assessments of target stocks are provided. The status of the target stocks is unknown and should be evaluated.
France	Purse seiner	Territorial waters	2014	None	Not aligned with the CFP MSY objective. Appropriate reference points not defined. No expiry date.	Likely for anchovy. According to the most recent SAC-WGSAD (2017) report the biomass of anchovy and sardine is very low in the Gulf of Lions and the two populations are considered "ecologically unbalanced". However, fishing mortality and catches are also very low. For anchovy, the F/F_{MSY} was estimated to be

						0.002.
Croatia	Bottom trawls	Territorial waters	2014	None	<p>Not aligned with CFP MSY objective.</p> <p>No quantifiable management targets such as F_{MSY} defined.</p> <p>No expiry date.</p>	<p>Highly unlikely.</p> <p>Most recent stock assessments (e.g. EWG 18-16) indicate that most demersal and pelagic stocks are severely overexploited in the Adriatic Sea. For example:</p> <p>Hake: $F/F_{MSY} = 3.333$</p> <p>Red mullet: $F/F_{MSY} = 1.171$</p> <p>Rose shrimp: $F/F_{MSY} = 2.600$</p> <p>Norway lobster: $F/F_{MSY} = 1.886$</p> <p>Reductions in fishing capacity (10-15%) and fishing effort (100-150 days per year) are proposed. However, they concern only Croatia. It is not possible to drive the stocks to a productive and sustainable status only with these national measures. Demersal resources are shared with other countries in the Adriatic, including Italy and Slovenia.</p>
Greece	Purse seiner	Territorial waters	2015	2017	Expired and not aligned	<p>Uncertain.</p> <p>Recent stock</p>

					with CFP. No MSY objective mentioned in the plan. Exploitation rate (E=0.4) is set as target for anchovy and sardine.	assessments of anchovy and sardine in GSA 22 (EWG 17-09) indicate that fishing mortality on anchovy and sardine is close to F_{MSY} ($F/F_{MSY} = 0.986$ and 1.062 respectively). However, these assessments should be considered with caution due to the important time series data gaps.
Slovenia	Purse seiner	Territorial waters	2013-updated in 2016	None	Not aligned with the CFP MSY objective. No expiry date.	Highly unlikely. The pelagic stocks are shared with other countries including Italy and Croatia. The most recent assessments of the anchovy and sardine stocks in the Adriatic Sea (EWG 17-09) indicate that they are severely overexploited ($F/F_{MSY}=2.505$ and 2.955 respectively).
Slovenia	Trawler	Territorial waters	2013-updated in 2016	None	Not aligned with the CFP. No quantifiable management targets such as F_{MSY} defined. No expiry date.	Highly unlikely. The demersal stocks are shared with other countries including Italy and Croatia. Most recent stock assessments (e.g. EWG 18-16) indicate that most demersal

						<p>and pelagic stocks are severely overexploited in the Adriatic Sea. For example:</p> <p>Hake: $F/F_{MSY} = 3.333$</p> <p>Red mullet: $F/F_{MSY} = 1.171$</p> <p>Rose shrimp: $F/F_{MSY} = 2.600$</p> <p>Norway lobster: $F/F_{MSY} = 1.886$</p>
Greece	Trawler	Territorial waters	2017	2019	<p>Aligned with CFP.</p> <p>Quantifiable F-based reference points F/F_{MSY} and B/B_{MSY} are defined using non equilibrium production models.</p>	<p>Uncertain. Production models suggest a fairly rapid recovery of stocks to levels close to F_{MSY} and B_{MSY}. Data are not informative enough and show gaps, making assessments and projections quite uncertain.</p>
Croatia	Coastal fisheries - purse seine	Territorial waters	2018	2021	<p>Croatia has submitted two MPs for purse seines. The one of them concerns coastal fisheries with small-scale purse seines (Ciplarica, Igličara, Lokardara, Oližnica and Palamidara, i.e. Gray mullet purse seine, Garfish purse seine, Mackerel purse seine, Sand smelt purse</p>	<p>Uncertain for stocks targeted by the small scale purse seines (no assessments).</p> <p>Highly unlikely for anchovy and sardine targeted by Srdelara.</p> <p>The pelagic stocks in the Adriatic Sea are shared with other countries including Italy and Slovenia.</p> <p>The most recent assessments of the anchovy and sardine stocks in</p>

					<p>seine and Bonito purse seine, respectively) and the other, concerns large purse seines targeting sardine and anchovy (Srdelara). The plan for small-scale purse seines is not aligned with the MSY objective. The plan for Srdelara states the MSY objective and defines reference points for the stocks.</p>	<p>the Adriatic Sea (EWG 17-09) indicate that they are severely overexploited ($F/F_{MSY}=2.505$ and 2.955 respectively).</p>
Italy	Demersal stocks	GSA 9	2018	2020	<p>Aligned with MSY objective (explicit reference to article 2 of the CFP).</p> <p>Reference points related to F_{MSY} are defined for 5 stocks.</p>	<p>Highly unlikely.</p> <p>Only <i>Parapenaeus longirostris</i> and <i>Mullus surmuletus</i> are exploited at rates close to F_{MSY}. For other stocks it is unlikely that capacity reduction (5%) combined with a modest reduction of vessels' activity (0 in 2018, 5% in the successive two years) will drive them to desired F levels. Simulations suggest that it would also be needed a reduction in fishing effort of</p>

						about 80%.
Italy	Demersal stocks	GSA 10	2018	2020	<p>Aligned with MSY objective (explicit reference to article 2 of the CFP).</p> <p>Reference points related to F_{MSY} are defined for 3 stocks.</p>	<p>Highly unlikely.</p> <p>Only <i>Mullus barbatus</i> is exploited at rates close to F_{MSY}. For other stocks it is unlikely that capacity reduction (5%) combined with a modest reduction of vessels' activity (0 in 2018, 5% in the successive two years) will drive them to desired F levels. Simulations suggest that it would also be needed a reduction in fishing effort of about 78%.</p>
Italy	Demersal stocks	GSA 11	2018	2020	<p>Aligned with MSY objective (explicit reference to article 2 of the CFP).</p> <p>Reference points related to F_{MSY} are defined for 3 stocks.</p>	<p>The current high F rates makes unlikely that capacity reduction (5%) combined with a modest reduction of vessels' activity (0 in 2018, 5% in the successive two years) will drive them to desired F levels. Simulations suggest that it would also be needed a reduction in fishing effort of about 75%.</p>
Italy	Demersal stocks	GSA 17 and 18	2018	2020	<p>Aligned with MSY objective (explicit</p>	<p>Highly unlikely.</p> <p>Only <i>Mullus</i></p>

					<p>reference to article 2 of the CFP).</p> <p>Reference points related to F_{MSY} are defined for 4 stocks.</p>	<p><i>barbatus</i> is exploited at rates close to F_{MSY}. For other stocks it is unlikely that capacity reduction combined with a modest reduction of vessels' activity (0 in 2018, 5% in the successive two years) will drive them to desired F levels.</p> <p>Simulations suggest that it would also be needed a reduction in fishing effort of about 25% for sole and 57% on average for other stocks.</p>
Italy	Demersal stocks	GSA 19	2018	2020	<p>Aligned with MSY objective (explicit reference to article 2 of the CFP).</p> <p>Reference points related to F_{MSY} are defined for 5 stocks.</p>	<p>It is unlikely that the proposed capacity reduction (5%) and small reduction in fishing effort (0 in 2018, 5% in the successive two years) will drive all the stocks to the desired F levels.</p>
Italy	Demersal stocks	GSA 16	2018	2020	<p>Aligned with MSY objective (explicit reference to article 2 of the CFP).</p> <p>Reference points related to F_{MSY} are defined for only 2 stocks.</p>	<p>It is unlikely that the proposed capacity reduction (5%) and small reduction in fishing effort (0 in 2018, 5% in the successive two years) will drive all the stocks to the desired F levels.</p>

STECF agrees with the general comments and conclusions provided by the ad hoc contract:

- The objectives of the MPs have often been stated in rather vague terms such as the “recovering of stocks” or “sustainable fishery in the long term” (French plans, purse seine plans of Italy, Slovenian plans, Croatian plans for trawlers and small purse seiners, bottom trawl plan of Cyprus, purse seine plan of Greece). According to the CFP, the plans should include a clear definition of quantifiable targets related to MSY.
- In many MPs, quantifiable targets consistent with the MSY objective are defined. However, in most cases, the proposed measures aiming at driving stocks to sustainable levels are insufficient and not proportionate to the objective of MSY (plans of Spain, France, Italy, Malta, Slovenia, Croatia). The time frames for reaching the objectives of the plans are usually not well defined (plans of Cyprus, Malta, Croatia, Slovenia).
- The majority of the stocks assessed in the Mediterranean are overfished and it is unlikely that, exclusively through the measures included in the national MPs, the objective of MSY by 2020 will be achieved.
- Although in many MPs quantifiable targets corresponding to MSY are defined, the number of assessed stocks is limited.
- In many MPs a variety of safeguard measures aiming at ensuring that quantifiable targets are met are included, e.g. reductions of fishing days, reduction of the number of authorized vessels, extension of seasonal closures, etc. and actions are planned after periodical revisions of the performance of the measures enforced (plans of Spain, France, Italy, Greece). Other MPs lack safeguards and remedial actions, even if quantifiable targets have been defined (plans of Cyprus, Malta, Slovenia, Croatia).
- In all MPs analysed, the economic and social considerations are very limited.
- In the case of fisheries targeting demersal stocks, the assessed stocks, although commercially important, usually do not constitute an important fraction of the landings. It is therefore difficult to estimate the probability of reaching MSY for most of the exploited stocks.

STECF notes that the launching of certain of the examined management plans (French dredges, Greek, Slovenian and Croatian purse seines and bottom trawls, Cypriot bottom trawls) was associated with requests for exceptions from provisions of the Med Reg (e.g. minimum fishing depth and/or distance from the coast). According to the Med Reg, requests for derogations can only be granted if a management plan is implemented for the respective fisheries. STECF notes that many management plans prepared soon after the entry in force of the Med Reg, were initially poorly elaborated, presumably because the MS had the priority of granting a derogation for exemption, but in subsequent revisions and submissions, a clear improvement in the quality of the management plans was observed. For example, the most recent plans for bottom trawlers submitted by Italy contain most elements required by the Med Reg and the CFP.

STECF also notes that many plans have expired whereas for several others, the duration of their implementation (expiry date) is not specified. The latter have not recently been updated and/or aligned with the objective of CFP MSY (and respective time frame to achieve it). STECF considers that all management plans which have expired and/or are

not aligned with the CFP should be revised. The plans should have a clear time frame of implementation and monitoring of the MSY targets.

STECF conclusions

Spain

The Spanish management plan for trawlers and purse seiners are aligned with the MSY objective, have defined targets related to MSY, however, demersal and pelagic stocks with recent stock assessments are few. Furthermore, according to the most recent assessments (e.g. EWG 18-12 & EWG-17-09), most demersal and pelagic stocks are overexploited in the western Mediterranean. The proposed reductions of fishing effort stipulated in the Spanish MPs, appear insufficient for reducing fishing mortality to F_{MSY} levels by 2020.

France

The French management plans for trawlers, purse seines and dredges have no clear objectives and are not aligned with the CFP MSY objective. Furthermore, they do not define the period of their implementation (no expiry date). Only for hake in GSA 7, exploited by the French trawlers, a reference point related to F_{MSY} has been considered. No appropriate MSY targets have been set for any other pelagic or demersal stocks in the French MPs. For the demersal stocks exploited by the bottom trawlers (e.g. hake), reaching MSY targets in the short term is highly unlikely given the general overexploitation of demersal resources in the western Mediterranean. Measures included in the trawl plan such as the reduction of fishing vessels by decommissioning or the limit in the number of fishing days can only deliver a modest decrease in F . For the pelagic and demersal stocks exploited by the French purse seines and dredges, STECF is unable to assess if these stocks will be exploited at MSY level in 2020 due to the lack of stock assessments.

Italy

The purse seine and pelagic trawl plans for GSA 9, 10, 16 and 17-18 were adopted before the reform of the CFP and they were not aligned with the MSY objective. These plans have expired. The most important aspect that should be integrated in the Italian plans for the pelagic stocks is the objective of MSY and clear time-frames to reach it. Due to lack of recent assessments, the probability of reaching MSY in 2020 is uncertain for the pelagic stocks exploited in GSA 9, 10, 11 and 16. The severely overexploited Adriatic anchovy and sardine stocks are highly unlikely to reach MSY levels in 2020.

The six management plans for demersal trawlers adopted in 2018 for the Italian GSAs 9, 10, 11, 16, 17-18 and 19 are aligned with the CFP MSY objective. Reference points related to F_{MSY} are defined for 2 to 5 stocks in each plan. Although these stocks are commercially important, they only represent small fractions of total landings. It is unlikely that MSY will be reached for most of the demersal stocks in the short term given the small decrease in effort and capacity prescribed in the plans.

The stocks exploited by the Italian fisheries in the Adriatic and the Strait of Sicily are shared with other countries in these regions and measures taken at the national level should be agreed at a regional level.

Malta

The national MP for bottom trawlers is aligned with the CFP MSY objective and reference points related to MSY are considered for a limited number of stocks. The MP proposes relatively high reductions of fishing capacity in Malta (30%). However, the stocks exploited by the Maltese trawlers are shared with other countries in the Strait of Sicily and these stocks should be managed at a regional scale. Results of recent assessments (GFCM/SAC20/2018) indicate that the stocks of hake, red mullet and deep water rose shrimp in the Strait of Sicily are overexploited. Without more drastic measures of effort reduction at the regional level, it is unlikely that these demersal stocks will reach MSY in 2020.

Slovenia

The national plans for bottom trawlers and purse seiners are not aligned with the CFP and no targets such as F_{MSY} are defined for the stocks. The stocks exploited by the Slovenian fisheries are shared with other countries in the Adriatic Sea and measures taken at the national level should be agreed at a regional level. Recent stock assessments (e.g. EWG-17-09 and EWG-18-16) indicate a high overexploitation of almost all pelagic and demersal stocks in the Adriatic Sea. It is therefore highly unlikely that the stocks exploited by the Slovenian fisheries will reach MSY in 2020.

Croatia

The management plans for the Croatian trawlers and purse seiners are not aligned with the MSY objective except from the plan for the large purse seines targeting sardine and anchovy (srđelara). The stocks exploited by the Croatian fisheries are shared with other countries in the Adriatic and measures taken at the national level (e.g. the reduction in fishing capacity proposed in the Croatian bottom trawl plan) are not sufficient to drive stocks to MSY. Recent stock assessments (e.g. EWG-17-09 and EWG-18-16) indicate a high overexploitation for almost all assessed pelagic and demersal stocks in the Adriatic Sea. It is therefore highly unlikely that the stocks exploited by the Croatian fisheries will reach MSY in 2010.

Greece

The Greek plans for trawlers and purse seiners do not clearly state MSY as an objective but contain reference points for the main pelagic and for a number of demersal stocks that are consistent with the MSY objective. Due to important data limitations (e.g. many gaps in the time series, occasionally very large), recent stock assessments of the Greek stocks are highly uncertain. STECF considers it unlikely that MSY will be reached in 2020 for most of these stocks.

Cyprus

Although the plan for bottom trawlers includes reference points related to MSY for a number of stocks, no clear time frames and actions are described to reach the MSY objective. Due to a drastic reduction in the number of vessels exploiting the main demersal resources and according to results of the most recent stock assessments, it is likely that MSY can be reached, however this remains uncertain due to the limited number of stocks for which assessments are conclusive.

General conclusions regarding the Mediterranean Management Plans

Mediterranean fisheries have been exhibiting a steadily overfishing state (see report on CFP monitoring [STECF-Adhoc-19-01]), with little changes observed over the last decade. Therefore, it can be concluded that the older national management plans under the Mediterranean Regulation have in most cases not contributed to the improvement of the poor status of the Mediterranean stocks. It is highly unlikely, for almost all countries, that MSY will be reached in 2020.

The most important aspects that should be integrated in the Mediterranean management plans are the explicit MSY objective, clear time-frames and management measures to reach it as well as remedial actions and safeguards to assure that the MSY targets are met. Moreover, while many exploited stocks are in poor state, for many others, stock assessments are absent and stock status is unknown. For multispecies fisheries the scope of the plans with regard to the number of stocks considered in the plans should be expanded.

Many stocks in the Mediterranean are jointly exploited by several EU MS and/or countries that are not part of the EU. Management plans should be jointly implemented at a regional level in order to avoid the overexploitation of stocks subjected to fishing pressure from fleets of different countries.

6.5 Evaluation of a management plan for mechanised dredges in Catalonia, Spain

Background provided by the Commission

Article 19 of Council Regulation (EC) No 1967/2006 concerning management measures for the sustainable exploitation of fishery resources in the Mediterranean Sea ('MEDREG') requires Member States to adopt management plans for fisheries conducted by trawl nets, boats seines, shore seines, surrounding nets and dredges within their territorial waters.

In 2014, the Autonomous Community of Catalonia prepared the first management plan for mechanised dredges exploiting mollusc bivalves (*Donax spp.*, *Chamelea gallina* and *Callista chione*). The draft plan and its technical information were assessed by the STECF in November 2014 (PLEN 14-03)⁷. After revision, it was adopted by Order ARP/362/2015 of 15 December⁸. The validity of the plan ended on 22 December 2018.

Today, the Directorate-General for Fisheries and Maritime Affairs (DGPAM) of the Autonomous Community of Catalonia proposes a revised plan, taking into account the results of a scientific monitoring carried out between 2016-2018 by the DGPAM and the consultancy TECNOAMBIENTE, as well as recommendations from the co-management committee and direct fishers.

Request to the STECF

TOR 1. Advice and assess whether the management plan contains adequate elements in terms of:

1.1. The description of the fisheries

- Recent and historical data on catches (landings and discards) of the species concerned, fishing effort and abundance indices such as catch-per-unit-effort;
- Data on length-frequency distribution of the catches, with particular reference to the species subject to minimum sizes in accordance with Annex III of the MEDREG;
- An updated state of the exploited resources; and
- Information on economic indicators, including the profitability of the fisheries.

1.2. Objectives, safeguards and conservation/technical measures

7 Scientific, Technical and Economic Committee for Fisheries (STECF) – 47th Plenary Meeting Report (PLEN-14-03). 2014. Publications Office of the European Union, Luxembourg, [JRC 93037, 138 pp.](#)

8 ORDEN ARP/362/2015, de 15 de diciembre, por la que se establece el Plan de gestión de la actividad de marisqueo de bivalvos mediante dragas mecanizadas (jaulas).

- Objectives consistent with Article 2 of the CFP and quantifiable targets, such as fishing mortality rates and total biomass;
- Measures proportionate to the objectives, the targets and the expected time frame. **In particular, the proposed modifications of the plan i.e. closure of certain fishing grounds, fishing effort reductions and the duration of plan;**
- Safeguards to ensure that quantifiable targets are met, as well as remedial actions, where needed, including situations where the deteriorating quality of data or non-availability places the sustainability of the main stocks of the fishery at risk; and
- Other conservation measures, in particular measures to fully monitor catches of the target species, to gradually eliminate discards and to minimise the negative impact of fishing on the ecosystem.

1.3. Other aspects

- Quantifiable indicators for periodic monitoring and assessment of progress in achieving the objectives of the plan.

TOR 2. If deemed necessary, provide any recommendations and guidance on how to obtain improved scientific/technical supporting material for the plan. This could be done in terms of collection of data, evaluation of the status of the target stocks, evaluation of conservation measures, impact on the marine ecosystem and monitoring programme.

STECF general observations

The fishing activity with mechanized dredges targeting shellfish species is traditionally performed by small vessels in Catalonia. Donax clams (*Donax* spp.) and venus clams (*Chamelea gallina*) constitute the main exploited species of the fishery, but also smooth clams *Callista chione* is (or was in the past) an important target. Vessels operate along the coasts in the depth range 0.5 to 30 m, on sandy-muddy grounds where such resources are more concentrated. The main goal of the plan is to maintain the continuation of the existing fishing for shellfish species within the coastal zone (<3nm) by defining sustainable limits for fishing pressure and demonstrating the limited impact in order to comply with Council Regulation (EC) No 1967/2006.

The Order No ARP/362/2015 of 15 December 2015 setting out the Management Plan (MP) for mechanised-dredge shellfishing activity was valid until 22 December 2018. The Directorate-General for Fisheries and Maritime Affairs (hereinafter the DGPAM) of the Government of the Autonomous Community of Catalonia proposed a revised MP including a series of amendments to the regulation taking into account the results of the scientific monitoring and the conclusions from the various meetings of the Management Plan Monitoring Committee and the direct meetings with the sector concerned, as well as the scientific and technical inputs by the DGPAM technical staff which have been presented in Scientific monitoring report (in Spanish with summary in English)

STECF response in relation to each of the elements outlined in TOR 1

1.1. The description of the fisheries

- Recent and historical data on catches (landings and discards) of the species concerned, fishing effort and abundance indices such as catch-per-unit-effort;

Three authorised shellfishing areas were assessed during the three years were the last MP was in force.

A total of 28 licences are issued in the new MP: Northern Area of Catalonia - 9 special permits granted, Central Area of Catalonia - 10 special permits granted, Ebro Delta Area - 9 special permits granted. STECF notes that the 2014 MP stated that the total number of vessels authorized to use dredges was 34 units: Ebro Delta Area =9; Central Area of Catalonia -central South Zone=10; Central Area of Catalonia - Maresme=6; North Catalunya-Bahia de Roses=9. Thus, the number of existing fishing licences is lower than in the previous plan, but the exact definition of fishing areas has been slightly changed.

The historical overview of the main fishery data (fishing days, CPUE and total landings) between 2009 and September 2018 is presented in the MP. Results are pointing to a significant decrease in the *Donax*-clam catches in the Ebro Delta Area in 2017 (3,776 tons compared to 7,186 tons in 2014, 11,292 in 2015 and 8,782 in 2016) and a subsequent recovery in 2018 (4,805 tons), however still significantly below catches from years prior to 2017 (average catch/year in the period 2009-2013 = 61 tons).

Results show also that the average CPUE (kg/boat and day) is lower in all areas for the period 2014-2018 (e.g. in Ebro Delta Area in the period 2014-2018 average CPUE is 27, 39, 38, 18 and 28 kg, respectively) compared to the average CPUE from the period 2009-2013 (54 kg per boat and day), except in the Northern area where total catches are significantly lower than in other areas. The same trend can be observed in a case of average fishing days per year as in the period 2009-2014 it was 714 days for Ebra Delta Area and 648 days in the Central Southern Area, while in the period 2014-2018 it was significantly decreased in both areas (264, 289, 234, 206 and 174 days in the Ebra Delta Area and 224, 127, 144, 204 and 142 days in the Central Southern Area),

Thus, STECF notes that the information presented suggests that the biomass levels were higher prior to the implementation of the MP (2015-2018).

- *Data on length-frequency distribution of the catches, with particular reference to the species subject to minimum sizes in accordance with Annex III of the MEDREG;*

The data on length-frequency distribution of the catches are presented for each year of the monitoring period (2016-2018). With regards to *Chamelea gallina* results in 2016 show that more than 90% of the individuals caught had a size below the Minimum Legal Size; MLS (25 mm). The percentage of individuals in 2017 below Minimum Legal Size (MLS) varied between 54%, in October 2017 in Sant Carles, and 100% in October and December 2017 in Vilanova. Similar observations were made in 2018 as the percentage of catch below Minimum Legal Size was between 50% and 80%.

With regards to *Donax* clams the percentage of catch below Minimum Legal Size in 2018 in Sant Carles de la Ràpita area was minimal (8%) in March and maximal (53%) in September. minimal (20%) in March and maximal (60%) in October in Vilanova i la Geltrú and minimal (20%) in March and maximal (80%) in September for Roses area.

- *An updated state of the exploited resources;*

The new MP states that the data on venus-clam populations, both from declared catches and from the scientific monitoring, reveal that this species is in a state of minimum abundance that does not allow for its commercial exploitation.

The new MP also states that the donax clam stocks are generally in a better condition. This enables beds to be productive in the long-term by applying restrictive measures to reduce effort. However, despite this overall better condition, the new MP states the need

to close the natural bed in the Northern Area of Catalonia, on the basis of low estimates of abundance, densities, CPUE and BPUE (biomass per unit effort).

The DGPAM has simultaneously implemented a sampling programme to determine the suitability of reopening the smooth clam (*Callista chione*) bed in the Central-Southern Area of Catalonia. This species' natural bed has been closed since the beginning of the last MP, in December 2015. To this end, they carried out four sampling campaigns (one in July and three in November) in the grounds that have been traditionally exploited. After 42 hauls of around 150 metres each, and despite having identified densities that could be exploitable, no specimen above the commercial size for its species – longest axis of 60 mm – was observed.

- *Information on economic indicators, including the profitability of the fisheries.*

Certain economic indicators are presented in the new MP, such as net gains, price per kg and donax-clam catch total declared volume. However, the dependency of the fleet on the target species is not presented.

1.2. Objectives, safeguards and conservation/technical measures

- *Objectives consistent with Article 2 of the CFP and quantifiable targets, such as fishing mortality rates and total biomass;*

STECF notes that there are no fishing mortality or biomass reference points that are consistent with Article 2 of CFP. The new MP states that the lack of quality historical data does not allow, at least not currently, for the reliable calculation of the CPUE at maximum sustainable yield (MSY) levels. According to the MP this makes it difficult to adjust the fleet capacity to the fishing opportunities, depending on the productivity of the grounds exploited. For this reason, the new MP suggests a protective reduction of 20 % of the fishing days set out in the Management Plan previously approved by the EU in 2015, until the F (fishing mortality) can be calculated, which would allow the restoration and maintenance of exploited stocks, whilst enabling the socio-economic development of the fishing sector concerned. However, as explained further below STECF considers that these measures are unlikely to be in agreement with the objectives of achieving long term sustainability or achieving maximum yields given the available data (current and historic catch rates). Additionally, as stated by STECF 14-03, the productivity of the fishing grounds is likely to change, mainly due to other anthropogenic factors such as sand extraction and reduction of flow of nutrients towards the sea derived from the enforcement of measures linked to the Water Framework Directive (2000). Whenever such conditions persist, it is unlikely that biomass will recover to the former levels.

- *Measures proportionate to the objectives, the targets and the expected time frame. In particular, the proposed modifications of the plan i.e. closure of certain fishing grounds, fishing effort reductions and the duration of plan;*

Taking into account the latest results from the scientific monitoring, the new MP was adapted to the current state of the resources exploited by the mechanised-dredge fleet. Consequently, a package of measures to protect natural beds and to reduce fishing effort is proposed.

The data on venus-clam populations, both from declared catches and from the scientific monitoring, reveal that this species is in a state of minimum abundance that does not allow for its further commercial exploitation. Therefore, the new MP proposes the closure of this species' fishing grounds on the Catalan coastline.

The new MP also suggests that the donax-clam stocks are generally in a better condition. This enables beds to be productive in the long-term by applying restrictive measures to reduce effort. However, despite this overall better condition, the new MP states the need to close the natural bed in the Northern Area of Catalonia, on the basis of low estimates of abundance, densities, CPUE and BPUE (biomass per unit effort).

The new MP suggests a reduction of 20 % of the allowed fishing days compared to the previous MP, namely 571 days in the Ebro Delta Area instead of 714, and 466 days in the Central-Southern Area of Catalonia instead of 583. This means a total decrease of 260 fishing days dedicated to mechanised-dredge in donax-clam grounds, in addition to the elimination of the 286 days in the closed Northern Area of Catalonia. However, STECF notes that the actual number of fishing days in the period 2014-2018 was considerably lower (in Ebro Delta Area 264, 289, 234, 206 and 174 and in Central-Southern Area 224, 127, 144, 204 and 142 days, respectively).

Also, the new MP proposes a reduction of maximum CPUE from 54 to 42 kg of donax clams per day and boat in the Ebro Delta Area, and from 16 to 14 kg of donax clams per day and boat in the Central-Southern Area of Catalonia. Such change is explained with the fact that previous catch limits were interpreted as indicators of the state of the resource. Hence, previous catch limits were combined with the obligation to achieve the daily limits that required the fishers to catch the maximum amount of donax clams possible, which does not allow them to adjust their catches to the market demand. Because of that, the new MP eliminates this obligation from the draft regulation. However, STECF notes that the new proposed maximum catch limits are not in accordance with the average observed CPUE for this area which are considerably lower (in Ebro Delta Area 27, 39, 38, 18, and 28 kg/day for period 2014-2018, and in Central Southern Area 10, 6, 8, 10 and 10 kg/day for the same period, respectively).

Thus, STECF does not see how the proposed reductions of both effort and CPUE thresholds will contribute to reduction in fishing mortality in the areas concerned.

STECF notes also that because of total closure of fishing for venus clams and donax-clam in the Northern area an increase of fishing effort on donax clam in other areas could happen, especially because the maximum number of fishing days was not reached during previous years, but the new MP has not referred to that.

With regards to duration of the plan STECF notes that the new MP increases the period of validity of the regulation from three to five years in order to reduce the administrative procedures and be able to maintain a valid regulation for a longer period of time. However, the obligation remains that three years after the entry into force of this plan the Technical Committee shall evaluate the results of the implementation of the plan based on the scientific and technical monitoring programme and shall notify the European Commission of that evaluation.

- *Safeguards to ensure that quantifiable targets are met, as well as remedial actions, where needed, including situations where the deteriorating quality of data or non-availability places the sustainability of the main stocks of the fishery at risk;*

The proposal for amendment establishes that the catch limits will be calculated according to their quarterly average. The Plan states that this calculation methodology will be applied for the following reasons:

- The quarterly averages allow the shellfisher to adjust catches to the market demand, catching less volume if necessary without prejudice to the other shellfishers in the same area if the limits set are not reached.
- The quarterly averages make it possible to increase the volume of catches, which allows the adaptation of the shellfishing activity to seasonal fluctuations of that exploited resource.

The new MP also notes that management decisions will be taken in agreement with the Technical Committee. As defined in previous MP, changes in biomass (CPUE) will be used as a metric for assessing progress towards management measures.

- *Other conservation measures, in particular measures to fully monitor catches of the target species, to gradually eliminate discards and to minimise the negative impact of fishing on the ecosystem.*

The characteristics of the already approved monitoring programme remain the same, meaning that the new MP also foresees periodic analyses of a series of monitored variables undertaken by scientific staff with responsibility for the evaluation of the sustainability of the activity (i.e. effort, catches by species and area, and CPUEs) and for identification of issues that may require management intervention.

The scientific monitoring in 2016 and 2018 shows a similar composition of the by-catch observed across the three zones analysed, with a clear dominance of bivalves, followed by decapod crustaceans and sometimes echinoderms. However, results from 2017 showed a clear difference in the taxonomic composition of the non-target species among the three areas analysed. It is suggested that these results reflect the different environmental characteristics of each zone, which determine the quantity and quality of trophic resources.

The new MP states that by-catch percentage related to the whole capture from mechanized dredgers is very low due to the high selectivity of this fishing activity. On the other hand, STECF PLEN 14-03 noted that by-catch of the mechanized dredges fisheries is significant. Thus, STECF notes that without providing new evidences there are no data to support the suggestion that by-catches are very low.

Furthermore, the information supplied does not allow for the assessment of the impact of fishing with mechanized dredges on the seafloor. STECF also notes that the new MP does not anticipate any changes in gear characteristics or other technical measures aimed at a reduction of discards or aimed at minimizing the impact of fishing on the ecosystem.

1.3. Other aspects

Quantifiable indicators for periodic monitoring and assessment of progress in achieving the objectives of the plan.

The characteristics of the monitoring programme approved by the EC in 2015 remain the same and the obligation for the PGDM Technical Committee to inform the EC about the results of the implementation of the plan after the first three years since the regulation entered into force is introduced. Consequently, it remains that changes in biomass (CPUE) will be used as a metric for assessing progress towards management measures.

STECF response in relation to TOR 2

TOR 2. If deemed necessary, provide any recommendations and guidance on how to obtain improved scientific/technical supporting material for the plan. This could be done in terms of collection of data, evaluation of the status of the target stocks, evaluation of conservation measures, impact on the marine ecosystem and monitoring programme.

There is a need to improve the understanding in the state of resource and the effectiveness of the technical measures adopted or proposed by the plan, also providing MSY-based reference points. STECF encourages the development of scientific surveys for mollusks and biological sampling of the target species exploited by the dredge fleets as part of the data collection programs, following standard operating protocols as used in other similar fisheries, such as the Adriatic clams fisheries (see sections 6.6 and 6.7 of the present report).

It is known that the growth and mortality of bivalves in general are strongly conditioned by environmental conditions. Within monitoring plan some parameters are sampled, such as temperature, salinity, dissolved oxygen and granulometric composition, but some other, e.g. turbidity or chlorophyll should also be monitored. Thus, STECF suggests that further monitoring including some additional environmental explanatory variables as it was noted during STECF plenary 14-03.

STECF also notes that although some economic data are presented it would be useful to collect more information, in particular on the dependency of the vessels on this fishery, in order to evaluate the economic importance of the activity and assessing the likely socio-economic consequences of any future management action applied.

STECF conclusions

The new MP provides information on fisheries using mechanized dredges and on the stocks they exploit, particularly donax clams (*Donax ssp.*), venus clams (*Chamelea gallina*) and smooth clams (*Callista chione*). Taking into an account the latest results from monitoring, the plan proposes a package of measures to reduce fishing effort.

From the data provided by the new MP, STECF notes that the biomass levels of target populations are obviously considerably lower than prior to the implementation of the 2014 MP, and agrees with the new measures, particularly closed fisheries for venus clam and smooth clam. However, the number of authorized fishing days, even after a 20% reduction remains higher than the actual number of fishing days observed in the recent years, so this measure will likely not contribute to reducing the current fishing pressure on the stocks concerned.

STECF concludes that the CPUE thresholds do not seem an appropriate indicator for triggering management actions. Catch limits for the next year fishing season should rather be set on the basis of an assessment of the recruitment success estimated through scientific surveys carried out following a well defined sampling protocol.

STECF also notes that potential measures which can be used to eliminate discards and minimise the negative impact on the ecosystem are not described.

6.6 Evaluation of a new management plan for hydraulic dredges in Italian waters

Background provided by the Commission

Under Article 19 of Council Regulation (EC) No 1967/2006 (hereafter referred to as "MEDREG"), Member States are expected to adopt management plans for fisheries conducted by trawl nets, boats seines, shore seines, surrounding nets and dredges within their territorial waters.

In 2013, the Common Fisheries Policy (CFP) introduced new elements for conservation such as the target of maximum sustainable yield (MSY) for all the stocks by 2020 at the latest, the landing obligation and the regionalisation approach.

In line with these two regulations, the plans shall be based on scientific, technical and economic advice, and shall contain conservation measures to restore and maintain fish stocks above levels capable of producing maximum sustainable yield or MSY. Where targets relating to the MSY (e.g. fishing mortality at MSY) cannot be determined, owing to insufficient data, the plans shall provide for measures based on the precautionary approach, ensuring at least a comparable degree of conservation of the relevant stocks.

The plans shall also contain specific conservation measures based on the ecosystem approach to achieve the objectives set. In particular, they may incorporate any measure included in the following list to limit fishing mortality and the environmental impact of fishing activities: limiting catches, fixing the number and type of fishing vessels authorized to fish, limiting fishing effort, adopting technical measures (structure of fishing gears, fishing practices, areas/period of fishing restriction, minimum size, reduction of impact of fishing activities on marine ecosystems and non-target species), establishing incentives to promote more selective fisheries, conduct pilot projects on alternative types of fishing management techniques, etc.

In 2016, Italy submitted consolidated management plans for hydraulic dredges in Italy to the European Commission (EC) and these were adopted at national level. Italy submitted new management plans for these gears which should be examined by the STECF.

Request to the STECF

TOR 1. To assess and advice whether the management plans for marine commercial fishing carried out with hydraulic dredges in the territorial waters of the Republic of Italy contains adequate elements in terms of:

1.1. The description of the fisheries

- Recent and historical data on catches (landings and discards) of the species concerned, fishing effort and abundance indices such as catch-per-unit-effort (or CPUE).
- Data on length-frequency distribution of the catches, with particular reference to the species subject to minimum sizes in accordance with Annex III of the MEDREG.
- An updated state of the exploited resources.
- Information on economic indicators, including the profitability of the fisheries.

1.2. Objectives, safeguards and conservation/technical measures

- Objectives consistent with article 2 of the CFP and quantifiable targets, such as fishing mortality rates and total biomass.
- Measures proportionate to the objectives, the targets and the expected time frame.
- Safeguards to ensure that quantifiable targets are met, as well as remedial actions, where needed, including situations where the deteriorating quality of data or non-availability places the sustainability of the main stocks of the fishery at risk.
- Other conservation measures, in particular measures to fully monitor catches of the target species, to gradually eliminate discards and to minimise the negative impact of fishing on the ecosystem.

1.3. Other aspects

- Quantifiable indicators for periodic monitoring and assessment of progress in achieving the objectives of the plan.

TOR 2. If deemed necessary, provide any recommendations and guidance on how to obtain improved scientific/technical supporting material for the plan. This could be done in terms of collection of data, evaluation of the status of the target stocks, evaluation of conservation measures, impact on the marine ecosystem and monitoring programme.

Background documents are published on the meeting's web site on: <https://stecf.jrc.ec.europa.eu/plen1901>

Summary of the documents provided to STECF

STECF notes that the only available document provided to STECF in advance of the plenary was "Sintesi Piano Draghe_ENG.docx". This document is not a Management Plan, but the Summary of the National Management Plan for fishing with hydraulic dredges and boat-operated shell rakes.

In order to fully understand the basis for the plan, STECF requested to Commission that additional background information is provided.

Five additional documents were made available the first day of the plenary meeting.

RE-1.pdf.pdf (172 pp., in Italian)

Piano di gestione nazionale per le attività di pesca con il sistema draghe idrauliche e rastrelli da natante così come identificati nella denominazione degli attrezzi di pesca in draghe meccaniche comprese le turbosoffianti (HMD) e draga meccanizzata (DRB).

This document is the National Management for fishing with hydraulic dredges and boat-operated shell rakes, adopted by Ministerial Decree of 8 March 2019.

RE-2.pdf.pdf (148 pp., in Italian)

This document includes several studies:

"Indagine esplorativa sull'evento di moria riscontrato nel mese di settembre 2018

nella Regione Marche". This document describes the massive mortality that affected mainly *Chamelea gallina* in 2018. This mortality is hypothesized to have been of microbiological nature.

"Monitoraggio della risorsa vongola (*Chamelea gallina*) nei compartimenti di Ancona e San Benedetto del Tronto. Annualità 2017 e 2018. Relazione tecnica". In Ancona, *Chamelea gallina* was monitored yearly over 1984 to 2001. The last sampling at national scale was performed 2012. Massive mortality events occur, that are not linked to the fishing activity. The biological characteristics of the species and description of the gear and functioning and its impact on the bottom are presented. During the fishing operation only individuals >22mm are retained. Reference points based on density of commercial individuals are presented for GSA 17, 18 and 9-10, indicative of good management, attention and prohibition of fishing. Although the number of vessels has remained fairly constant since early 2000s, at around 710 units, the landings have displayed oscillations, with a general decreasing trend.

"Stato della risorsa vongola nella Regione Marche" In this section a general overview of the fishery is presented, in terms of landings over 2005-2016 and duration of temporal closures. Results of the survey are presented, including abundance indices and length frequency distributions in 2017 and 2018, by district. Biological information was also updated. Mature gametes were observed in 10-11 mm individuals.

"Monitoraggio della risorsa vongola (*Chamelea gallina*) nel compartimento di Pescara. Relazione sintetica dati campionamenti anni 2017- 2018"

"Monitoraggio della risorsa vongola (*Chamelea gallina*) nel compartimento di Ortona. Relazione tecnica 2018"

According to survey data, *Chamelea gallina* in Pescara is in good condition, with an equilibrium between the commercial and juveniles fractions, in a better status than in the previous sampling in 2014. In Ortona, the juveniles fraction feeds the commercial stock.

[RE-3.pdf.pdf \(60 pp., in Italian\)](#)

"Monitoraggio della risorsa vongola (*Chamelea gallina*) nei compartimenti Pugliesi".

The results of the study indicated high variability in density in the surveys in summer and autumn and suggest precautionary approach.

[RE-4.pdf.pdf \(124 pp., in Italian\)](#)

"Messa a punto del sistema di monitoraggio annuale dello stato dei molluschi bivalvi oggetto di sfruttamento mediante draga idraulica. Analisi della struttura del popolamento macrozoobentonico associato alle risorse sfruttate".

The document provides information on the razor shell (*Ensis minor*): fishery, biology and communities associated to the razor shell; surveys conducted in 2017 and 2018 and distribution of the resource, expressed in density by district, separately for the commercial (>=80 mm) and non-commercial (<80mm) fractions; the management of the fishery. Information is provided for the districts of Napoli, Gaeta, Roma, Monfalcone, Chioggia and Venezia.

[RE-5.pdf.pdf \(112 pp., in Italian\)](#)

This document includes:

"Analisi del popolamento macrozoobentonico: Adriatico"

"Analisi del popolamento macrozoobentonico delle aree di pesca tirreniche"

"Monitoraggio della risorsa vongola (*Chamelea gallina*) nei compartimenti Termoli".

“Monitoraggio della risorsa vongola (*Chamelea gallina*) nei compartimenti Veneti”.

The document provides information on macrozoobenthic communities in 16 districts, 13 of them in the Adriatic, for the communities linked to the striped venus clam (*Chamelea gallina*), and 3 of them in the central Tyrrhenian, for the razor clam (*Ensis minor*).

Results on the abundance, total and individual biomass, and relationship density-individual biomass are presented for *Chamelea gallina*, by district, highlighting differences among districts. The species growth is density-dependent, at low densities the individual weight tends towards low values, while at high densities the individual weight is also high. A total of 164 species were identified.

A similar analysis is presented for *Ensis minor*. Highest biomass (g/m²) and individual biomass correspond to the northern part of the study area (Roma). A total of 127 species were identified.

A description on the survey for the distribution of *Chamelea gallina* and results in terms of density (g/m²; n/m²) and length distributions is presented for the district of Termoli. A juvenile fraction exists that feeds the commercial fraction.

The study carried out in the Veneti districts includes the number of vessels in Venetia and Chioggia over 2002-2018, that has remained constant since 2002 (163). Monthly landings series and number of fishing days over the same period is presented. In the last years, voluntary spatial closures of at least 3 months per year are being implemented. In 2008 a massive mortality occurred and since then a constant increase in biomass was observed until 2017. In 2018 again high mortalities occurred because of the alluvia that affected the coastal strip.

STECF notes that documents made available during the plenary were provided in Italian, and disclaims against possible misunderstandings.

STECF comments

The activity of hydraulic dredges is regulated through a National Management Plan established according to Article 19 of EC Reg. 1967/2006. A management plan was adopted in 2010 and further amended in 2015 (DM 2015). STECF notes that the “Piano di gestione nazionale per le attività di pesca con il sistema draghe idrauliche e rastrelli da natante così come identificati nella denominazione degli attrezzi di pesca in draghe meccaniche comprese le turbosoffianti (HMD) e draga meccanizzata (DRB)” was already adopted on 8 March 2019. i.e. prior to its evaluation by STECF.

Comments and response to the ToRs are based on this document (RE-1) and on its English summary. The management plan builds on information and results that are found in the additional documentation requested by STECF (RE-2 to 5).

The management plan applies to hydraulic dredges and mechanized dredges, in all Italian waters. The fleet is concentrated mainly along the Adriatic coast, where the target species are striped venus clam (*Chamelea gallina*) and smooth clam (*Challista chione*). In the Tyrrhenian sea the target species is mainly the razor clam (*Ensis minor*). The hydraulic dredges fleet consists of 706 units; around 40 of them operate in the Tyrrhenian. The fishing of razor clam is carried out exclusively at less than 0.3 nautical miles from the coast. Reference points are presented, by species and GSA.

STECF assessed a previous management plan submitted by Italy for hydraulic and boat dredges for molluscs, that included a request for derogation from the prohibition of dredging at less than 0.3 nm from the coast (STECF 2010a, b). STECF concluded that the data provided in support of the management plan were not sufficient to provide an informed quantitative assessment of its potential impact and that the proposal could be considered as a pilot study for a period of three years.

The current submitted management plan does not include any request for derogation. However the plan indicates that the prohibition of fishing inside 0.3 nm from the coast (MEDREG Art. 13, paragraph 2) drastically reduced the fishing area for dredges, especially in the case of razor clam. Because of this, fishing within 0.3 miles has been authorized in the last years by the Italian Administration, with the objective of collecting the necessary information for drafting a management plan aimed at the request of derogation of the prohibition of use of hydraulic dredges within 0.3 nm from the coast and maintaining a certain socio-economic stability of the sector. This authorization will extend until 31 December 2019 and applies to vessels of Monfalcone (22), Venezia (20), Chioggia (20), Roma (16), Gaeta (3) and Napoli (12). The fishing activity is carried out in an experimental way, following a precise data collection protocol defined by CNR-ISMAR of Ancona (DM 2018).

According to the study conducted in the northern Adriatic, the fishing would be very selective for *Chamelea gallina*, that represented >80% of the catch. It is not specified whether this percentage refers to numbers or weight. No information is available for other areas where this species is fished. Regarding the other two target species, razor clam and smooth clam, their relative importance in the catches is not provided. Information on the by-catch species for striped venus clam and razor clam, is presented, as presence/absence in the fishing operation. This information is not available for smooth clam.

In the summary of the management plan (the only document available to the plenary in advance, in English), it is explained that because the daily landings may not be representative of only the abundance of the resource, but also reflect the availability of commercial individuals and prizes dynamics, reference points based on historical trends of percentiles were not considered (not explained whether these refer to landings or CPUE). The reference points, estimated from surveys, defined for striped venus clam, razor clam and smooth clam in Italian waters, and expressed in g/m², are the same as those in the previous MP management Plan for hydraulic dredges (DM2015). No explanation is provided as for how the reference points indicating good management, alert and prohibition of fishing were estimated. Nevertheless, STECF notes that the recently adopted management plan (document RE-1) also includes reference points based on CPUE percentiles. These reference points use the cumulative distribution of the daily catch per vessel. The 25% percentile is taken as minimum threshold, below which the CPUE should not be for three consecutive years. The reference points based on the 25% percentile for a fishing day (4 hours) are defined for striped venus (183 and 65 kg/day/vessel in the Adriatic and in the Tyrrhenian, respectively), razor clam (60 kg/day/vessel) and smooth clam (120 kg/day/vessel).

STECF response to ToR 1

STECF observations regarding ToRs 1 & 2 are listed in the following table:

ToR	STECF observations
ToR1 - Description of the fisheries - Recent and historical data on catches (landings and discards) of the species concerned, fishing effort and abundance indices such as catch-per-unit-effort (or CPUE).	- The number of hydraulic dredges targeting striped venus clam or razor clam is presented by district. Annual striped venus clam landings over 2005-2015 display decreasing trend since 2007. Striped venus clam CPUE (kg/day) is available for

<p>- Data on length-frequency distribution of the catches, with particular reference to the species subject to minimum sizes in accordance with Annex III of the MEDREG.</p> <p>- An updated state of the exploited resources.</p>	<p>the period 2011-2017 at national level. Striped venus clam monthly landings in Ancona available for 2007-2016, and in Veneto for 2002-2017; fishing days for the same period. Landings trend 2002-2018 is provided for razor clam in a number of districts in the Tyrrhenian and the Adriatic; CPUE is shown on an annual basis in 2017 and 2018. Fasolari monthly landings and annual CPUE (kg/day) are provided for the period 2011-2017, at national level. Fasolari annual and monthly landings in Veneto over 2002-2017. This information is adequate but incomplete.¹</p> <p>- Study on hydraulic dredges selectivity in different districts. Striped venus clam length-frequency distributions are provided for the commercial and non-commercial fractions. Length frequency distributions of the 2017 and 2018 surveys and over 2013-2017 in the venetian littoral are available for striped venus clam.</p> <p>For the other two target species, razor clam and smooth clam. The information is adequate but incomplete.²</p> <p>- Scientific surveys in 2017 and 2018 allow knowing the current status of the target species striped venus clam and razor clam, by district; abundance of the species expressed in abundance and biomass in n/m^2 and g/m^2; species affected by the gear; sizes for striped venus clam. Information adequate; razor clam length frequency distributions should be presented.</p> <p>Razor clam in bad condition in the Tyrrhenian and even worse in the Adriatic. The distribution of this species in the Tyrrhenian within 0.2 miles. It is proposed opening the razor fishery in Salerno, where</p>
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<ul style="list-style-type: none"> - Information on economic indicators, including the profitability of the fisheries. 	<p>shellfish fishing is currently closed.</p> <ul style="list-style-type: none"> - Time series of economic data from 2012 to 2017 are presented. Data refer to: capacity, effort, landings value and volume, income, operative costs and employment. Economic indicators are also presented for the whole time series in terms of gross cash flow and added value.
<p>ToR1 - Objectives, safeguards and conservation/technical measures</p> <ul style="list-style-type: none"> - Objectives consistent with article 2 of the CFP and quantifiable targets, such as fishing mortality rates and total biomass. - Measures proportionate to the objectives, the targets and the expected time frame. - Safeguards to ensure that quantifiable targets are met, as well as remedial actions, where needed, including situations where the deteriorating quality of data or non-availability places the sustainability of the main stocks of the fishery at risk. - Other conservation measures, in particular measures to fully monitor catches of the target species, to gradually eliminate discards and to minimise the negative impact of fishing on the ecosystem. 	<ul style="list-style-type: none"> - Reference points (RPs) are set for striped venus clam, razor clam and smooth clam, for GSAs 17, 18 and 9-10, expressed as density of commercial individuals. The same values as in the previous MP of 2015. No explanation on the methodology applied in the definition of the RPs, that corresponds to the density that an area should attain for the exploitation to be profitable. See first comment on reference points in response to ToR 2. - Daily striped venus clam catch limited to 400 kg/boat. Daily razor clam catch limited to 100 kg/boat. Four fishing days a week. Vessels must fish in the district where the vessel is registered. Rotation areas. Landings only at sites with a sieve of adequate size. Fishing closures. No time frame presented to achieve the objectives. - Adaptive management foreseen (changes to the daily quota; closure if biomass falls below threshold). A discards plan implemented (ToR 6.7). Vessels activity monitoring system implemented. The catch monitoring system will also be used to initiate management activities based on rotating fishing areas.

<p>ToR1 - Other aspects</p> <ul style="list-style-type: none"> - Quantifiable indicators for periodic monitoring and assessment of progress in achieving the objectives of the plan. 	<ul style="list-style-type: none"> - The management procedure of the fishery, combined at district and national level, in collaboration with scientific institutes, is explained, that should allow identifying problems and adopt measures of correction. The collected information from logbooks about the fishing activity is incomplete (position, fishing hours, catch), but is necessary for an adaptive management of the fishery.
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¹ The dredge fishery is managed at district level. Since the abundance of the target species is not homogenous across all districts, data on catches, fishing effort and abundance should be available at that level e.g. annual CPUE is not informative about the situation of the stocks in all districts where the species are exploited.

² Smooth clam has no MCRS therefore, there is no obligation to present length frequency distribution for this species. Relevant information on length frequency distribution of razor clams were not included in the management plan. Results from the surveys conducted in 2017 and 2018 in Napoli, Gaeta, Roma, Monfalcone and Chioggia and Venezia, were available in the additional documents provided during the plenary (fishery, biology, length frequency distributions, densities). This information provides knowledge on the current status of razor clam, that, according to the proposed reference points based on densities of commercial sized individuals, is suffering from a severe and long-lasting crisis in the Tyrrhenian. In the Adriatic, the situation is even worse since two districts have been suspending razor shell fishing for over 7 years. STECF notes that all relevant information should have been included in the management plan itself.

STECF response to ToR2 – Recommendations on how to obtain improved scientific/technical supporting material for the plan

STECF recommends exploring the feasibility of defining reference points related to the biological sustainability of the resources, not based only on the potential profits, as indicated in the MP. It is advisable to regulate activity based also on a biologically sustainable exploitation in the frame of MSY objectives.

The relative importance of the target species in the catch is given for striped venus clam in the North Adriatic. Data should be collected to know the relative importance of all the target species, striped venus clam, razor clam and smooth clam, in the total catch, in all areas where the species are exploited. This information is required to assess whether the fishing gear is selective regarding the target species and whether its impact on the other species and bottom is low.

The management plan would benefit from the inclusion of historic data series on catches, effort and CPUE, of the three target species in the different districts where they are exploited.

STECF conclusions

STECF concludes that the MP, which is already implemented, contains many of the elements requested in ToR 1. Even though measures for the reduction of fishing pressure are proposed, the proposed reference points are not used for ensuring catches consistent with a biologically sustainable exploitation as they are exclusively based on socio-economic elements.

Questions to be considered for the improvement of the management plan are suggested in the previous section.

References

- DM 2015. Decreto Ministeriale luglio 2015 (in Gazz. Uff. n.48 del 13-08-2015) Adozione del Piano di gestione nazionale per le attività di pesca con il sistema draghe idrauliche e rastrelli da natante
- DM 2018. Decreto Ministeriale 29 gennaio 2018 (in Gazz. Uff. n.32 del 8-2-2018). Proroga dell'autorizzazione di pesca ai fini della cattura dei cannolicchi entro le 0,3 miglia dalla costa.
- STECF 2010a. Scientific, Technical and Economic Committee for Fisheries(STECF). 35th Plenary Meeting Report (PLEN-10-03). Publications Office of the European Union, Luxembourg. ISBN 978-92-79-18740-7 doi: 10.2788/52748
- STECF 2010b. Scientific, Technical and Economic Committee for Fisheries(STECF). Opinion by written procedure. Assessment of the proposed management plan submitted by Italy for hydraulic and boat dredges for molluscs. ISBN 978-92-79-18981-4 doi: 10.2788/11940

6.7 Evaluation of a new Discard plan for Clams in Italian waters

Background provided by the Commission

The landing obligation is compulsory, as from 1 January 2017, for the species that define the fisheries (other than small pelagics) and that are subject to a minimum conservation reference size (MCRS) according to Annex III of the MEDREG. The fisheries targeting the mollusc bivalve Venus clams (*Venus gallina* – as originally described – or *Chamelea gallina*) are therefore subject to this provision.

In light of this, in 2016 Italy submitted to the European Commission a proposal of a three-year discard plan for the fisheries targeting Venus clams by hydraulic dredges in the Northern Adriatic Sea (see Annexes of the present report). With the derogation at the basis of the discard plan expiring in December 2019, the IT administration is submitting an updated discard plan.

The draft discard plan is accompanied by a study which evaluates the possible effects of re-defining the MCRS and the monitoring of the previous two years of implementation.

Request to the STECF

STECF is requested to review and make any appropriate comments and recommendations on the draft discard plan for the fisheries targeting Venus clams in the Northern Adriatic Sea and its supporting study.

In particular, STECF is requested to:

- Provide an opinion whether the survivability of Venus clams has been scientifically underpinned in the discard plan, and assess the potential survivability rates of Venus clams, taking into account the characteristics of the fishing gear, the fishing operations, the biological state of the Venus clams after the fishing operations, and the environmental conditions of the re-stocking area.
- Assess the potential past and future impacts on the stock of the proposed change in the MCRS for Venus clams from 25 mm to 22 mm on exploitation rates and stock biomass.
- In light of the results of the monitoring program for the period 2017-2018, assess whether the proposed new scientific monitoring program is likely to provide adequate data and information to evaluate the effects of the discard plan

In making this evaluation, STECF is asked to take into account the works of the STECF-EWG 15-14, 16-06⁹ and of the European Parliament¹⁰.

⁹ https://stecf.jrc.ec.europa.eu/reports/discards/-/asset_publisher/b1zP/document/id/1450181?inheritRedirect=false

The evaluation of this discard plan is linked to the evaluation of the National Management plan for hydraulic dredges in Italian territorial waters.

Background documents are published on the meeting's web site on: <https://stecf.jrc.ec.europa.eu/plen1901>

Summary of the information provided to STECF

STECF was provided with five documents to inform its review of the follow-on Italian Discard Plan:

- 1) *An extensive report from the Italian Authorities on the Discard Management Plan for Venus Clams Chamelea gallina*

This report contains sections covering key aspects of the Venus clam dredge fishery and the Discard Management plan in operation until the end of 2019. Following introductory sections on the legislative framework and background information on the hydraulic dredge gear, the report sets out results of the first period of monitoring.

Detailed biological information on gonad analysis, reproduction and growth is accompanied by an extensive review of previous estimates of size of maturity. Overall conclusions from the new work confirm that first maturity occurs below the current MCRS of 22mm. The report argues that this will ensure sustainability of the stock.

A description of the implementation of the Discard Plan includes details on the introduction and coverage of vessel position monitoring, assigned landing sites, restocking and monitoring areas and a certification scheme to confirm product compliance with MCRS and to provide traceability.

This is followed by several sections covering the state of the resource as indicated by scientific surveys. Considerable detail is provided on some aspects of methodology and index of abundance and biomass results from the first couple of years of surveys. This material is comprehensive but rather disjointed and difficult to interpret. The report summarises mean values for some areas and concludes that increases in g m^{-2} in some areas between 2017 and 2018 show that the stocks have increased and are in a good state.

A short, general summary of fishing effort is included describing the number of days available for fishing and vessel quota. This does not include detailed observations of actual effort used or the amounts of effort used in the different areas. Selectivity issues of the on-board sieving equipment are then dealt with including examples of size compositions from several regions. These observations are used to explain why the restocking areas (examples of some are detailed in the report) have not so far been seeded with undersized Venus clams.

10 Scarcella G. & Cabanelas A.M. (2016) Research for PECH Committee - The clam fisheries sector in the EU - The Adriatic Sea case. Directorate-General for Internal Policies, Policy Department B: Structural and Cohesion Policies, Fisheries, 60 pp. doi:10.2861/401646.

The final sections of the report deal with impacts of hydraulic dredgers and with control and offences. An overview section of final considerations concludes the report.

2) A report (opinion) from The Mediterranean Advisory Council (MEDAC) on the Discard Management Plan for Venus clams Chamelea gallina

This report is mostly identical to 1) but without the sections on enforcement and certification of the catch

3) A document from the Italian Authorities (in Italian) on the restocking areas included in the Discard Plan

This document presents an extensive list of the restocking areas proposed for Italian waters including positional information....

4) A document from the Italian Authorities (in Italian) on Enforcement measures in the Discard Plan

This document contains details of the control and enforcement arrangements operating in the Discard Plan and includes some detail on infringements. Essential elements of this are included in 1) the overall report from the Italian authorities

5) A document from the Italian Authorities (in Italian) on a Certification Scheme

This document contains information on a product certification scheme for Venus clams which includes details about product traceability. Essential elements of this are included in 1) the overall report from the Italian authorities.

Since most of the substantive information concerning the TORs are contained in documents 1 and 2, and since these are essentially identical, reference to 'supporting documents' refers to this body of information. At the time of the STECF plenary the formal Discard Plan request from the Italian authorities was not available. Consultation with DGMARE indicated that STECF should assume that the request will seek to maintain the Discard Plan that is currently in operation.

STECF Comments

STECF previously reviewed proposals for a Discard Plan (DP) submitted by Italy in 2016. The plan, which runs until December 2019 contained a number of clam management proposals and also commitments to implement various controls and monitoring initiatives. A detailed and thorough consideration of the initial plan was provided by STECF in 2016¹¹. STECF considers that changes to this advice would only be justified in the light of new robust information. The current TOR is very similar to that addressed before but includes explicit requirement to take into account new observations and monitoring that has occurred 'during' the operation of the existing plan. STECF has evaluated the new information described in the section above and considered whether this is supported by robust science to the extent that the previous advice should be modified.

- *Request 1. Provide an opinion whether the survivability of Venus clams has been scientifically underpinned in the discard plan, and assess the potential survivability rates of Venus clams, taking into account the characteristics of the fishing gear, the fishing operations, the biological state of the Venus clams after the fishing operations, and the environmental conditions of the re-stocking area.*

In its 2016 advice, STECF acknowledged that older studies gave indications that survival of undersized (<MCRS) Venus clams discarded from hydraulic dredge operations might survive to a high extent. Insufficient information was provided in the DP, however, to say what the survival rate might be and STECF advised that a follow up study based on agreed standards would be required to support the exemption. STECF also indicated that if restocking took place, there would need to be a distinction made between survival estimates of clams returned immediately to the sea and those restocked later on.

STECF notes that the new supporting documentation does not contain information which would underpin survivability in the DP.

STECF notes that the supporting documents contains monitoring data mostly from 2017 and 2018 which includes size composition graphs of Venus clam catches in a number of locations. These indicate that a high proportion of the clams that caught by the dredge in a first stage of selection at the seabed and brought on board are undersized. They are discarded after passing through on-board sieves in a second stage of selection – the DP appears to assume these all survive. No quantitative information on discard amounts is provided. STECF considers that such information is important in order to understand the scale of the issue.

STECF considers that in designing and running a survival experiment for discarded Venus clams, attention should be paid to ensuring that the conditions replicate the commercial

¹¹ https://stecf.jrc.ec.europa.eu/reports/discards/-/asset_publisher/b1zP/document/id/1450181?inheritRedirect=false

operation. It is important to remember that the undersized clams are discarded back into a disturbed benthic environment. The supporting documents contain information on the environmental effects of hydraulic dredging pointing out that in the shallow water, the high- energy environment of the clam grounds, the associated fauna is regularly subject to natural disturbance. Whilst this is true, it is nevertheless also the case that discarding takes place at a time of significant sediment suspension and understanding the fate of discarded clams settling onto the seabed at this time is important.

STECF further notes that a considerable amount of information is provided in the report on the second stage of selection in the on-board sieves which sort the total catch that is emptied into the on-board collection box (see below). There does not, however, appear to be any consideration in the DP of the first stage of selection by the dredge operating on the seabed and whether this could be adjusted in a way that avoids so much undersized material coming on to the deck in the first place. Descriptions of the gear indicate a dredge bar arrangement with a minimum spacing of 12mm, STECF considers that some discussion and consideration of the scope to use different bar spacings would be very beneficial. Sarda et al (2017) make reference to two papers addressing this issue (Gasper et al. 2003 and Kim et al. 2005) but these were dealing with different species in different fisheries.

An important element of the existing DP was the establishment of a series of re-stocking areas into which any undersized clams *retained* in the second stage of selection by the on-board sieves could be seeded and then monitored. The supporting documents contain detail on an extensive list of defined restocking areas with (in some cases) associated monitoring plans and size composition information from some of the natural populations in the candidate restocking areas. The supporting documents indicate, however, that owing to insignificant numbers of undersized clams being *retained* by the sieves in the second stage of selection, restocking has not so far taken place. An explanation for the low numbers of <mcrs retained is described in a detailed study (Sarda et al 2017) of sieve selectivity which demonstrates that the selection characteristics of the sieve defined in legislation result in a very small proportion of Venus clams <mcrs retained by the sieve. STECF considers it important that if any restocking *does* eventually take place, monitoring of the survival of these clams takes place over time using a method of an agreed standard.

- *Request 2. Assess the potential past and future impacts on the stock of the proposed change in the MCRS for Venus clams from 25 mm to 22 mm on exploitation rates and stock biomass.*

In its 2016 advice, STECF concluded that a reduction of MCRS from 25 to 22 mm was predicted to lead to a reduction of 8% of the reproductive potential, according to the simulations presented together with the plan. The information provided was, however, insufficient for STECF to quantify any associated change in the fishing mortality. Short term economic gains were expected. Given that the stock appeared to be highly exploited, STECF noted that while the MCRS at 22 mm might be compatible with the length at maturity, the change in MCRS would induce some reduction in the stock biomass.

STECF notes that the supporting documents contain new monitoring information on the Italian Venus clam populations collected during the course of the ongoing DP. Alongside an extensive review of existing size of maturity data from various Mediterranean and other locations, there is new biological sampling and information presented on size of

maturity and growth. Detailed results are presented which confirm that an MCRS of 22mm is about 22% higher than the size of first maturity. While this observation implies that some reproduction will take place before clams reach sizes affected by exploitation, there is insufficient information presented for STECF to evaluate what the overall effect will be.

The report also contains information on a series of clam stock surveys conducted in various Italian locations. In principle, stock surveys of this type can provide information on stock biomass trends and, together with catch information, provide indications of exploitation rate. STECF notes, however, that the information presented is insufficient to allow this and is presented in a rather disjointed way (for example different formats from different areas). Biomass data are presented as an index (g m^{-2}) for individual stations in case study areas with overall area means also provided. Unfortunately, the survey design (station positions etc) are not provided and it is difficult to interpret the comparisons made between 2017 and 2018. The supporting documents suggest the results indicate increased biomass in most areas but STECF is unable to confirm this without additional information. Furthermore, the lack of a sufficiently long time series precludes a consideration of the most recent biomass in the context of earlier periods when the stocks supported much larger fisheries. Significantly, the report does not include catch data which would permit simple calculations of exploitation rate in the different populations.

STECF notes that the supporting documents again emphasise that the reduction in MCRS allows the available quota to be taken in a shorter time which is economically advantageous and reduces the area dredged. STECF is unable to substantiate this since data on effort use and areas fished during 2017 and 2018 are not provided in the supporting documents, despite the implementation of vessel tracking systems as part of the DP. STECF notes that in the documents supporting proposals for the management plan for hydraulic dredges (TOR 6.6) information on catches and effort *are supplied* for razor clams and STECF suggests that this information should be made available for Venus clams also.

- *Request 3. In light of the results of the monitoring program for the period 2017-2018, assess whether the proposed new scientific monitoring program is likely to provide adequate data and information to evaluate the effects of the discard plan*

In its 2016 advice, STECF noted that the monitoring program foreseen in the DP was to be based on the Italian National Program for fisheries data collection under EU Reg. 199/08 (DCF). Under the revised DCF, the data collection activities were expected to be further increased and additional surveys in both fished and restocking areas would be implemented at district level. STECF concluded that since the monitoring was to be based on DCF standards it was likely to be adequate to evaluate the effects of the DP.

STECF notes that a lot of detail on the implementation of the DP (vessel position monitoring, restocking areas, product certification and control and enforcement) is included in the supporting documents. Details of new monitoring in 2017 and 2018, including stock surveys, is also presented. STECF notes that continuation and further development of these monitoring systems provides a good basis for the collection of adequate data and information to evaluate the effects of the DP and indeed to inform sustainable management of the resource.

STECF notes that a considerable amount of work on reproductive biology, length-weight relationships and growth is reported in detail in the supporting documents. However, information on important fishery aspects (overall catch and effort, vessel tracking etc) is

not made available and information provided on stock surveys is inadequate to conduct informative analysis. In order to effectively evaluate the DP, STECF suggests that greater focus and reporting is required on those aspects of the monitoring which directly inform on the stock size and state of exploitation.

STECF conclusions

STECF reiterates its 2016 conclusions on survivability. There is no new information presented in the supporting documents to quantify the survivability of discarded catches. A full study following the agreed standards is required and conducted under commercial discarding conditions. If restocking of any retained <MCRS clams takes place, appropriate monitoring of survival is also necessary.

STECF also concludes that improvements in the selectivity of the hydraulic dredge gear operating at the seabed could reduce the quantities of undersized animals that are brought on board the vessels. Some discussion of the effects of adjusting bar spacing and the scope for making adjustments are required.

STECF reiterates its 2016 conclusions about the impacts on the stock of the proposed change in the MCRS for Venus clams from 25 mm to 22 mm on exploitation rates and stock biomass. STECF concludes that new information in the supporting documents is at present insufficient to provide indications of exploitation rate or trends in stock biomass.

STECF concludes in light of the results of the monitoring program for the period 2017-2018, that continuation of the scientific monitoring program is likely to provide adequate data and information to evaluate the effects of the DP. This confirms the conclusion reached by STECF in 2016 which was based on the fact that the plan is based on DCF standards. STECF considers that while the monitoring appears quite comprehensive, some adjustments and improvements in the analysis and presentation of available data are required in order to make best use of the material being collected.

STECF concludes that greater focus on stock survey elements of the monitoring (survey design, clarity in data presentation, construction of time trends etc) and on presentation of fishery information (catches, effort, effort distribution etc) would facilitate calculation of exploitation rates and provide more robust interpretation of biomass changes.

References

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Sarda A, A. Lucchetti, M. Virgili, J. Brcic and B.Hermann 2017. *Can. J. Fish. Aquat. Sci.* 74: 339–348 (2017) [dx.doi.org/10.1139/cjfas-2015-0199](https://doi.org/10.1139/cjfas-2015-0199)

6.8 Survivability exemption for plaice in Otter Trawls, Celtic Sea

Background provided by the Commission

In the framework of the Landing Obligation and in accordance with article 15 of regulation (EU) No 1380/2013, the NWW Member States Group proposes an extension to the existing high survivability exemptions for plaice. The existing discard plan introduced for the North Western Waters for 2019 (Regulation (EU) 2018/2034) includes survivability exemptions for plaice caught with otter trawls and trammel nets in 7d, 7e, 7f and 7g as well as beam trawls in 7a-7k. The exemption for beam trawls is valid until 31 December 2019.

The proposed extension of the exemption would apply in the mixed demersal and *Nephrops* fisheries conducted with bottom trawls with a mesh size of 70-119 mm in ICES divisions 7a and 7b-k (excluding 7d and e). In the case of *Nephrops* fisheries in 7a the exemption would be based on the use of highly selective gears. This proposal provides further information to support the existing exemptions for plaice caught with bottom otter trawls and also seeks to increase the coverage of the exemption to other areas of area 7 where plaice are caught as a bycatch.

Request to the STECF

The STECF is requested to:

- (1) Review the supporting documentation underpinning the proposed exemption.
- (2) If data is insufficient, then assess what further supporting information may be available or required and how this is to be supplied in the future.
- (3) Consider the potential implications of the proposed exemption both in terms of stock management and fisheries sustainability. The proposed exemption covers a range of TAC units, including the "unavoidable bycatch" TAC area in 7hjk. The STECF is therefore requested to consider their response on a TAC unit by TAC unit level, considering implications in TAC setting from a sustainable fisheries management perspective.

Background documents are published on the meeting's web site on: <https://stecf.jrc.ec.europa.eu/plen1901>

STECF observations

An STECF response is given for each of the three requests, whereby (2) is taken last.

1) Review supporting documentation

The document provided was a description of the proposed exemption, including references to scientific studies on the discard survival of plaice, and data describing the fisheries to which the proposed exemption would apply. Of the scientific reports

referenced, one report Oliver et al (2018) 12, had not previously been submitted to STECF and was the main source of evidence underpinning the proposed exemption. A critical review of this report and the other referenced reports had been undertaken by the ICES Working Group on Methods to Estimate Discard Survival (WGMEDS in 2018). The systematic critical review, developed by WGMEDS, is based on the guidance developed by the group on how best to conduct discard survival studies.

The result of the critical review of Oliver et al (2018) is given in Table XX6.8.1(from unpublished results in ICES WGMEDS 2018), and shows that a robust scientific method was applied, consistent with WGMEDS guidance, using the method of captive observation to monitor the fate of discarded plaice. However, STECF has raised a few comments, detailed below.

i) The report gives a discard survival rate of 43% for plaice discarded in an Irish otter trawl fishery. STECF observes that the study was on a fishery targeting fish; it was reported that hauls with *Nephrops* catches were excluded from the analysis due to the substantially lower plaice survival rate observed for these hauls. Therefore, STECF observes that while the proposed exemption includes the *Nephrops* trawl fishery, the reported plaice discard survival estimate is not representative of the *Nephrops* fishery, and it likely to be less than 43%. In comparison in the North Sea *Nephrops* trawl fishery, plaice discard survival has been estimated at 28-37% (Randall et al, 2016). The report suggests that the use of highly selective gear in the *Nephrops* fishery would enhance survival estimates for plaice, however no evidence was provided to support this.

ii). STECF notes that according to ICES WKMEDS, the survival rate should be estimated on the proportion still alive when the mortality reached asymptote, i.e. after all deaths have been observed. In the study presented, the captive observation monitoring period was 15 days. There were no mortalities observed after 10 days, i.e. the mortality rate had reached asymptote, with a survival estimated at 37% by then. However, the survival estimate reported (43%) is not based on this observation, but is derived from statistical estimations after 5 days of monitoring, before all of the mortalities had been observed. While the differences between the two estimates may not be statistically significant, STECF observes nevertheless that this procedure results in an overestimate of the survival rate. Consequently, the assessment undertaken by STECF below is based on the full range of 37-43% survival from this study.

iii) The supporting study was conducted during the summer when air and sea temperatures were relatively high. The proposal states that survivability in the areas covered by the proposal would be much higher at times of the year when temperatures were lower. STECF observe that the conclusions of Morfin et al. (2017) and Kraak et al (2018), support the notion that survival of discarded plaice is lower at higher temperatures. Morfin et al (2017) showed that plaice survival was 63% in January-February (7.e; direct observation), 67% in November and 45% in July (7.d; modelled from health of discarded fish). To determine the relevance of a seasonal difference in

12 Oliver, M., McHugh, M., Murphy, S., Browne, D., Cosgrove, R. (2018). Plaice survivability in the Irish otter trawl fishery. BIM Fisheries Conservation Report, November 2018. <http://www.bim.ie/media/bim/content/publications/fisheries/BIM-Plaice-Survivability-Report-8045.pdf> accessed 4th February 2019.

survival, it is necessary to know when the fishery takes place, and when most discard occur. STECF recommends that seasonal discard data should be submitted to support the notion that overall survival levels may be higher than in the reported study.

iv) The proposal provides plaice discard rates for the different stocks, from ICES assessments, and gives detailed fishery data using the recommended STECF template (EWG 16-06). However, data are provided only for the Irish fleets, which show that, in total, the exemption would apply to 154 vessels which generate an estimated 93 tonnes across the plaice stocks in 7.a, 7.f,g, and 7.h,j,k; no discard data are available for the 7.b,c stock. STECF observes that there is no distinction made between *Nephrops* and fish directed fisheries, this information would enable more complete evaluation of the implications of the proposal. STECF observes that, while fishery data that gives context to the proposed exemption has been supplied for Ireland, all member states benefiting from this exemption should provide equivalent information.

Table 6.8.1

Vitality assessments	Review
Is there a description how the assessed fish were selected from the catch?	Yes
Is there a description/protocol provided for each health/vitality category?	Yes
Is there a description provided for category 'Dead'?	Yes
Were reflexes derived from fish not exposed to capture treatment and consistently observed?	Yes
Is there a description of time limits for responses/reflexes?	Yes
Is assessment container appropriate for species, and to observe responses?	Yes
Is observer bias discussed/minimised/account for observer?	No
Are protocols effective in assessing health/vitality/injury?	Yes
Are assessments consistent across all parts of the study?	Yes
Captive Observation	
Are the holding / transfer facilities described?	Yes
Are holding / transfer facilities sympathetic to the biological/behavioural needs of the subjects?	Yes
Are holding/transfer conditions consistent across treatments/ replicates?	Yes
Remarks on consistency in conditions	
Is there potential for additional stress / injury / mortality (or escapes)?	Yes
Are the holding/transfer conditions representative of "ambient" conditions?	Yes
Suitable definition of "dead"?	Yes
Are there appropriate protocols for handling/removal/measurement of dead specimens?	Yes
Are there appropriate protocols for monitoring live specimens?	Yes
Is there enough resolution in monitoring/observation over time?	Yes
Was there potential for inducing stress/injury during observation?	Yes
Was mortality observed to asymptote?	Yes
Controls	
Were controls used to account for experimental biases?	Yes
Were they representative of the subject population groups? e.g. With respect to biological characteristics; density; spatial & temporal origin	Yes
Were they representative of experimental conditions? i.e. did the treatment and control subjects experience identical experimental conditions, with exception of the treatment effect?	Partially
Were treatment and control subjects randomly selected to account for selection bias?	No
Were "Blind controls" used to account for Performance & Measurement biases?	No
Is potential for confounding effects from acquisition methods been discussed?	Partially
Analysis	
Is the analysis that derived the survival estimates described?	Yes
Is the sample representative of the catch?	Yes
Does the sample adequately describe the population in the wider fishery?	Yes
Was mortality modelled to asymptote?	Yes
Are the conclusions supported by the data / analysis?	Yes
Are conclusions based on a summary of the data or statistical inference?	Data

3) Consider the potential implications of the proposed exemption

To assess the potential implications of the proposed exemption the following approach was taken:

- i. Compile stock advice and fleet catches
- ii. Collate relevant discard survival evidence
- iii. Assess implications for discard survival and exemptions for the assessed stocks

i) Area 7 plaice stock advice and fleet catches

Based on the latest ICES advice, for plaice stocks in 7.a, 7.d and 7.f.g, fishing pressure is below Fmsy and the stock size is above MSY Btrigger. In 7.e, stock size is above the MSY Btrigger, but fishing pressure has moved to above Fmsy in 2017. For the 7.h,j,k stock, fishing pressure has been consistently above Fmsy and stock size is below MSY Btrigger; ICES advised zero catches from this stock in 2019 and 2020. For stocks for which ICES has issued zero catch advice for, a bycatch TAC for 2019 has been agreed, on the condition that Member States prepare a by-catch reduction plan to ensure that by-catches of these stocks are reduced through selectivity or avoidance measures. For plaice in 7.b.c, there is no stock assessment or advice on catches.

To assess the implications of the proposed exemption for stock management and sustainable fishing, STECF compiled plaice catches by fleet for each assessed stock, as estimated by ICES (Table XX6.8.2), and applied discard survival estimates to indicate the proportion of the total catch effected by proposed and existing exemptions. However, the ICES fleet descriptions are at a lower resolution than the fleet descriptions to which existing exemptions apply. For example, ICES catch data refer to fixed nets and the exemptions apply only to trammel nets; and, exemptions apply to plaice caught by beam trawlers having a maximum engine greater than 221 kW fitted with a flip-up rope or benthic release panel, whereas ICES aggregates all beam trawl catches (details of the existing exemptions are described in the discard plan for the North Western Waters EU 2018/2034). The data presented by STECF is therefore only indicative of the true implications of the plaice survivability exemptions but considered sufficient to identify the main issues.

ii) Plaice discard survival evidence

In addition to the study by Oliver et al. (2018) described in 6.8 ToR 1 above, STECF collated existing relevant plaice discard survival evidence from the North Sea and North Western Waters (Table 6.8.3), this evidence has been submitted to support other proposed exemptions. There are both survival estimates derived from direct observation, and those based on a proxy using relationships from other studies between health condition at the point of discarding and survival probability. To assess the implications of the existing and proposed exemptions, STECF mapped the most relevant discard estimate to the fleet catch estimates for each area 7 plaice stock. A maximum and minimum survival estimate from the studies was used to show a range of effects of the survivability exemptions. The data used, assumptions and limitations of the outputs are given in Table 6.8.4. Directly observed survival estimates from the relevant sea area or the closest area were used preferably where available. Where estimates were derived from modelled health condition, these were supplemented with the geographically closest directly observed estimates.

Table 6.8.2 Catch distribution of Division 7 plaice stocks by fleet in 2017 as estimated by ICES.

Division	Wanted catch					Unwanted catch				
	Beam trawl	Otter trawl	Other gears			Beam trawl	Otter trawl	Other gears		
7.a.	58%	32%	10%			52%	40%	8%		
	586 tonnes					852 tonnes				
7.d	Beam trawl	Otter trawl	Trammel nets	Other gears	x	Beam trawl	Otter trawl	Trammel nets	Other gears	
	56%	27%	9%	8%						
	3689 tonnes					4075 tonnes				
7.e*	Beam trawl	Otter trawl	Fixed nets	Other gears		Beam trawl	Otter trawl	Fixed nets	Other gears	
	71%	24%	4.30%	0.97%		53%	47%	0.02%	0.02%	
	1915 tonnes					593 tonnes				
7.f,g	Otter trawl	Beam trawl	Gill net	Seine	Other	Otter trawl	Beam trawl	Gill net	Seine	Other
	42%	52%	0.80%	4%	2%	58%	37%	1%	2%	2%
	389 tonnes					895 tonnes				
7.h,j,k	Otter trawl	Beam trawl	Other gears			Discards in Division 7.h are unknown. Discards in divisions 7.j-k are in the order of 30% of the catch for otter trawls (average 2007-2017).				
	75%	17%	8%			unknown				
	115 tonnes					unknown				

*Catch and the catch contribution by fleet correspond to the amount taken in Division 7.e and do not include the catch taken in Division 7.d.

Table 6.8.3 Details of plaice discard survival evidence in the context of the landing obligation, adapted from Rihan et al (2019) https://link.springer.com/chapter/10.1007/978-3-030-03308-8_3

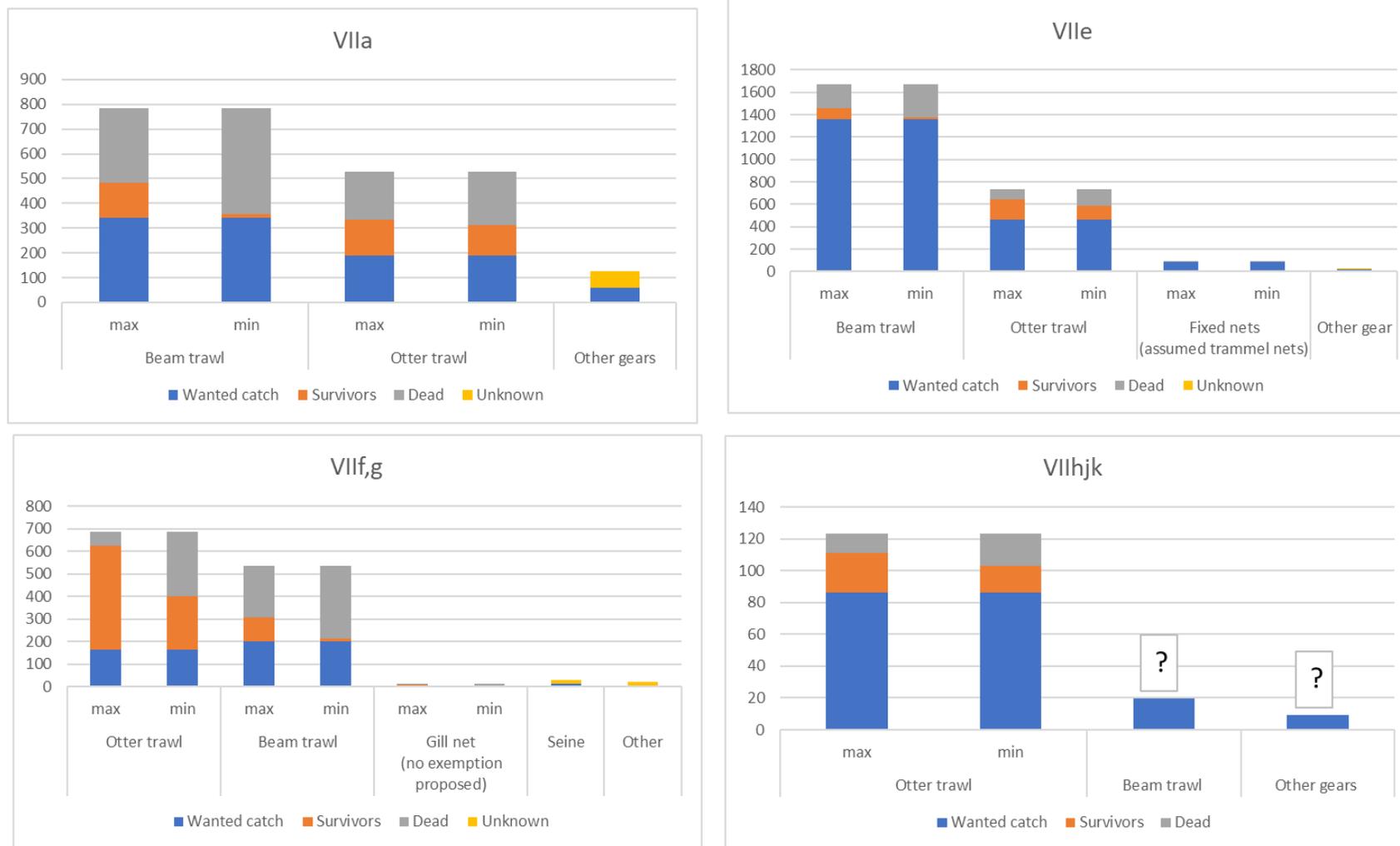
ID	Fishing gear	Location / ICES	min %	max %	N	Comment	Reference
1	Beam trawls	English Channel (7.e)	4	15	275	Observed survival, adjusted to asymptote	Catchpole et al. 2015
2	Beam trawls	North Sea (4.c)	11	22	558	Observed, pulse trawl	Schram and Molenaar 2018a,b
3	Beam trawls	North Sea (4.c)	30	40	446	Observed survival for various beam trawl sectors (mean of hauls +/-sd; range 4-93%)	Uhlmann et al. 2018
4	Beam trawls	Eastern and Western English Channel (7.d, e, h, g)	30	32	1314	Inferred survival using vitality data from 4.c	Uhlmann et al., 2018
5	Otter trawls	Bideford Bay (7.f, 7.g)	75	88	572	Inferred survival using vitality data from 7.e	Smith et al. 2015
6	Otter trawls	Eastern and Western English Channel (7.d,e)	45	67	1040	Observed and inferred survival using vitality data from 7.e	Smith et al. 2015; Morfin et al. 2017
7	Trammel net	Swansea Bay (7.f, 7.g)	37	60	96	Observed survival, adjusted to asymptote	Smith et al. 2015
8	Otter trawls	North Sea (4.c)	28	37	385	Observed survival for <i>Nephrops</i> trawl, adjusted to asymptote	Randall et al. 2016
9	Otter trawls	Irish Sea (7.a)	37	43	88	Observed survival for demersal fish trawl	Oliver et al. 2018
10	Trammel net	English Channel (7.d)	71	72	168	Observed survival, adjusted to asymptote	Catchpole et al. 2015
11	Otter trawls	North Sea (4.c)	19	20	292	Observed survival, adjusted to asymptote	Catchpole et al. 2015
12	Otter trawls	English Channel (7.e)	47	63	348	Observed survival, adjusted to asymptote	Catchpole et al. 2015

Table 6.8.4. Indicative amounts of surviving and dead catches associated with survivability exemptions for plaice in area 7.

Stock	Gear	Wanted Catch	Unwanted catch	DR %	Min. survival rate %	Max. survival rate %	Data derived from	Ref ID	Max. survivors (exemption) tonnes	Max. dead (exemption) tonnes	Comment
7.a	Beam trawl	339.9	443.0	57%	4%	32%	7.d,e,f,h	1, 4	141.8	425.3	No survival observations from 7.a. Max. survival from model
7.a	Otter trawl	187.5	340.8	65%	37%	43%	7.a	9	146.5	214.7	No survival data on <i>Nephrops</i> trawls
7.a	Other gears	58.6	68.2	54%	unknown	unknown	7.f,g	-	-	-	
7.d	Beam trawl	2065.8	4075.0	52%	4%	32%	7.d,e,f,h	1, 4	?	?	Max. survival from model
7.d	Otter trawl	996.0			45%	67%	7.d,e	6	?	?	
7.d	Trammel nets	328.3			37%	72%	7.d, 7.f,g	7, 10	?	?	
7.d	Other gears	298.8			unknown	unknown			?	?	
7.e	Beam trawl	1359.7	314.3	19%	4%	32%	7.d,e,f,h	1, 4	100.6	301.7	Max. survival from model
7.e	Otter trawl	459.6	278.7	38%	45%	67%	7.d,e	6	186.7	153.3	Direct observation

7.e	Fixed nets	82.3	0.1	0.1%	37%	60%	7.d, 7.f,g	7	0.1	0.1	No survival data for gill nets, trammel net data from 7.f, g inshore fishery
7.e	Other gear	18.6	0.1	1%	unknown	unknown	-	-	-	-	No data
7.f,g	Otter trawl	164.9	522.7	76%	45%	88%	7.f,g	6, 5	460.0	287.5	Max. survival from model
7.f,g	Beam trawl	201.1	332.9	62%	4%	32%	7.d,e,f,h	1, 4	106.5	319.6	No survival data from 7.f,g. Max. survival from model
7.f,g	Gillnet	3.1	8.1	72%	37%	60%	7.d,e, 7.f,g	7	4.8	5.1	Based on trammel net data
7.f,g	Seine	14.0	17.0	55%	unknown	unknown	-	-	-	-	
7.f,g	Other	5.8	13.4	70%	unknown	unknown	-	-	-	-	
7.h,j,k	Otter trawl	86.3	37.0	30%	45%	67%	7.d,e	6	24.8	20.3	Max. survival based on model. No exemption requested
7.h,j,k	Beam trawl	19.6	?	Unknwn	4%	32%	7.d,e,f,h	1, 4	?	?	No survival data from 7.h,j,k. Max. survival from model
7.h,j,k	Other gears	9.2	?	unknwn	unknown	unknown	-	-	-	-	

Figure 6.8.1 Estimated quantities of surviving and dead discards by fleet and stock for plaice in area 7



iii) *Implications for discard survival and exemptions for the stocks*

The estimated quantities of surviving and dead discards by fleet and stock are given in Figure 6.8.1. Data were available to illustrate the indicative levels of survivors and dead discards under survivability exemptions for plaice stocks 7.a, 7.e, 7.f,g and 7.h,j,k. For all stocks, most catches and discards are taken by otter and beam trawl fleets.

For the Irish Sea plaice stock 7.a, the total amount of discards generated beam trawlers equates to 31% of the total 7.a plaice catch; discards generated from otter trawls equate to 24% of the total catch. Under a survivability exemption, and based on a minimum and maximum survival rate of 4% and 32%, for plaice discarded by beam trawls, 301-425 tonnes of dead plaice would be discarded (based on 2017 catch data), equivalent to 21-30% of the total catch from this stock (Table XX6.8.5. For otter trawls, 14-15% of the total 7.a plaice catch would be discarded dead. STECF note that this is likely to be an underestimate because survival is lower for otter trawlers catching *Nephrops*, and this is not accounted for in these calculations.

The overall discard survival for the 7.a plaice stock is estimated at 18-37%. This stock is the only plaice stock for which discard survival estimates are included in the assessment. The survival rate applied by ICES is 40%; but based on this analysis, this is likely to be an overestimate. STECF observes that there are no data on discard survival for plaice caught in the Irish Sea by beam trawlers or otter trawlers targeting *Nephrops*; generating this evidence would provide a better understanding of the suitability and impacts of the exemptions.

Of the stocks assessed here, the 7.e plaice stock has the lowest discard rate, it also has directly observed discard survival estimates for the fleets generating most of the discards. Consequently, STECF observes that this stock has the most certainty on the effect of survivability exemptions. Overall discard survival rate for the stock is estimated at 23-48%; under exemption, dead discards from the beam trawl fleet contribute 9-12% of the total 7.e plaice catch, and otter trawlers 4-6%.

The 7.f,g stock displays the highest discard rates and there are no directly observed discard survival estimates. STECF notes that there is data on the health of discarded plaice from the otter trawl fleet in 7.f., which has been used as a proxy for survival. The overall stock discard survival rate is estimated at 29-66%. Under exemption, an estimated 5-22% of the total catch will be of dead discards from the otter trawl fleet; 18-25% of the 7.f,g catch will be of dead discards from the beam trawl fleet.

For the 7.h,j,k stock, where a conditional bycatch TAC has been agreed, discard estimates are available only for otter trawls. While beam trawls account for most landings, there is no estimate of discard rate for this fleet. Under exemption, an estimated 8-13% of the known catch will be of dead discards from the otter trawl fleet. STECF observes that discard estimates for the beam trawl fleet are needed to assess the implications of a survivability exemption for this fleet.

These results are summarised in the overview table below.

Stock	Gear	Estimated dead discards as a % of total catch
7.a	beam	21-30%
	otter	14-15%
7.e	beam	9-12%
	otter	4-6%
7.f,g	beam	18-25%
	otter	5-22%
7.h,j,k	beam	?
	otter	8-13%

Table 6.8.5 The estimated amount of dead discards generated by gear for each area 7 plaice stocks as a percentage of the total catch from the stock.

As noted by EWG 18-06, obliging fishermen to land catches of fish that would otherwise have survived the discarding process could, in some specific cases, result in negative consequences for the stock. This is because any surviving discarded fish contribute positively to the stock and landing those individuals therefore removes that benefit. Where discards are included in the stock assessment, but the (known) survival has not been accounted for, introducing survival estimates may change the exploitation pattern and productivity of the stock. This may affect the absolute value of the reference point F_{msy} , but the actual impact in terms of F/F_{msy} and possible fishing opportunities cannot be ascertained without additional modelling studies. For a limit number of stocks, ICES takes account of discard survival rate, most recently 7.a plaice, where sensitivity tests to survival of 0–100% was undertaken, however the effect on final advice was not reported (ICES, 2017). Introducing discard survival estimates is something which should be discussed in the assessment forums for more stocks.

For high survivability recommendations, STECF has previously emphasised the need to consider estimates of survivability in the context of the discard rate for the fishery seeking an exemption (STECF 17-02). It has been highlighted that medium survival rates in high discarding fisheries still lead to high discard mortality rates. Some examples are shown above, including for 7.a plaice, where an estimated 21-30% of the total 7.e plaice catch could be discarded dead by the beam trawl fleet when under exemption. STECF note that unless surviving discards are accounted for in stock assessments and dead discards are accounted for in TAC setting when survivability exemptions are in place, the actual fishing mortality will not match the agreed catch level.

2) Assess what further supporting information may be available or required

STECF have compiled available fleet catch data for area 7 plaice stocks, albeit at an aggregated level, and collated relevant plaice discard survival estimates. This has enabled an indicative assessment of the effect of the existing and proposed plaice survivability exemptions. The assessment has identified where are the main gaps in the coverage of survival studies.

The proposal to extend the existing exemptions for otter trawls in 7.d,e,f,g, to cover otter trawls in 7.a,b,c,h,j,k, was supported with robust estimates of plaice discard survival only in a 7.a fish targeting fishery. STECF notes that it would need to be demonstrated that fleets have similar technical, environmental and catch characteristics, in order to extrapolate survival data from other areas. The factors effecting discard survival are not well understood, so if such similarities in the fisheries cannot be demonstrated, new fishery-specific survival estimates are required. In particular, in the case of the proposed exemption, evidence is needed on plaice survival from otter trawlers catching *Nephrops*. STECF notes that there are currently no survivability exemptions already awarded for plaice caught by otter trawls catching *Nephrops*.

STECF notes that the existing exemption covers beam trawlers operating in areas 7a-k and all discard survival evidence has been generated in 7.d and 7.e. The exemption for beam trawls is valid until 31 December 2019 and additional supporting scientific information has been requested before 31 May 2019. STECF agrees that additional survival evidence is needed to assess the suitability and effect of the existing exemptions, particularly in 7.a where beam trawls catch and discard most of the plaice and 7.f.g where beam trawls have the highest discard rate. In 7.h.j.k, there is a requirement to estimate the level of discarding for beam trawlers, as well source relevant survival data.

STECF s that fishery data was supplied only for Irish vessels and to enable an evaluation of this proposed exemption, equivalent data from other Member States will be required.

STECF conclusions

With regards to request 1, STECF conclude that the referenced study, Oliver et al (2018), applied a robust scientific method, to generate a discard survival rate for plaice caught by otter trawler catching fish in 7.a. The study reported that hauls with *Nephrops* catches were excluded from the estimate, due to the substantially lower plaice survival rate observed for these hauls. Therefore, while the proposed exemption includes trawlers catching *Nephrops*, the reported plaice discard survival estimate is not representative of the *Nephrops* fishery, where survival is likely to be less than the level of 43% stated in the proposal.

STECF note that, while fishery data on Irish fleets were provided, equivalent data from all member states is required to complete an evaluation of the implications of the proposal; this should follow the template provided by STECF. These data should include a breakdown by fishery within each gear, specifically, the otter trawl fish and *Nephrops* fisheries.

With regards to request 2, STECF conclude that plaice survival evidence used to support exemptions for the beam trawl fleets in 7.a-k is from two studies in this region where direct observations have been made, showing survival rates of 4-15% in 7.e and

30-40% in 4.c and 7.d. For otter trawls, there are two studies in the region that have generated directly observed discard survival estimates; these gave estimates of 43-67% in 7.e and 37-43% in 7.a. STECF conclude that additional evidence on plaice survival for otter trawls and beam trawls in 7.f.g.h.j.k, and for beam trawls and *Nephrops* trawls in 7.a, would improve the evaluation of the suitability for existing and proposed exemptions. Where survival data are extrapolated across areas or fisheries, the technical (fishing gear, fishing operation, and catch sorting characteristics), environmental (e.g. temperature, depth) and catch composition information should be provided.

With regards to request 3, STECF conclude that mapping discard survival evidence against discard levels by fleets enables an indicative assessment of the implications of survivability exemptions. Where discard rates are high, and survival rates are similar to the values presented here, substantial quantities of dead discards can be generated. To achieve agreed levels of fishing mortality, these dead discards should be accounted for in the stock assessment and the fishing opportunities advice derived from it. For stocks where discard levels are unknown and discard survival rates are extrapolated from other areas without an understanding of the relevance of those estimates, the implications for awarding an exemption are unknown. This is the case for the 7.h,j,k plaice stock, for which a ICES advised zero catches and for which an "unavoidable bycatch" TAC has been agreed.

STECF reiterates that avoidance of unwanted catch through improved selectivity or other means should be the primary focus in implementing the landing obligation, and there is a risk that awarding exemptions reduces the incentive to avoid unwanted catches. With this in mind, the role of the survival exemptions should be made explicit within the bycatch reduction plans required for all stocks with zero catch advice, including for plaice 7.h,j,k.

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6.9 *De minimis* for MCRS whiting in the Irish Sea

Background provided by the Commission

In the framework of the Landing Obligation and in accordance with article 15 of regulation (EU) No 1380/2013, the NWW Member States Group proposes a new *de minimis* exemption for Whiting below the Minimum Conservation Reference Size (<MCRS) in ICES division 7a (Irish Sea).

Request to the STECF

The STECF is requested to:

- 1) Review the supporting documentation underpinning the proposed exemption.
- 2) If data is insufficient, then assess what further supporting information may be available or required and how this is to be supplied in the future.
- 3) Consider the potential implications of the proposed exemption both in terms of stock management and fisheries sustainability. These implications should be especially considered in the context of the existing "unavoidable bycatch" TAC currently set for Whiting in 7a.

Background documents are published on the meeting's web site on: <https://stecf.jrc.ec.europa.eu/plen1901>

Summary of the information provided to STECF

STECF was provided with a proposal for a combined *de minimis* of 3% for undersized whiting in the TR2 *Nephrops* trawl fishery (Irish Sea). The proposal is based on the total of the TACs of *Nephrops*, cod, haddock and whiting in 7a to calculate the *de minimis* quantity.

The proposal also elaborates on the scope to improve selectivity, including changes in codend and mesh size orientation, grids and inclined panels as well as economic impacts of losses in *Nephrops* catches. There was also information on monthly estimates of cod, haddock and whiting catches above and below MCRS (2015-2017) by Northern Irish otter trawlers targeting *Nephrops* in 7a and a meta-analysis of mesh size studies by Biggs et al (1998) in relevant *Nephrops* fisheries.

The supporting documents also included the final report of the "Northern Ireland Gear Trials Project" which evolves design modifications to the nets, grid- and mesh size adaptations and comparisons with existing panels (e.g. 300SMP and SELTRA270). The trials were conducted in the Irish Sea over the period 2017-2019.

The basis for the exemption

The proposal is that catches of undersized whiting may be discarded up to a maximum of 3% of the total annual catches of *Nephrops*, cod, haddock and whiting in the Irish Sea *Nephrops* fishery (TR2).

The request is based on Article 15(5)(c)(i) of Regulation (EU) no. 1380/2013, due to difficulties to improve selectivity.

Results of the trials conducted by both Northern Ireland (AFBI) and Ireland (BIM) have examined the effect of increases in codend size, mesh orientation, use of square meshes, sorting panels and grids. Since 2009 BIM reports eleven studies where the *Nephrops* fishery is involved. Gear trials have continued since 2013 under the direction of AFBI, the most important of which is the Northern Ireland Gear Trials Project running from 2017-2019. The most important findings are summarised below:

- Two designs (Net Grid 200 and Fish Free (FFF)) were initially selected for the first trials
- Attaching lights were investigated and the Inclined Net Grid 200 trawl with blue lights attached showed some potential. Fish release was high although *Nephrops* loss was also affected.
- Increasing in codend mesh size from 80mm to 90mm may be effective at removing some of the fish component from the catch, but the loss of *Nephrops* was excessively high.
- The mesh size of the internal inclined net grid was increased from 200mm to 400mm square. (Net Grid 400). The effect of increasing mesh size was successful in reducing the amount of *Nephrops* that is lost from the trawl however the 400mm panel appeared to be less effective at removing fish from the trawl than the 200mm version.
- Comparison trials between the 300SMP trawl and the SELTRA270 trawl indicated that fish release rates between the two selective devices are comparable however the SELTRA270 appears to be more effective at retaining the catch of *Nephrops*.

In the proposal, it was argued that losing some target *Nephrops* will lessen uptake of quota, vessels may respond with greater fishing effort to make up their catches and thus cause additional whiting mortality. It was also argued that, avoidance measures such as Real Time Closures or move on schemes would have limited benefits in the Irish Sea as the distances that vessels would be required to move to avoid whiting would likely be relatively large, and could even require moving outside of the Irish Sea.

The proposal mentions also that the majority of the whiting stock is caught as undersized whiting by *Nephrops* targeting vessels and this unwanted catch represents the greatest choke risk to the economically important Irish Sea *Nephrops* fishery.

The document states that significant effort have already been made to improve selectivity in this fishery. In particular BIM identified in 2014 a catch reduction of whiting (52%) with the use of a 300mm SMP (Square Mesh Panel) across the size range without a reduction of *Nephrops* catch. However, the report states also that smaller whiting have similar selectivity as *Nephrops* and are difficult to fully remove from catches. The 300mm SMP reduces significantly the proportions of whiting and haddock across all length classes but does not selectively exclude smaller whiting only (Cosgrove 2018). The proposal concludes that it is therefore unlikely that further increases in mesh size of the SMP will improve selectivity for smaller whiting. There is also some suggestion mentioned that the exclusion of part of the catch has affected the resulting codend selectivity (Catchpole et al, 2006) and results in increased or skewed retention of smaller fish.

The proposal stipulates that AFBI have provided some estimations of the likely reduction in catch from an increase in the codend mesh size between the current 70 & 80mm gears to a 90mm. These figures are consistent with BIM (2015) giving estimates of a reduction of between 10-20% of *Nephrops* catch but less than that recorded by the NI Gear Trial Project. The proposal also mentions that AFBI identified from their meta-analysis, a loss

of 13% *Nephrops* catch with a 10mm increase in codend mesh size from 70mm to 100mm.

It is thus argued in the proposal that additional increases in the codend mesh size would result in a loss of catches of the target species of at least 10% but likely to be significantly greater.

The proposal argued that these losses would be unsustainable for the *Nephrops* fishery. SEAFISH13 provided fleet economic performance data for the *Nephrops* fleet in Area 7a, split for over and under 250kW vessels, and estimated the impact of a reduction of 10% and 20% of the *Nephrops* catch. At the minimum expected loss of 10% *Nephrops* catch, vessels are expected to lose between 19-38% of their profit. Given that changes in catch are potentially higher than 10% it is considered that this is unsustainable for any part of the NI fleet.

The proposal calculated the provisions of a possible whiting *de minimis* based on the 2019 combined TAC's (Table 6.9.1). The total amount for the four species, applying a 3% *de minimis* would result in 451.5 tonnes of whiting.

Table 6.9.1 – Proposed potential of whiting *de minimis* levels based on 2019 combined TAC's for the species caught by the *Nephrops* fleet in ICES subdivision 7a.

Stock	2019 TAC	DM %	DM						
<i>Nephrops</i>	980014	5%	490	4%	392	3%	294	2%	196
Cod	807	5%	40.4	4%	32.3	3%	24.2	2%	16.1
Haddock	3739	5%	187	4%	149.5	3%	112.1	2%	74.8
whiting	727	5%	36.4	4%	29.1	3%	21.8	2%	14.5
Total De minimis		5%	753.8	4%	602.9	3%	451.5	2%	301.4

STECF comments

STECF acknowledges the efforts made in the past (until 2014) to improve selectivity in the Irish Sea *Nephrops* fleets over the years where grids and panels (*Seltra 300*, *Seltra 270* and *300 SMP*) have had a significant impacts on reducing discards of the main gadoid species (reduction of 20%, 67% and 54% of whiting discards respectively) (BIM 2014 Technology Report; Agri-Food and Biosciences Institute,2009; Briggs, R.P., 2009).

13 <https://www.seafish.org/article/industry-economics>

14 *Nephrops* stock for FU 14 and 15 used.

STECF notes however that the overall discard rate for whiting in subdivision 7a have remained very high. In 2017 the discard rate was estimated at 95% (landings=36 t; discard= 667t – ICES November 2018), where the *Nephrops* directed otter trawlers generated 82% of the discards.

STECF notes that even with zero catch, ICES advice shows that recovering the stock to MSY levels will take a number of years and therefore urgent measures to protect juveniles are needed.

STECF notes that the “Northern Ireland Gear trials Project” (2017-2019) provides clear and detailed information on recent efforts made concerning further improvements in selectivity, developing and testing new gears and selective devices to reduce overall discards. The trials shows that the impact of additional changes in selectivity (by increasing codend, or use of a grid/ inclined panel) are from 7% to over 50% reduction in *Nephrops* catches.

STECF welcomes the economic performance analysis done by SEAFISH15 for the *Nephrops* fleet in Area 7a. It is clear that reductions in *Nephrops* catches of 10% or 20% would lead to substantial economic losses (19%-38% and 54%-76%) for the *Nephrops* fishery in the Irish Sea.

STECF notes that the proposal calculated a potential whiting *de minimis* on the basis of the 2019 combined TAC, resulting in a total *de minimis* of 451.5 tonnes of whiting. STECF observes that the approach of combining the total catches of several species increases the total amount of whiting that can be discarded under the *de minimis*. Based on the ICES estimate of 95% discard rate and the 2019 agreed whiting TAC (727 t), prior to being subject to the landing obligation, this would have equated to 691 tonnes of whiting discards. Under the landing obligation, a single species *de minimis* based on a 3% of the total catch of whiting, would enable 28.1 tonnes of discards and the remaining 663 tonnes (96%) of previously discarded whiting catches would be expected to come ashore. For the proposed whiting *de minimis* approach, based on 3% of the total TACs of *Nephrops*, cod, haddock and whiting, 451.5 tonnes could be discarded, meaning that 239.2 tonnes (35%) of previously discarded whiting catches would still be expected to come ashore under the landing obligation.

In its PLEN18-01, STECF concluded that to be in line with CFP objectives, the maximum amount of *de minimis* for each species must be deducted from the TAC. In this case deductions would be made from the TACs for *Nephrops*, cod, haddock and whiting to enable the discarding of only whiting. The deductions that would be incurred are 3% of the total TAC, so for 2019, the deductions would have been 294 tonnes for *Nephrops*, 24.2 tonnes for Cod, 112.1 tonnes for haddock, and 21.8 tonnes for whiting (Table 6.9.1). therefore, fishing opportunities would be lost to this amount for these stocks to enable the discarding of a share of undersized whiting.

STECF observes that the economic cost to enable the continued discarding of 65% of previously discarded whiting is the value of the foregone TACs minus the cost of handling and disposing of these catches. STECF does not have quantitative estimates of this cost but acknowledges that the total value of the TAC deductions would likely be significant.

STECF has previously based calculations of *de minimis* on catches, not on TACs. A calculation was made for a *de minimis* for whiting based on the combined catches of 3% for *Nephrops*, cod, haddock and whiting in ICES subdivision 7a (Table 6.9.2). The whiting *de minimis* amounts to 315.2 tonnes, based on the 2017 ICES catches.

Table 6.9.2. Calculations based on 2017 catches (ICES) for a combined *de minimis* set at 3% for *Nephrops*, cod, haddock and whiting in ICES area 7a.

Species subject to the DM	Stock	Total catch 2017 (t)	Discard rate	Estimated unwanted catch (t)	Estimated discard share composition	Weight of discard with 3% DM (t)	% of estimated discards covered by 3% DM
			%		%		%
<i>Nephrops</i> FU14	7a (FU14)	294	10%	29	1.3	4.0	13.6
<i>Nephrops</i> FU15	7a (FU15)	7372	17%	1222	52.9	166.7	13.6
Cod	7a	143	41%	59	2.6	8.1	13.6
Haddock	7a	1995	17%	333	14.4	45.4	13.6
Whiting	7a	703	95%	667	28.9	91.0	13.6
Total		10507		2310	100.0	315.2	13.6
Single species approach							
<i>Nephrops</i> FU14	7a (FU14)	294	10%	29	1.3	8.8	30.4
<i>Nephrops</i> FU15	7a (FU15)	7372	17%	1222	52.9	221	18.1
Cod	7a	143	41%	59	2.6	4.3	7.3
Haddock	7a	1995	17%	333	14.4	60	18.0
Whiting	7a	703	95%	667	28.9	21	3.2
Total		10507		2310	100.0	315.2	13.6

STECF notes that during the 2018 December Council an “unavoidable bycatch” TAC for whiting in 7a was set at 727 tonnes. STECF notes that the *de minimis* in the CFP regulation requires that catches should be fully recorded. Furthermore, the “unavoidable bycatch” TAC provisions in the 2019 TAC regulation implies:

1. Implementation of a multiannual bycatch reduction plan in the relevant fisheries with a view to progressively reducing unwanted catches of the stocks concerned
2. All vessels benefiting from “unavoidable bycatch” TACs should implement full catch documentation as from 2019.

STECF further notes that ICES has estimated the likely catches for whiting in 7a in 2019, based on the status quo fishing mortality, corresponding to 1385 tonnes. STECF therefore notes that there is a significant mismatch between the likely catches and the agreed TAC. The possible likely effects would either translate in an earlier closure of the

fishery or continuation of whiting discards. STECF notes it would be important to understand how the *de minimis* amount would be monitored to avoid catches exceeding the agreed TAC.

STECF notes that the catches estimated by ICES, considering no improvement in the fishery selectivity for whiting, will not contribute to the recovery of the stock, and is likely to further deteriorate the status of the whiting stock in the Irish Sea.

Taking into account the above and the very poor state of the whiting stock in 7a, STECF notes that a bycatch management plan should be developed as a matter of urgency, including all the present elements of the requested *de minimis*, the “unavoidable bycatch” TAC and the ICES predicted whiting catches. The plan should also include specific measures required to fully document all whiting catches, but also at-sea control and monitoring provisions to ensure that the Landing Obligation is fully implemented.

STECF conclusions

Requests 1+2

The supporting documentation covered sufficiently the proposed exemption. However STECF notes that although the proposal stipulates “A combined *de minimis* for a quantity of whiting below minimum conservation reference size up to a maximum of 3% of the **total annual catches** of *Nephrops*, cod, haddock and whiting in the Irish Sea”, the calculations of the 3% combined *de minimis* in the proposal are based on the 2019 TAC’s (Table 6.9.1). STECF calculated the combined *de minimis* on the 2017 catches (ICES) (The whiting *de minimis* amounts to 451.3 tonnes based on 2019 TAC’s and 315.2 tonnes, based on the 2017 catches (Table 6.9.2).

Request 3

STECF notes that if the *de minimis* would be granted, considering a highly vulnerable stock, the maximum possible amount of *de minimis* for each species that could potentially be discarded, must be deducted from the TAC. Consequently, the deduction from the combined TAC is higher than for a single species *de minimis* (Table 6.9.2).

STECF concludes that there is a significant mismatch between the agreed 727 tonnes of “unavoidable bycatch” TAC and the predicted 1385 tonnes whiting catches for 2019 by ICES. STECF notes that this likely will translate into either an earlier closure of the fisheries and/or the continuation of whiting discarding.

STECF concludes that a continuation of current fishing practices will not reduce fishing mortality for 7a whiting below F_{msy} . Moreover, it will not contribute to the recovery of the stock, and instead will further deteriorate the status of the stock. STECF also concludes that, considering the poor state of whiting stock, the mixed fisheries in the Irish Sea including whiting as bycatch cannot be considered to be exploited sustainably.

STECF concludes that, based on the economic study conducted by SEAFISH, the minimum expected loss of 10% *Nephrops* catch is likely to have significant negative economic impact for the *Nephrops* fleets in Area 7a.

STECF concludes that a bycatch management plan should be developed with urgency for whiting in the Irish Sea, including specific measures required to fully document all whiting catches, but also at-sea control and monitoring provisions to ensure that the Landing Obligation is fully implemented.

STECF reiterates its past warnings about the difficulties of establishing and operating *de minimis* provisions and difficulties associated with monitoring and controlling these provisions.

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6.10 Assessment of national plans, established by France and Spain for red seabream in subareas 6-8, in order to ensure that the plans are comprehensive and effective

Background provided by the Commission

The ICES scientific advice sets out that the stock of red seabream in areas 6-8 is seriously depleted and advises that there should be zero catches for this stock in 2019 and 2020. Since 2014 the ICES advice has been to reduce mortality by all means, to allow the stock to rebuild, and avoid a further collapse. ICES furthermore recommend that measures be put in place to protect juveniles.

By 1 March 2019, taking into account national specificities, France and Spain committed to implement coordinated national plans necessary for rebuilding the stock of red seabream in ICES subareas 6-8, in particular through measures such as:

- Closing for commercial and recreational fishing the areas where juveniles occur on the basis of scientific evidence, as identified by the Member States;
- Increasing minimum size to 35cm, to incentivize avoiding catching red seabream that has not reached the size of maturing into females; • Fixing catch limits per vessel and per trip to ensure that red seabream is only fished as a by-catch species;
- Undertaking a scientific research project with the view to finding ways to avoid catching juvenile red seabream in the longline and otter trawl fleets that account for the main share of the catches. This project should, as recommended by STECF, include improving the biological knowledge on species reproduction and maturity stages and update the estimates of size/age at maturity as male and female, the size-at sex-change and the proportion of gonochoric individuals.

France adopted the following measures:

- **Minimum size 35cm**
- **Capping bycatches:**
 - Pelagic trawlers: 200kg/year
 - Demersal trawlers: 200 kg/tide
 - Nets and lines: 100 kg/tide
- **Seasonal closing of quota:** the reproduction period occurs between January and June. Quotas will be closed during this period in all areas. It is believed that while occasional accidental catches may still occur due to the large distribution area of the species, this measure will strongly limit them.

Spain has adopted the following measures:

- **Mesh size 33 cm** in accordance with Regulation (EU) 787/2017).
- **Capping bycatches:** Daily maximum catch limits of 150 kg per vessel/day of red seabream in subarea 8c and 50 kg per vessel/day of red seabream in the other subareas of SBR 6/7/8. The catch limit may be modified through a national resolution.

- **Areas and closure periods** are established for bottom gear in order to protect concentration areas of Red Seabream juveniles.
- Spain will continue to place scientific observers on board of the vessels and compile data in order to identify new closing areas and periods. VMS and DEA information has been sent to all vessels catching red seabream; and the Spanish national institute IEO will design a plan for on board observers based on those samplings.

Background documents are published on the meeting's web site on: <https://stecf.jrc.ec.europa.eu/plen1901>

Request to the STECF

STECF is requested to assess the content of the national plans in order to ensure that the plans are comprehensive and effective to help improve the state of the stock.

Documents provided to STECF

From Spain

"Resolution of the Secretariat-General for Fisheries of 11 March 2019 in respect of the quotas for Spain's red seabream (*Pagellus bogaraveo*), SBR-678; Alfonsinos (*Beryx spp*), ALF/3X14; and black scabbardfish (*Aphanopus carbo*), BSF/8910 between national fishing fleet flows (zones 8c and 9a) and the fleet in waters of the NEAFC, and set out measures to be fishing"

"Warrants AP/247/2019 amending order AAA/661/2016 of 3 April laying down criteria for landings of red seabream caught in union and international waters of VI, VII and VIII of the International Council for the Exploration of the Sea (ICES) and regulating the application of Council Regulation (EU) 2018/2025 of 17 December 2018 for Union fishing vessels fishing opportunities in 2019 and 2020 for certain deep-sea fish stocks"

"Draft order APA/2019, amending order AAA/661/2016 of 3 April 2004 laying down criteria for the landing of red seabream caught in union and international waters of VI, VII and VIII of the International Council for the Exploration of the Sea (ICES) and establishing closures for the fishing of red seabream in certain areas of the Cantabrian Sea sea-North Sea fishing ground".

The following documents from the Instituto Español de Oceanografía (IEO) 2018 and 2019: "*Solicitud de informe sobre datos biológico-pesqueros del stock de besugo de zonas 6, 7 y 8 solicitados por SGP/SG Protección Recursos Pesqueros*", "*Solicitud de informe sobre borrador de Orden de vedas para el besugo*" y "*Solicitud de informe Modificación de topes de embarque de besugo de zonas ICES 6, 7 y 8*"

From France

French national measures red seabream.doc containing the Decree of 16 January 2019 limiting the landings of red seabream (*P. bogaraveo*) and prohibiting the use of purse seine to catch this species in ICES zones 6, 7 and 8

The document by Lorance (2016) from IFREMER "Options for management measures to restore the blackspot seabream stock (*Pagellus bogaraveo*) of the Bay of Biscay"

In addition to the documents stated above from Spain and France, STECF reviewed the following scientific publications and reports: ICES (2018), Lorance (2011), Gil (2006), Cabrera (2014), Diogo and Pereira (2014), Pinho et al., (2014), Font and Lloret (2013), Pita et al. (2018), Ruiz et al (2014), STECF (2016) and Czerwinski et al. (2010).

Background and general observations by STECF

STECF notes that the species *Pagellus bogaraveo* is referred to as both red seabream and blackspot seabream in the documents provided to STECF. The two names are also commonly used in STECF response.

State of the stock

Because of low level of the stock during the past three decades, there is little data to assess accurately the status of the stocks. Although there is no analytical assessment for this stock (ICES in 2018 could not assess the stock and exploitation status relative to maximum sustainable yield and precautionary approach reference points because the reference points were undefined), catches of *P. bogaraveo* in the concerned ICES areas 6-8 are at 1–2% of the historical levels of the 1960s and 1970s, which indicates that the stock is severely depleted.

STECF reiterates the conclusions from other studies carried out in areas 6-8 (see e.g. Lorance, 2011), but also in other areas such as in the Strait of Gibraltar (Gil, 2006; Cabrera, 2014) and the Azores (Diogo and Pereira, 2014; Pinho et al., 2014), that the blackspot sea bream is highly sensitive to overfishing because of its particular biology (protandrous hermaphroditism, with late first maturity as females) and rather low productivity. It is included in the IUCN Red List as Near Threatened.

STECF also notes that although environmental factors can affect the *P. bogaraveo* stocks, recent analyses such as that of the Strait of Gibraltar (Sanz-Fernández et al., 2019) indicate that the main factor responsible for the drastic decline in the abundance of sea bream is overexploitation of the resource.

The fishery

The fishery for *P. bogaraveo* in Subareas 6, 7 and 8 strongly declined in the mid-1970s, and the stock is seriously depleted according to the ICES last WGDEEP report (ICES 2018) and Lorance (2016). Historically blackspot seabream was caught in a directed fishery, but at present catches in these areas are almost all bycatches of fleets from primarily Spain but also France and Ireland. In the Bay of Biscay juveniles were also used for bait for sea bass and conger fishing (uses for bait, with targeted fishing and equipment to keep it alive, also existed until the last few years in the Azores for live bait fishing for tuna and other species). From the 127 tons caught in 2017 (see table below), ICES (2018) estimated that landings from vessels using mainly hooks and lines represent the vast majority of the landings (>85%), with Spain accounting for the largest part of these landings (84% of the total). The size structure of landings differs greatly from gear to gear according to IEO (2018); in the Cantabrian Sea the mean size of individuals caught by longline is 36.6 cm, that from entangling bottom nets is 28.9 cm and those from the trawlers is 25.6 cm, thus well below the age of maturity of females.

Table 6 Blackspot seabream in subareas 6, 7, and 8. Commercial catch distribution by fleet in 2017 as estimated by ICES.

Total catch (2017)	Landings				Discards
	127 tonnes	10.6% nets	4.4% trawls	74.9% hooks & lines	
	126 tonnes				

Regulatory background to the TACs in 2019 and 2020

STECF notes that according to the Political Agreement of the Council of the European Union (*Proposal for a Council Regulation fixing for 2019 and 2020 the fishing opportunities for Union fishing vessels for certain deep-sea fish stocks; Ref. 12841/18 PECHÉ 382 + ADD 1 - COM(2018) 676 final + 13518/18*) (henceforth called Political Agreement), France and Spain committed through a Joint Statement to implement coordinated national plans necessary for rebuilding the stock of red seabream in ICES subareas 6-8, by 1 March 2019, taking into account national specificities, through measures such as those detailed in the previous section "background provided by the Commission". According to this Political Agreement, "Should the STECF assess that additional measures need to be taken to ensure an improvement in the state of the stock, then Member States commit to review this plan and the relevant national measures in light of the recommendations by the STECF". The above measures may, as appropriate, be included in the joint recommendations from the relevant Member States Groups. Member States concerned will agree on necessary quota swaps to avoid "choke" situations".

STECF notes that the political agreement includes the establishment of TACs in 2019 and 2020 but the values adopted by the Council (based on 10% reduction per year) are significantly higher than the values proposed by the Commission (a 20% reduction) as it is seen in the table below. ICES advised however that when the precautionary approach is applied, there should be zero catch in each of the years 2019 and 2020.

STECF observes also that the TACs for 2019 and 2020 are set around the level of the current catches (127 t in 2017), and therefore the TACs are unlikely to contribute to reduce fishing mortality significantly.

RED SEABREAM 6-8

TAC 2018	Commission proposal				Presidency compromise			
	TAC 2019	TAC variation	TAC 2020	TAC variation	TAC 2019	TAC variation	TAC 2020	TAC variation
130 t	104 t	-20%	83 t	-20%	117 t	-10%	105 t	-10%

STECF also notes that according to the Council Regulation (EU) 2018/2025 of 17 December 2018 fixing for 2019 and 2020 the fishing opportunities for Union fishing vessels for certain deep-sea fish stocks (20th December 2018), red seabream in ICES 6-8 is subject to a precautionary TACs that is exclusively for bycatches, with most of TAC allocated to Spain (80% of the total EU TAC in 2019 and 2020).

STECF notes that the Spanish Secretariat-General for Fisheries, has resolved through the Resolution of the secretariat-general for fisheries of 11 March 2019 a quota of 81.48 tons of *P. bogaraveo* in ICES 6-8 (this value resulted after deduction of the 10 tons exchanged with France for 2019 in accordance with the commitments laid down in Regulation EU 2018/2025). STECF highlights that the Resolution from the Spanish Government states

that these quotas may be revised upwards or downwards in the course of the year, depending on the revisions to Spain's quota. STECF could not assess the scientific rationale that could move these quotas down or up in the course of a year.

STECF comments on the Spanish and French national plans for rebuilding the stock of red seabream in ICES subareas 6-9 through different measures committed by France and Spain in the Political Agreement

About the commitment of "closing for commercial and recreational fishing the areas where juveniles occur on the basis of scientific evidence, as identified by the Member States"

STECF acknowledges that for most fish species it is difficult to determine precisely the areas where juveniles occur and where adults spawn. In the case of red seabream however, there is quite good information in the reports from Lorange (2016) and IEO (2019).

Spawning occurs over the offshore shelf and/or at the shelf break and current spawning areas are assumed to be primarily in the Cantabrian Sea and in the West of Brittany. At the current low stock level, abundance and therefore spawning in more northern areas, e.g. the Celtic Sea, might be minor. In 8c and 9a, the spawning of *P. bogaraveo* takes place in winter months (January-March) according to different studies reviewed by IEO (2019). There are no recent data on the spawning season in the Bay of Biscay and Celtic seas, but in studies conducted more than 50 years ago, spawning on the eastern (French) shelf of the Bay of Biscay was reported to start from February to the south (in Division 8b) and may extend up to September to the North of ICES Division 8a (Lorange, 2016).

Regarding juveniles, they used to occur mainly in suitable habitats along the Atlantic coast of France and on both sides of the Eastern Channel. Nowadays, areas of juvenile occurrence are restricted to the West of Brittany and the Cantabrian Sea.

Both France and Spain include proposals for seasonal area closures in their management plans. According to the Spanish regulatory documents, Spain proposed to close five small areas (around 650 km² off the about 300,000 km² of area 8c) between April and September in the western part of area 8c, in front of Galicia and Asturias, where high juvenile concentrations of red seabream have been identified on the basis of information provided by the fishers, affecting trawling and bottom longlining.

STECF considers that this qualitative, traditional ecological knowledge from fishers, although it can provide valuable indications, need to be organised in a formal and scientific way, and if possible be supported by independent biological observations and catch data. Information on the detailed spatial distribution of catches and abundance of red seabream in the Cantabrian Sea (ICES 8c) is scarce. Therefore, STECF cannot fully assess the adequacy of the closed areas proposed by the Spanish administration to the purpose of the management plan.

Furthermore, STECF notes that none of the proposed closed areas by Spain considers coastal waters, where juvenile *P. bogaraveo* concentrate, particularly in rocky bottoms and other areas including harbours and estuaries (Lorange, 2016). STECF considers therefore that while the timing of the closed areas seems appropriate with regard to the stated objective of protecting juveniles, the areas chosen look more appropriate to protect spawners than juveniles; however the closure would occur outside of the spawning season. STECF concludes thus that the closed areas in the proposed months

would only be able to partially protect both juveniles and spawners, and will likely not contribute significantly to reducing catches and fishing mortality.

STECF considers that the proposed zones located offshore could be closed during winter months (breeding period of red seabream) to protect zones of high spawner's abundance. This would be a better measure to reduce fishing mortality, as was already pointed out by IEO (2019), and therefore this could be an additional measure to be considered in the management plans.

The French management plan proposes a seasonal closure of quotas for all vessels during the reproduction period 1st January –30th June in ICES areas 6-8. It is stated that "It is believed that while occasional accidental catches may still occur due to the large distribution area of the species, this measure will strongly limit them", however it is unclear to STECF how this will be the case. The red sea bream is strictly caught as a bycatch, and such bycatch is anticipated to continue because fishing vessels will continue to target other species, unless additional measures are taken to close the fisheries in which this bycatch occurs. The closure of quota might only mean that the fish cannot be landed and will be discarded.

STECF notes that the proposed time period proposed by France (January to June) is appropriate with regards to the spawning period of red sea bream but will have smaller effect in protecting the juveniles, which are more abundant from spring to autumn in Spanish and French coasts (Lorance, 2016).

Overall, STECF notes that management measures proposed by France and Spain are not aligned, because the seasonal closures of quotas are established in different seasons, for different life stages and will affect different fishing methods. STECF considers that this mismatch does not contribute clearly to the aims of the management plans because fisheries of red seabream will continue to be carried out nearly all year round.

STECF also notes that recreational fisheries are not considered in the French and Spanish management plans. Recreational fisheries may be a significant proportion of the mortality of those juveniles owing to their coastal distribution, as it is the case with the stock in the Azores (ICES Area 10), where juveniles of *P. bogaraveo* are frequently caught by shore angling (Pinho et al., 2014; Diogo and Pereira, 2014). In the ICES areas concerned 6-8, *P. bogaraveo* is one of the top species caught by recreational fishers in the Cantabrian Sea (8c) according to Font and Lloret (2013), with recreational fishers (including retired professional fishers) also targeting the large individuals inhabiting depths of 100 m offshore, such as the Avilés Canyon (about 10 miles from the coast), where large *P. bogaraveo* are caught with electric fishing reels. In Galicia (ICES 8 ad 9a), based on a recent study by Pita et al. (2018), STECF estimates that more than 8 tons of *P. bogaraveo* could be landed in that region alone, representing about 10% of the TAC allocated to Spain. In the Basque Country (eastern ICES division 8c), a study carried out by Ruiz et al. (2014) estimated an annual catch of *P. bogaraveo* by recreational fishers of about 1-2 tons. STECF considers that all these estimations, despite being regional and not providing a full picture, demonstrate the importance of the recreational fishery of *P. bogaraveo* (both for small and large individuals) and therefore this supports the idea that, in addition to managing the commercial fishery, recreational fishing of *P. bogaraveo* should be included in the management plans.

About the commitment "Increasing minimum size to 35cm, to incentivize avoiding catching red seabream that has not reached the size of maturing into females;

STECF observes that France has adopted the minimum landing size (MCRS) committed in the Political Agreement (35 cm), but not Spain, which has adopted a lower MCRS (33 cm). However, STECF notes that neither of these MCRS respect the mean length at maturity (L50) of this protandric (i.e. male-first sex-changing) fish. As already stated by STECF (2016) after Lorange (2011), the size at which >50% of females are mature is estimated to be 36 cm total length (8 yr old) in the Atlantic for the two stocks in areas ICES areas 6-9. But at this size, the population is still mainly constituted by males. Thus, when combining sex-ratio with female maturity, the proportion of mature females per size class is estimated to reach 50% at 40 cm only (10 yr old). Therefore, neither 33 cm nor 35 cm can be considered an appropriate MCRS from a biological point of view in ICES areas 6, 7 and 8. STECF considers that given the low level of the stock abundance in ICES areas 6-8 and the peculiar reproduction (i.e. hermaphroditism) of the species, only the use of the L50 of the entire stock (40 cm) or higher may allow a recovery of the female mature biomass, which is needed to rebuild the stock.

STECF notes though that for a stock under landing obligation, the increase in the MCRS will have direct implications in the quantities of unwanted catches if not associated to a corresponding increase in selectivity. In this regards, STECF notes the low mean size of current catch by some gears, well below the proposed limits (28.9 cm in the case of entangling nets and 25.6 cm in the case of trawling in Spain). It could be useful to implement alternative selectivity measures in different gears for conservation and optimum exploitation of *P. bogaraveo* stocks (Czerwinski et al. 2010; Cabrera, 2014).

About the commitment "Fixing catch limits per vessel to ensure that red seabream is only fished as a by-catch species"

STECF notes that here again, the measures proposed by France and Spain are not aligned. The catch limits established by Spain are by day while the limits established by France are by trip. Given that a fishing trip of the Spanish fleet segment with higher catches of red seabream lasts on average 11 days (IEO, 2019), the levels chosen can lead to very different catches per trip

Additionally, France proposes catch limits by gear (and prohibits purse seine), but Spain proposes adaptive quotas by management unit. Spain only proposes the future possibility of catch limits by gear through resolution of the General Fisheries Secretariat, which may establish catch or landing limits per vessel for each of the fleets involved in the fishery in order to improve the control of consumption and the efficiency of the maximum annual catches.

STECF notes that the allocation of Spanish quota of *P. bogaraveo* is divided in two management units (MU): MU 1: ICES areas 8c and 9a and MU 2: ICES areas 6, 7 and 8 excluding 8c. Two measures are taken by the Spanish authorities in the frame of limiting the catch, for this stock:

- An overall catch cap by MU. For MU1 this ceiling represents the 66% (54.135 kg) of the total quota allocated to Spain after swaps of 81.480 kg and for MU2 the remaining 34% (27.345 kg).
- An overall daily catch limit per vessel by MU: 150 kg for MU1 and 50 kg for MU2.

STECF notes that the MU catch cap is consistent with the historical catches by MU. According to the IEO report (IEO, 2019), catches of the Spanish fleet in 2017 in MU 1 represented 69 % of the total Spanish catches of red seabream. Therefore, the MU allocation established by the Spanish authorities does not seem to be limiting for the fleet, and may not significantly contribute to reduce catches and fishing mortality.

Regarding the daily catch limit, STECF notes that according to the data provided in the IEO report (2019) the average catch of red seabream by all vessels using hooks (86 % of the catches) is of 3.9 kg/trip. Considering only those trips in where seabream is present in the catch composition, the average catch level is from 165.5 kg/trip to 220 kg/trip, depending on the gross tonnage of the vessel. Given that the average trip of one of these hooks vessels is of 11 days (IEO, 2019), the average daily catch rate is between 15 kg/day -20 kg/day. This implies that the catches per day of the Spanish fleets catching red seabream is well below the daily limit established by the Spanish regulation for this stock of 150 kg per vessel and day (MU 1) and 50 kg per vessel and day (MU 2)

For France, landings of *P. bogaraveo* caught in ICES zones 6, 7 and 8 are limited to:

- 200 kg per year for vessels fishing with towed gears (gear codes OTM, PTM, OTT, OTB, PTB, TBB, TBS, TBN);
- 100 kg per trip for vessels fishing with nets (gear codes GTR, GTN, GNF, GND, GNC, GEN);
- 100 kg per trip for vessels fishing with lines (gear codes LHP, LHM, LLS, LLD, LTL, LVD, LVS).

STECF is not able to determine precisely if trip limits are likely to constraint the catches of red seabream because data on the average and variability of red seabream catch per trip was not available, and neither data about the number of vessels in each of these categories.

STECF notes, however, that according to the data presented above, the Spanish longlines vessels would potentially be more constrained by the French measure of 100 kg per trip than by the Spanish limit of 50 kg or 150 per day. STECF notes equally that a landing limit per day is probably more difficult to control and monitor than a landing limit per trip.

About the commitment "Undertaking a scientific research project with the view to finding ways to avoid catching juvenile red seabream in the longline and otter trawl fleets that account for the main share of the catches..."

From the information available, STECF could not find any recent research project to improve the biological knowledge of this species in ICES areas 6-8 including reproduction, size at maturity, areas of spawning, areas of juvenile concentration, effect of recreational fisheries, etc. In particular, research aiming at locating the main areas of juvenile and spawners' abundance in order to protect these locations from which a larger stock could rebuild is needed, because this type of research could at the same time inform on the species' habitat preference and provide quickly sectors where protection measures would allow the stock to increase.

However, STECF notes that there is a EU project underway called PANDORA (<https://www.pandora-fisheries-project.eu/en.html>) where traditional ecological knowledge (TEK) and fishing surveys are planned to carry out experimental fisheries and submarine video-imaging in order to search and identify areas of high abundance of *P. bogaraveo* adults.

STECF conclusions

STECF concludes that the TACs for 2019 and 2020 are set around the level of the current catches, and are therefore unlikely to contribute to reduce fishing mortality significantly.

Regarding the commitment of “closing for commercial and recreational fishing the areas where juveniles occur on the basis of scientific evidence, as identified by the Member States”, STECF is not able to assess the effectiveness of the specific size and location of the 5 closed areas proposed by Spain to reduce juvenile bycatch and improve the state of the stock, due to the absence of precise catch information in the suggested areas. Furthermore, STECF concludes that apart from closed areas offshore planned by the Spanish administration, there is a need also to consider closed areas in coastal waters where juveniles concentrate, on the basis of scientific evidence.

Regarding the French management plan, STECF concludes that the effectiveness of the proposal of a seasonal closure of quotas for all vessels during the reproduction period by France is unclear because the red sea bream is caught as bycatch fishery and thus bycatch is expected to continue to occur but be discarded during the period.

STECF also concludes that recreational fisheries should be considered in the French and Spanish management plans because recent estimations show that these fisheries catch significant quantities of *P. bogaraveo* in some areas, particularly in coastal areas where juveniles inhabit, but also offshore.

Regarding the commitment “Increasing minimum size to 35cm, to incentivize avoiding catching red seabream that has not reached the size of maturing into females”, STECF reiterates its conclusion from STECF (2016) that 33 cm cannot be considered an appropriate MCRS from a biological point of view in ICES areas 6-8. Given the low level of the stock in ICES areas 6-8 and the peculiar reproductive strategy (hermaphroditism) of the species, a higher minimum size of at least 40 cm (that corresponds to L_{50} of the entire stock) would be needed to increase the population of adult females.

Regarding the low mean size of current catch by some gear, STECF concludes furthermore that increasing MCRS will not be effective unless additional selectivity measures are implemented.

Regarding the commitment “Fixing catch limits per vessel to ensure that red seabream is only fished as a by-catch species”, STECF concludes that the limits established by the Spanish authorities do not seem to constrain the average daily activity of this fleet in any of the management units. For France, STECF is not able to determine precisely if trip limits are likely to constrain the catches of *P. bogaraveo* because data on the catch rate of red seabream per trip was not available. Nevertheless, the French proposal appears more constraining than the Spanish proposal.

Regarding the commitment “Undertaking a scientific research project with the view to finding ways to avoid catching juvenile red seabream in the longline and otter trawl fleets that account for the main share of the catches...”, STECF concludes that apart of one ongoing EU project (PANDORA), no scientific research has

been conducted recently to improve the biological knowledge of this species in ICES areas 6-8. STECF supports therefore the need for research aiming at locating the main areas of juvenile and spawners' abundance in order to protect these locations.

Overall, STECF cannot conclude that the management plans are comprehensive nor effective to help improve the state of the stock of *P. bogaraveo* in ICES areas 6, 7 and 8. Furthermore, STECF concludes that the measures proposed by each country are different and the management plans do not seem well aligned.

Based on the depleted status of the *P. bogaraveo* stock in ICES areas 6, 7 and 8, STECF concludes that additional measures contributing to reducing total catches are needed to ensure an improvement in the state of the stock. This could include the protection of spawning aggregations during the breeding season, the implementation of more restrictive trip catch limits, changes in the size selectivity of fishing gear and the regulation of recreational fisheries targeting juvenile and adult *P. bogaraveo*.

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6.11 Review of a Joint Recommendation concerning fisheries management measures in Natura 2000 sites

Background provided by the Commission

In accordance with Article 11 of Regulation 1380/2013 Member States having direct management interest in certain areas or fisheries may submit joint recommendations for fisheries conservation measures to be adopted by the Commission that are necessary to comply with their environmental obligations.

Germany initiated the procedure with Belgium, Denmark, France, the Netherlands, Sweden and the United Kingdom for adopting a joint recommendation for fisheries management measures in four Natura 2000 sites in the German Exclusive Economic Zone (EEZ) of the North Sea concerning all fishing vessels, including EU vessels with fishing rights in the German EEZ under non-German flag. After several consultations amongst these Member States, stakeholders and NGOs, the final joint recommendation was submitted to the Commission on 4 February 2019. Similar joint recommendations were submitted by the MS having direct management interest to the Commission in 2015-2016 concerning Natura 2000 sites in waters under the sovereignty of Denmark and Sweden.

Once the joint recommendation is received, it is necessary to evaluate the various elements of the joint recommendation on fisheries measures necessary for compliance with environmental obligations and to identify areas if and where additional supporting information may be required. In particular, it has to be assessed whether the measures in the joint recommendation are compatible with the requirements referred to in Article 11(1) of Regulation 1380/2013. This calls for the review of the supporting scientific information provided.

As in previous years, STECF is asked for a review of the joint recommendation via an ad hoc contract – to feed into the STECF PLEN 19-01.

Request to the STECF

The STECF is requested to:

- (1) Review whether the proposed conservation measures minimise the negative impacts of fishing activities on the marine ecosystem and ensure that fisheries activities avoid the degradation of the marine environment as stipulated under Article 2(3) of Regulation 1380/2013.
- (2) Review how the proposed measures contribute towards ensuring that the habitats and species addressed in the recommendation are maintained and restored at favourable conservation status as stipulated under Article 6 of the Habitats Directive 92/43/EEC and Art. 4 of the Birds Directive. In undertaking this review, all relevant aspects, including ensuring compliance with the proposed measures, should be considered.
- (3) Assess if the proposed conservation measures would contribute to the objectives under Articles 1(1) and 13(4) of the MSF Directive 2008/56/EC, in particular with the objective of achieving a good environmental status by 2020.

Documents provided by the Commission and reviewed by STECF

STECF reviewed the Joint Recommendation submitted by MS under Article 11 and 18 of the Regulation (EU) No 1380/2013, in the light of several documents:

- . Annex I – Proposed fisheries management measures in Natura 2000 sites, Report on the on the joint recommendation, Thünen Institute, 88p.
- . Annex II - Process and results of the negotiation process towards the joint recommendation, 64p
- . Annex III - Torsten Schulze, 2018, International fishing activities (2012-2016) in German waters in relation to the designated Natura 2000 areas and proposed management within, Report Federal Research Institute for Rural Areas, Forestry and Fisheries, 174 p.
- . Annex IV - Geographical coordinates of the proposed measures

In addition, several STECF plenaries (15-01, 17-01 and 17-02) and STECF 16-24 EWG advised in the past on similar Natura 2000 cases, thus providing a guideline for the current advice.

The Joint Recommendation and all the above mentioned documents were reviewed through an ad hoc contract, whose general comments are summarized in the current advice.

Background documents are published on the meeting's web site on: <https://stecf.jrc.ec.europa.eu/plen1901>

STECF comments

- Objectives of the joint recommendation

The fisheries management measures proposed in the joint recommendation initiated by Germany concern four German Natura 2000 sites, with the overall aim to:

- Ensure the protection of reef (H1170) and sandbank (H1110) habitats and of harbour porpoise (*Phocoena phocoena*), thus contributing to achieve obligations of the Habitats Directive Article 6.
- Prevent the negative impact of fisheries on several sea birds populations within the Natura 2000 site "Eastern German Bight" in accordance with the Birds Directive.
- Contribute to the objective of the MSFD, Directive 2008/56/EC of achieving a good environmental status by 2020, more specifically regarding descriptor 1 (biological diversity) and 6 (sea floor integrity). In particular, seafloor areas with the biotope type "species-rich gravel, coarse sand and shell gravel area" have to be protected from the negative impact of fisheries, according to §30 of the German Federal Act for the Protection of Nature.

Three out the four Natura 2000 sites included in the joint recommendation are Special Area of Conservation (SAC) under the Habitat Directive (Sylt Outer Reef 5314 km², Borkum Reef Ground 625 km², and Dogger Bank 1624 km²), while the last one is a Special Protection Area under the Birds Directive (Eastern German Bight 3140 km²).

STECF notes that, according to the German status report on the habitats directive for the 2007-2012 period, the two habitats concerned by the joint recommendation (H1110 and

H1170) are considered in a “bad conservation status”, while the population of Harbour porpoise is in an “unfavourable conservation status”. Among the six species of birds listed in Annex I of the Birds Directive and present in the German EEZ, tern species show a negative trends in abundance (Arctic tern *Sterna paradisaea*, Common tern *Sterna hirundo*, and Sandwich tern *Sterna sandvicensis*), while diving birds (that plunge into water to catch fish or other food) show a stagnating trend (Red-throated diver *Gavia stellata*, Black-throated diver *Gavia arctica*, and Little gull *Hydrocoloeus minutus*).

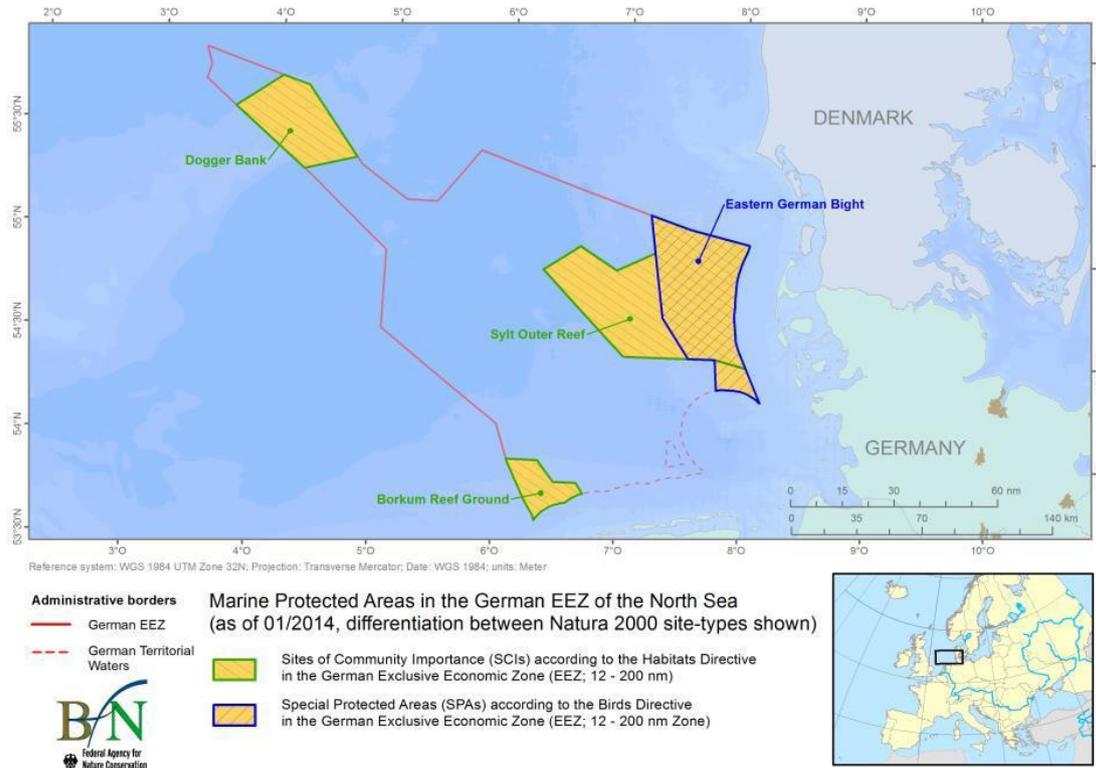


Figure 6.11.1. Natura 2000 sites in the German EEZ in the North Sea designated on the basis of the Habitats Directive and the Birds Directive.

In support to the proposal, the report provides a well-documented description of the likely negative effects of mobile bottom gears on benthic habitats, and of gillnets or entangling nets on harbour porpoise and seabirds populations. Regarding passive gears, STECF notes that while potential negative impacts of those gears have been documented in several studies in various regions of the world, the actual bycatch rates of harbour porpoise and seabirds in the German EEZ are considered in the available documents as being very uncertain and the fishery impact of them as poorly known.

- Proposed fishing restrictions

The joint recommendation includes a limitation of fishing effort of passive gears (gillnets and entangling nets) in the four sites, to the average effort over the last 6 years. In two sites (Sylt Outer Reef and Borkum Reef Ground), some specific areas mapped in the proposals are defined in which an additional ban is proposed for fishing activity using mobile bottom contacting gear (beam trawls, bottom otter trawls, demersal seines, and

dredges). Furthermore, in the Sylt Outer Reef site, a total ban on fishing is proposed for 25% of the Amrum Banks.

The total size of the Natura 2000 sites included in the proposal is about 7563 km², which represents 26% of the German EEZ in the North Sea. The two zones with a ban on mobile bottom-contacting gears are relatively large (more than 3000 km²), while the zone with a complete ban on fishing is much smaller (about 40 km²).

STECF has evaluated similar joint recommendations where the ban of the fishing activities inside each Natura 2000 sites was limited to the mapped reefs and surrounding buffer zones (STECF 2015, 2016, and 2017). In contrast, in the present proposal the ban would concern a variety of benthic biotopes present in the protected area (see example in ad hoc contract report), thus accounting for potential linkages and interactions between those biotopes. STECF agrees that this approach has a better potential for maintaining biodiversity and for safeguarding the structure and functions of the ecosystem.

- Habitat protection

Regarding habitats, the protected areas proposed in the joint recommendation include an important part of the occurrence of "reefs" (habitat code H1170) and a somewhat less important part of the "sandbanks" (habitat code 1110). STECF notices that the larger area of sandbanks is found in the Dogger bank Natura 2000 site, for which the potential measures to protect such habitat will be addressed in a separate joint recommendation (still under discussion between the United Kingdom, the Netherlands and Germany).

STECF notes that no information is presented, and no fishing restrictions are proposed in the joint recommendation, regarding the habitats located within the 12 nautical miles of German waters, despite territorial waters represent a significant part of the concerned habitats (21% for "sandbanks" and 47% for "reefs"). In the absence of available information on fishing effort in this coastal areas, STECF cannot assess the overall level of protection on these sensitive habitats in German waters. However, STECF acknowledge that the proposed restrictions constitute a first step towards the protection of reef and sandbanks habitats from direct impact of fishing activities, provided that there is full compliance.

- Harbour porpoises and seabirds

Regarding the population of harbour porpoises and sea-birds species, several management zones proposed in the joint recommendation cover important aggregation areas (especially in the Sylt Outer Reef and Borkum Reef Ground site, for harbour porpoise, and in the Eastern German Bight Special Protection Area for seabirds). Limiting in these areas the fishing effort of the gillnets and entangling nets at their current levels seems pertinent to avoid any increasing impact on harbour porpoise and seabird populations.

The report provides limited information on the current bycatch levels and the impact it may have on the populations. However, the fishing efforts of gillnets and entangle nets in the planned management areas are currently very low and even close, or equal, to zero in the Eastern German Bight site. Therefore, the objective of the proposed effort limitations is to avoid the further development of such fishery, thus contributing to maintain or improve the conservation status of the concerned species.

Regarding more specifically the seabird species, it is not fully clear for which species the measures are intended to. It might be appropriate to clarify this point in the joint recommendation by specifying the conservation objectives of each Natura 2000 sites. It

would be especially useful when monitoring and assessing the management measures implemented.

- Impacts on fisheries

With the exception of some effort from trawlers in the eastern part of the Sylt Outer Reef site, there is little fishing activity in the four Natura 2000 sites. The overall catch within these four sites is estimated at 238t per year. Information provided by the report shows that for both mobile bottom gears and nets the contribution of these sites to the total fishing activity of division 27.4.b is limited (less than 1% of the total revenues).

Regarding the Sylt Outer Reef site, the part of the area which is proposed as a protected zone corresponds to the part with the lowest level of effort on the ground. STECF notes that according to simulations carried out by WKTRADE "*spatial management measures that focus on protecting the peripheral fishing grounds (instead of the core fishing ground) and replacing effort to the core fishing ground will improve the average status of the seafloor*" (ICES 2017).

More generally, for all the sites concerned by the joint recommendation, effort restrictions are implemented in areas of low effort levels. According to the provided document (especially Annex III) they would have limited economic impacts. On the Amrum Banks, this closure corresponds however to only 25% of the surface of the bank. STECF acknowledges that fisheries management have to balance sustainable exploitation of resources and the need to protect important habitats and species. However, STECF underlines that to be effective in protecting habitats and species which are currently considered in an "unfavourable conservation status", management measures have to be based on significant enough reductions of the fishing impacts.

Regarding limitations on the passive gears, the recommendation initially proposed by Germany included a ban of set gillnets and entangling nets in two sites (all year-round in the Eastern German Bight site, and seasonally in the western part of the Sylt Outer Reef site) and a freezing of the fishing effort in the others. This initial proposal has been modified during the negotiation process to a freezing of the fishing effort in all sites. Even if such a limitation can be considered a first step towards conservation objectives, STECF notes that a complete ban would have a larger positive impact on the protected bycatch species, while the economic consequences on fisheries would likely be limited, as the current fishing effort of nets is low in those areas. In addition, STECF notes that a ban is potentially easier to implement, control and enforce than a gear limitation.

Control and enforcement of the fishery management measures in the Natura 2000 sites subject to the joint recommendation are carried out by the Federal Office for Agriculture and Food (BLE), based on VMS. An alarm zone is established around the restricted area and the VMS reporting frequency is to be increased to once every 30 minutes when a vessel enters the area. As was noted in previous STECF evaluations, the frequency of the VMS needs to be sufficient to detect the presence of a vessel inside restricted areas. While this may be the case for the main areas of the present joint recommendation, which are large enough, STECF considers this may be insufficient for the Amrum Banks, which have a size of approximately 2.5 by 2.5 nautical miles. A revision of the VMS ping frequency may be needed in that case. STECF also notes that the proposed control measures concern only vessels equipped with VMS and above 12 m length and that small vessel not equipped with VMS may not be detected by the current control system.

STECF conclusions

ToR 1 (on minimizing the negative impact of fishing activities on the marine environment)

STECF concludes that the proposed conservation measures are a first step forward to avoid any further degradation of the marine environment, and to reduce the negative impacts of fishing activities on some components of the marine ecosystem (specifically: the reefs and sandbanks habitats, the biotope type "Species-rich gravel, coarse sand and shell gravel areas", the harbour porpoise and some seabirds populations).

STECF acknowledges that minimising the negative impacts of fishing activities on the marine ecosystem, according to Article 2(3) of Regulation 1380/2013, implies trade-offs, by restricting fishing ecological impacts as much as possible without jeopardizing the socio-economic sustainability of the fisheries. From that point of view, STECF notes that restrictions proposed in the joint recommendation apply to areas where the fishing effort is already very low and will have very little economic impacts. Larger reductions may be reached with low additional economic consequences (see below)

ToR 2 (on ensuring that the habitat and species considered are restored to a favourable conservation status)

STECF concludes that the restrictions proposed in the joint recommendation regarding bottom gears will contribute towards ensuring that the habitats addressed in the recommendation are maintained and restored at favourable conservation status as stipulated under Article 2 and 6 of the Habitats Directive 92/43/EEC.

Regarding measures related to gillnets and entangling nets, STECF stresses that the freezing of the fishing effort at current levels, instead of a significant reduction, will not reduce the fishing impacts of that gear, and thus might be insufficient to restore the populations of harbour porpoise currently considered in an unfavourable conservation status.

More generally, STECF has not enough information to assess whether the proposed measures will be sufficient to restore the habitats and species addressed in the recommendation at a favourable conservation status. Given the limited economic importance of fisheries in the four Natura 2000 sites, the implementation of more ambitious management measures could be envisaged. This could include the extension of the exclusion zone of all mobile bottom-contacting gears to the east of the Natura 2000 Sylt Outer Reef where fishing intensity is higher, the extension of the no-take zone of the Amrum Bank in the Natura 2000 Sylt Outer Reef site, and a ban on gillnets and entangling nets in the Sylt Outer Reef and Eastern German Bight sites.

Concerning compliance and control, STECF concludes that, as the VMS signals are to be set at every 30 minutes once a vessel enters an alarm zone and a restricted area, there is a risk, for the restricted part of the Amrum Banks, that fishing could take place by fishing vessels without being detected. Furthermore, this risk exists also for vessels not equipped with VMS (under 12 meters length). STECF thus advises that the control and enforcement measures may need to be adapted accordingly.

ToR 3 (on achieving a good environmental status according to MSFD)

STECF has no information to assess whether the good environment status might be achieved in the German EEZ of the North Sea by 2020, according to MSFD Directive 2008/56/EC. However, STECF concludes that the proposed measures are a step towards this achievement.

Finally, STECF notes that no monitoring measures have been presented by the German authorities, to assess the effects of the management measures proposed in the joint recommendation. STECF underlines the usefulness of such a monitoring and considers that in case it is not already in place or planned, it should be rapidly developed.

References

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6.12 Review of a Joint Recommendation concerning 'Swedish T90' gear modification

Background provided by the Commission

BALTFISH sent a new joint recommendation to the Commission with the request to correct the existing Delegated Regulation (EU) 2018/47 authorising the use of alternative T90 gears in the Baltic Sea. Following the input from the BSAC a mistake has been detected in the annex (the scientific report) to the Joint Recommendation that was sent in May 2017.

A corrigendum to the scientific report was issued by SLU Aqua on the 18th of December 2018. The corrigendum reads:

"The drawing in Figure 2 in the report: *Gear trials in the Baltic: Increased selectivity with a modified T90 cod-end*, 2017-03-27 by SLU, is not entirely correct". Only the cod-end was measured during the gear trials. In the figure and in the associated table presented in the original report, all cod-end measurements were correctly presented. The specifications for the extension piece was mistakenly taken from the legal text for the BACOMA codend. However, in the trials the cod-end was mounted on a tapered section (from 100 ($\varnothing > 80$) to 80 meshes in circumference). BALTFISH notes this will not change the results or the conclusions on the selectivity of the experimental cod-end in the original report, which was evaluated by STECF Expert Working Group meeting held on 6-9 June 2017 (EWG 17-03) and assessed by the STECF Plenary (STECF PLEN 17-02)."

Background documents are published on the meeting's web site on: <https://stecf.jrc.ec.europa.eu/plen1901>

Request to the STECF

The STECF is requested to review the supporting documentation provided for the correction aimed by BALTFISH in order to assess if this correction is justified.

Summary of the background for the request and of previous evaluations by STECF

BALTFISH Joint Recommendation

In May 2017, a Joint recommendation from the BALTFISH High Level Group (HLG) was sent to the Commission after the Baltic Sea Advisory Council (BSAC) was consulted during April 2017. Based on the positive response from STECF (PLEN-17-02) the Commission Regulation 2018/47 was adopted on the 30th October 2017 and entered into force on 1st February 2018.

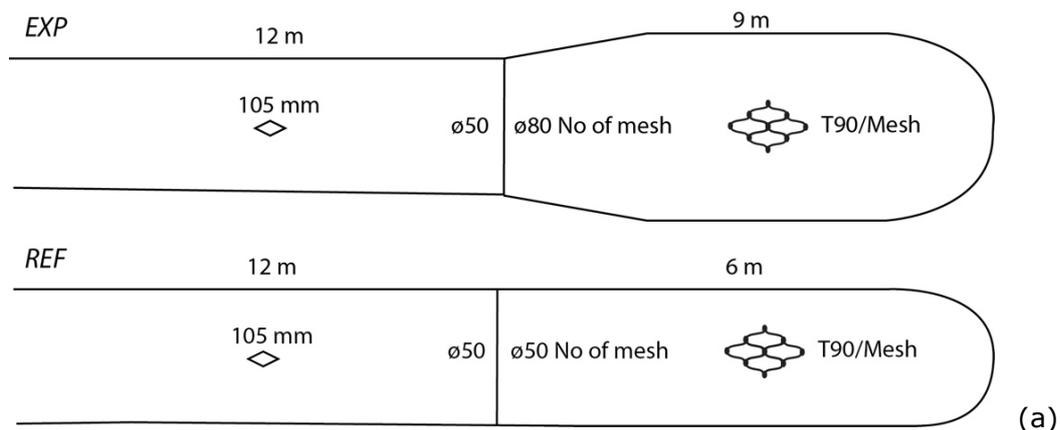
A Scientific report "*Gear trials in the Baltic: Increased selectivity with a modified T90 cod-end*", 2017-03-27 by the Swedish University of Agricultural Sciences (SLU) was enclosed as Annex to the Joint Recommendation from BALTFISH. Following the input from the BSAC a mistake has been detected in the Annex (the Scientific report) to the Joint Recommendation that was sent in May 2017. A corrigendum to the scientific report was issued by SLU on the 18th of December 2018. The corrigendum reads:

"The drawing in Figure 2 in the report: *Gear trials in the Baltic: Increased selectivity with a modified T90 cod-end*, 2017-03-27 by SLU, is not entirely correct". Only the cod-end

was measured during the gear trials. In the figure and in the associated table presented in the original report, all cod-end measurements were correctly presented. The specifications for the extension piece was mistakenly taken from the legal text for the BACOMA codend. However, in the trials the cod-end was mounted on a tapered section (from 100 ($\phi > 80$) to 80 meshes in circumference). A corrected Figure 2 is given below, after discussion with the net-maker who provided the experimental cod-end. This will not change the results or the conclusions on the selectivity of the experimental cod-end in the original report, which was evaluated by STECF Expert Working Group meeting held on 6-9 June 2017 (EWG 17-03) and assessed by the STECF Plenary (STECF PLEN 17-02)".

Based on the corrigendum to the Scientific report (see Figure for details), BALTFISH sent a new joint recommendation to the Commission with the request to correct the existing Delegated Regulation (EU) 2018/47 authorising the use of alternative T90 gears in the Baltic Sea.

BALTFISH supports that the corrigendum does not change the conclusion that the gear tried showed better size selectivity compared to the standard codend for T90. BALTFISH HLG recommends that the Commission, taking into account the scientific evaluation and relevant findings provided by STECF in their reports (EWG 17-03 and PLEN 17-02), modifies Regulation (EC) 2187/2005 by amending the Delegated Regulation 2018/47 in order to allow for the modified T90 to be used in addition to the constructions currently allowed.



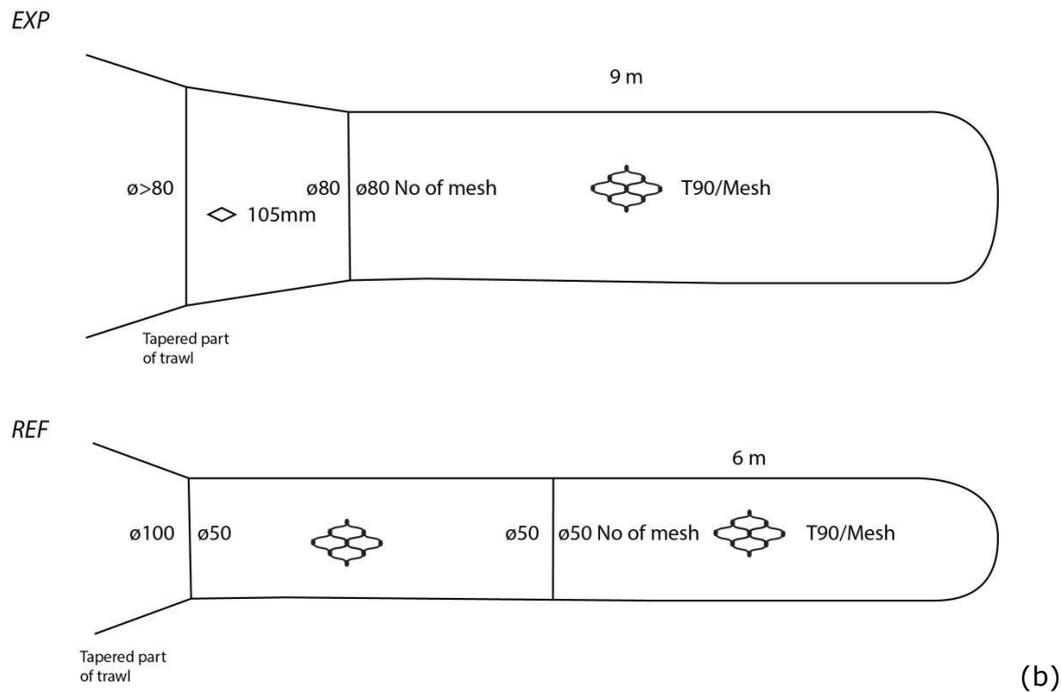


Figure 6.12.1. Codend design, mesh size and configuration (Diamond or T90) in the experimental (EXP) and standard design (REF). The scheme in (a) is the Figure 2 in the SLU Scientific report, while the scheme in (b) is the corrigendum to the Scientific report issued by SLU on the 18th December 2018.

In details, BALTFISH HLG recommends the following alternative corrections (in bold):

Proposal for amended text in Article 4.1.b in the Delegated Regulation 2018/47

Article 4

1. (b) the number of meshes in any circumference in the codend sensu strictu and the extension piece, excluding joinings and selvages, shall be 80 meshes round, by way of derogation from point (e) of Appendix 2 to that Annex, **and Appendix 2.d.3 shall not apply;**

Alternative proposal for amended text in Article 4.1.b in the Delegated Regulation 2018/47

Article 4

1. (d) at the point of attachment of the codend or extension piece to the tapered part of the trawl the number of meshes in circumference of the codend or extension piece must be **at least** 50 % of the last row of meshes of tapered part of the trawl, by the way of derogation from point (d) item 3 of Appendix 2 to that Annex.

As BALTFISH HLG mentioned in the joint recommendation to the Commission the two STECF reports (2017a, 2017b), STECF reported below the text extracted from those reports.

STECF EWG 17-03 response

The text and tables below are extracted from the Chapter "9.2 Baltic Sea - Proposals for changes to technical measures" of the STECF (2017a) report (see page 83-84).

The JR states that scientific trials conducted in the Baltic Sea cod fishery have demonstrated that a modified T90 gear gave better size selectivity than the standard

codend for T90 allowed for the current Baltic Sea Technical Measures Regulations – Regulation 2187/2005. On this basis and In accordance with Article 8 (1) (b) in the Multiannual plan for the Baltic Sea, the BALTFISH group recommend in the JR that this modified gear be allowed by way of derogation to the existing regulations as an alternative to the current regulated gears. The JR provides a suggested wording for the definition of the modified gear.

The alternative gear proposed by BALTFISH involves reducing mesh size and modifying the codend construction by increasing the codend circumference and length of a baseline gear. The differences between the modified gear and the current regulated gear is summarised in table 9.2.1.

Table 9.2.1 Summary of parameters of current Regulation gear and the modified gear tested.

Specification	Existing	Modified
Codend Mesh Size	At least 120mm	At least 115mm
Codend Circumference	No more than 50 meshes	No more than 80 meshes
Twine thickness	4mm double or 6mm single	4mm double or 6mm single
Codend length	At least 6m	At least 9m

The proposal to adopt this gear is supported by results from two separate catch comparison experiments testing the modified T90 codend against a standard regulation T90 codend. The twin-trawl method was used and the relative difference in catch across length classes was measured (Anon., 2017).

The results of both of the supporting studies were consistent and showed the alternative gear caught significantly less small cod below MCRS and more cod larger than MCRS. This indicates that the size selectivity of the modified codend arrangement is higher than the current regulated gear although as acknowledged in the report of the trials this is based on relative rather than absolute selectivity. The researchers conclude that the results (less cod just below MCRS and more cod just above the 50% retention length L50) indicate that at least a reduced selection range with the modified codend.

On assessment EWG 17-03 observed that while the results from the experiments are robust and consistent they are counter intuitive to what might be expected (i.e. that reducing the mesh size and increasing codend circumference would decrease rather than increase selectivity).

The researchers acknowledge this in their report. EWG 17-03 also noted that there were subtle differences in the experimental set up, codends tested and methodology between the two trials. In particular:

- Differences in the codend mesh sizes of both the control and modified codends between the two experiments (i.e. 118mm vs 115mm for the modified and 126mm vs 121 mm for the control)
- Differences in the material used for the control codends. In the 1st experiment a nylon codend was used while in the second a polyethylene codend was tested.
- The codends were switched between port and starboard in only one of the two experiments to remove bias.
- Differences in catch sizes between the two experiments.

EWG 17-03 suggested there are several possible explanations for the observed results. One is that the variability between individual experimental results is often significant in selectivity studies (including catch comparison experiments) and therefore the new study simply provides an unexpected result that, however, still remained within normal between-study variation that might reasonably be expected. Another possible explanation is that a combination of the factors outlined above and other (uncontrolled) factors have influenced the outcome (e.g. different population size structure, other trawl design differences or changed fish condition). EWG 17-03 had no evidence to support that there is a particular reason or combination of reasons for the increased selectivity of the modified codend.

EWG 17-03 concluded that the results show the modified codend to provide positive benefits in terms of reducing unwanted catches of cod below mcrs. Further testing, though is required to demonstrate concretely that this result is valid. Therefore EWG 17-03 suggested that if the derogation to allow the use of this modified gear is granted then it should be conditional on further experimentation. In this regard EWG 17-03 would advise that selectivity experiments to determine the absolute selectivity of the modified codend compared to the standard gear should be carried out in addition monitoring of catch composition through observer coverage of vessels using the modified gears.

STECF PLEN 17-02 response

The text and tables below are extracted from the Chapter "4.3 EWG 17-03 Evaluation of LO joint recommendations" of the STECF (2017b) report (Table 4.3.1 Main findings of the STECF EWG 17-03: Baltic Sea, see page 21).

Technical measures	
Fishery	Modifications to T90 codend
Main findings of the EWG 17-03	New. Proposal to derogate from existing technical measures regulations allowing the use of a modified T90 codend. Results from a series of catch comparison experiments provided which show the modified codend to provide positive benefits in terms of reducing unwanted catches of cod below mcrs. New codend has a smaller mesh size, larger number of meshes in the codend circumference and is longer. Two of these changes intuitively would be expected to decrease selectivity. Therefore if the derogation to allow the use of this modified gear is granted then it should be conditional on further experimentation to demonstrate that the presented results are correct.
Comments STECF PLEN 17-02	STECF is aware that additional selectivity trials are currently being performed in Denmark, and the results could be included in a future evaluation.

STECF response

STECF has carefully reviewed the supporting documentations listed below:

- Scientific report: "Gear trials in the Baltic: Increased selectivity with a modified T90 cod-end" (Anon., 2017);
- Corrigendum: Gear trials in the Baltic: Increased selectivity with a modified T90 cod-end, 2017-03-27 (Anon., 2018);

- Joint Recommendation of the BALTFISH High Level Group. Amendment - Technical measures for ICES subareas 22-32 (the Baltic Sea) – alternative codend for T90 (Anon., 2019).

Furthermore, the following EU Regulations were necessary to be read for the scope of the current ToR:

- Council Regulation (EC) No 2187/2005;
- Commission Regulation (EU) No 686/2010;
- Commission Delegated Regulation (EU) 2018/47.

STECF acknowledges that the initial figure was erroneous. The revised figure is in line with the request. Therefore, STECF acknowledges that the addendum (e.g., Amendment to the JR) issued by BALTFISH in 2019 and based on the Corrigendum to the Scientific report is justified.

Basically the recommendation implies the following changes in the technical measures related to gear specifications:

- Decreasing T90 codend mesh size from 120 mm (EC Reg. 686/2010) to 115 mm;
- Increasing T90 codend maximum circumference from 50 meshes (EC Reg. 686/2010) to 80 meshes around;
- Changing in the rigging ratio (*rr*) between the tapered part of the trawl and the T90 codend or extension.

Additional comments by STECF

With regard to the scientific evidence for justifying the BALTFISH HLG recommendation, it was not requested to STECF to go into the details of the possible effects on trawl selectivity of the modified T90 codend. Nevertheless, STECF would like to remark that as stated also in the Scientific report, ICES (2009) produced an advice on the effects of codend circumference on Baltic cod selectivity by saying that "*studies have shown that there is a strong link between the selectivity of T90 codends and codend circumference so an increase in this parameter may have to be balanced with an increase in mesh size*", while in another section of the same advice stating "*the exact relationship between codend circumference and mesh size in T90 has not been clearly defined and it is recommended that this issue be addressed by the ICES Study Group on Turned 90 cod-end selectivity, focusing on Baltic Cod Selectivity (SGTCOD)*".

Wienbeck et al. (2011) reported on absolute selectivity for T90 codends that a decreased number of meshes in the circumference increased selectivity (higher L50) for T90 designs. While no effects on selection range was observed.

The Scientific report (Anon., 2017) indicated that an increased circumference (50 to 80 meshes) clearly increased selectivity, whereas Wienbeck et al. (2011) reported an opposite effect. The contradictory results thus indicate that there are scientific questions left for further studies in spite of that "*Baltic cod trawls are among the most studied gear modifications in European fisheries having been the subject of extensive testing for more than a decade*" (ICES, 2009).

STECF reiterates thus the advice from the plenary 17-02 (2017) regarding the need for additional studies to demonstrate that the results from the original study are correct given they are counter intuitive. STECF think it is sensible to highlight this again and ask the Commission to request any additional information from Sweden that could then be re-assessed at plenary in July 2019.

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7. ITEMS/DISCUSSION POINTS FOR PREPARATION OF EWGS AND OTHER STECF WORK

7.1. State of play and future guidelines on data transmission issue monitoring

Background provided by the Commission

The current procedure on the evaluation of data transmission failures does not provide for a timely improvement of data collection. There are several steps, from the beginning until the end of the process, which should be better defined and harmonized to make the process iterative and the results comparable among end-users and MS.

Request to the STECF

STECF is asked to compile the current work done on the reporting and evaluation of DT issues and to set up updated guidelines for (1) end-users to report issues, (2) MS to comment on issues and (3) STECF to assess the issue and the MS comment.

STECF response

A sub-group met during the STECF Plenary to draft guidelines for end-users, Member States and STECF regarding the reporting and commenting of Data Transmission (DT) issues and the use of the Data Transmission Monitoring Tool (DTMT). The sub-group consisted of chairs of STECF EWGs handling data derived from data calls and EWGs evaluating Annual Reports and Work Plans, JRC experts dealing with the data and performing data checks and DG MARE representatives.

Introduction

The Commission introduced the ToRs of the sub-group. The evaluation of DT issues aims at 1) assessing the execution and quality of MS data collection achievements (in addition to the evaluation of MS Annual Reports), 2) identifying gaps at national and regional level in relation to the end users' needs, 3) informing end-users on the type of data collections and methodologies applied by each MS, and 4) identifying areas that deserve further work by MS and amongst MS.

The Commission noted that during the period 2014-2018, the evaluation of DT issues has improved considerably, from simple lists and structured tables to the DTMT currently in operation. The number of DT issues per year has generally been reduced, mostly due to improvements in MS' data collection and data transmission, and direct communication between the end-users (ICES in particular) and MS to remove non-issues from the list. Some of the variation in the number of DT issues (increase in 2018) was caused by a higher level of detail introduced in the DTMT. The aim is to reduce the list of issues reported in the DTMT to problems affecting the work tasks of the end-users to a high degree. However, the tool is also to be used as an efficient way to communicate 'simple-to-fix' DT issues quickly to MS and to confirm that this has been done.

One recent approach to improve the reporting and treatment of DT issues is to speed up the process by evaluating (a part of) the DT issues of the current year during the STECF EWG on MS's Work Plan evaluation in November.

The most important element in evaluating a MS's performance in collecting data, however, is whether or not the data collected are transmitted to the relevant end-user in response to the data call. Reporting of DT issues by end-users is of paramount importance, and accurate reporting of DT issues must be systematically included in the ToRs of all EWGs making use of data collected through a data call.

State of play of Data Transmission issues

The EWG chairs and JRC experts analysing data from the data calls reported on problems in data transmission and the use of the DTMT:

- The fishing effort/FDI EWGs used to have two meetings per year, which proved to be very helpful in order to solve data problems before the EWG analysing and summarising the ('cleaned') data. Last year, there was only one meeting, leaving too little time for data scrutiny. The FDI EWG chairs tried to list all the DT issues, but the burden was high and some invited experts felt uncomfortable reporting issues for their MS during the meeting.
- The system applied to the Annual Economic Report works reasonably well, having a preparation meeting and a main meeting, as well as data checks and a data cleaning process between those meetings.
- In the EWGs on Aquaculture and Processing Industry, the level of detail to be reported in the DTMT varies depending on the national Work Plans.
- For the EWG on Mediterranean assessment, it is often not clear why certain data are not there. It is therefore important to also identify if the missing data are as the result of data failures or due to the definition of data requirements agreed in MS work plans. These aspects need to be considered in the EWG on DCF Annual Report evaluation.

The sub-group looked at an input document by the DCF Regional Co-ordination Group (RCG) for the Mediterranean & Black Sea. In the view of the RCG, the regional review of the DT issues should be introduced to the DTMT process. The sub-group considered that this should be discussed at the RCGs and Liaison Meeting. There was some concern that the RCG might be overloaded, but might be a good forum for dealing with the broader issues. The RCG suggests categorising the DT issues into 'types', which the sub-group acknowledged by expanding the list in the DTMT field 'Issue type' which differs by STECF EWG. In addition, the RCG proposed a separate meeting on the quality and completeness of the data from the Mediterranean assessment data call, which was noted by the sub-group.

The Guidelines on treating Data Transmission issues

The sub-group went through a draft guidance document on the DTMT provided by JRC, with a focus on:

- Defining the purpose of the DTMT
- Identifying what should go into the DTMT in the first place
- Clarifying when and by whom the filtering of DT issues, before they enter the DTMT, should take place
- Checking if the DTMT is fully capturing all dimensions of the possible DT issues

The sub-group added a description on the purpose of the DTMT as introduction to the guidance document.

Since the data requirements are very different from one data call/EWG to the other, it is not possible to apply a 'one-size-fits-all' approach. Therefore, the sub-group collated descriptions from each EWG on how DT issues should be expressed and definitions for the categories in the DTMT fields 'Data requested' and 'Issue'. These descriptions should be introduced to the guidance document, which should be stored in a central place (e.g. STECF and Data Collection websites hosted by JRC) as a 'living document'.

The sub-group considers the pre-filtering of issues to be on the level of the end-user WG chairs, before entering the DTMT. This filtering process is best achieved by direct communication with the data providers (MS). It was noted that for all data calls, there are a range of checks automatically included, and then for most situations, data is screened for peculiarities. In some cases, there are two meetings, while in other cases, data is circulated to participants prior to the WG to allow pre-screening. In many cases, MS provide resubmissions dealing with these issues. In such cases, the DT issues would not be included in the DTMT, unless there is a specific recurring issue that is causing major work for the WG concerned.

Finally, the sub-group updated the DTMT guidance document in order to accommodate the above mentioned aspects.

In detail, the sub-group suggests the following changes to the DTMT fields and the explanatory text for each field in the guidance document:

- Issue type: delete the category "unknown"
- Severity: delete the category "impact on the WG"
- End-user assessment: include a new category called "follow-up needed"
- MARE assessment: include a new category called "issue closed"

Other aspects for treatment of DT issues

It should be made clear that the individual records or count of records in the DTMT are not to be regarded as units that can be compared across all DT issues. This clarification should prevent misuse of the DTMT for e.g. counting the DT issues by MS for the quantifying MS compliance. As the overall goal for the improvement of MS performance on data collection is to reduce the number of DT issues to zero, it does in fact not matter if there are e.g. 100 or 10 DT issues to be solved/eliminated.

The end-users should be asked what kind of information they need to judge upon 'non-issues', e.g. if it is useful to obtain a list of data MS should collect and where a MS has a derogation or a sampling threshold such that there is no requirement for sampling, or there is no fishery in a certain area or on a certain stock.

Future schedule for the evaluation of DT issues

The EWG on the evaluation of DCF Annual Reports and Data Transmission in June 2019 will deal with the DT issues arising from the 2018 data calls. The EWG on DCF Work Plans in November will deal with the DT issues of the data calls completed during the first half of 2019. Henceforth, the June EWG will deal with the DT issues of the data calls completed during the second half of the previous year and the November EWG will deal with the DT issues from data calls completed during the first half of the current year.

7.2. Discussion on and drafting of ToRs for EWGs in 2019

The STECF Bureau in cooperation with members of STECF prepared a document including proposals for contents and TOR of future EWG meetings and ad hoc contracts. STECF proposes that DG Mare takes the proposals of STECF into account when preparing the TOR for those meetings and ad hoc contracts.

7.3. Debriefing from the January 2019 GFCM benchmark meeting on hake

A GFCM benchmark meeting of the Working Group on Stock Assessment of Demersal Species (WGSAD) benchmark session for the assessment of European hake in GSA 17-18 was held at FAO headquarters in Rome, Italy, on 15-18 January 2019.

The meeting was attended by invited fisheries scientists. The chair of the STECF MED assessment Expert Working Group EWG-18-16, an external reviewer and DG MARE were also invited. One STECF member attended the meeting on invitation by DG MARE in his capacity as STECF committee member.

The objective of the meeting was to perform a full analysis and review of the information and methods used to provide advice on the status of the stock, focusing on the consideration of old and new data sources as well as old and new (or improved) assessment models and assumptions. Following the benchmark assessment, historical data, assumptions and models will be fixed for the next 3 – 4 years and following assessments performed in this time period are expected to provide updates incorporating data from the most recent years.

The benchmark meeting addressed the following Terms of Reference proposed by the GFCM:

- the identification of all problems and issues associated to the data, assumptions and methodologies used for the current assessment
- the identification and provision of extra data required to address the above problems
- the identification of appropriate alternative methodologies to be tested on top of existing ones
- final revision and agreement of data, assumptions (including all biological parameters) and assessment methods proposed
- Evaluate the performance of the assessment models
- comparison of the outcomes and selection of the most appropriate one for the provision of advice, in light of respective shortcomings and advantages,
- the estimation of adequate reference points and analysis of their robustness
- the provision of advice on the status of the stock based on the outcomes of the chosen model with respect to the estimated reference points

The STECF exchanged views on the process and preliminary results but since the benchmark report was not yet finalized and published, the STECF does not comment on the expected outcomes of the benchmark.

8. BACKGROUND DOCUMENTS

Background documents are published on the meeting's web site on:
<https://stecf.jrc.ec.europa.eu/plen1901>

9. CONTACT DETAILS OF STECF MEMBERS AND OTHER PARTICIPANTS

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STECF

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